# Mind the Gap

## Resumption in Slavic Relative Clauses

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# Mind the Gap
## Resumption in Slavic Relative Clauses

Mind the Gap
Resumptie in Slavische relatiefzinnen
(met een samenvatting in het Nederlands)

**Proefschrift**

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Prof.dr. N.F.M. Corver

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*Najdražjim*

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Utrecht, March 2015

Chapter 1

# Introductory Matters

## 1.1 A Preliminary Contrast

This dissertation is concerned with resumption and the syntax of relative clauses (with the focus predominantly on the restrictive type). What connects the two phenomena is the fact that resumption – if present in a particular language – is typically found in relative clause (RC) constructions. Slavic languages are a case in point. Resumption in relative clauses is …

(1) a property of Slavic languages that we can learn much from **(*it)**,

or in Slovene translation:

(2) lastnost slovanskih jezikov, ki se iz ***(nje)** lahko dosti naučimo.

Even without glosses, the reader can notice the difference between the two relative structures regarding the highlighted pronoun. In an English RC such as in (1), a pronoun referring back to the antecedent of the relative clause, i.e. *property*, has no place, while it is obligatory in the Slovene counterpart of that same RC given in (2).

This contrast serves to illustrate some key characteristics of both relative clauses as well as resumption. A relative clause is a subordinate clause modifying a nominal phrase, referred to as the antecedent (as above) or the RC head (note that the term *head* in this context is of course different from the structural notion known from, for instance, X-bar theory (cf. Chomsky 1970)). Both English and Slovene relative clauses are postnominal, i.e. they follow the RC head. A central property of relative constructions is that the RC head plays a role both in the matrix clause and in the relative clause itself. In (3), for example, *man* is understood both as the object of the matrix

verb *met* and as the object of the verb *saw* within the RC. The RC-internal position where the RC head is interpreted is called the relativization site.

(3) I met the man [$_{RC}$ who I saw yesterday].

While there is a gap at the relativization site in English, we encounter a pronoun instead of a gap in Slovene, as seen in (2). We can take, by means of a broad definition, resumptive pronouns to be pronouns appearing at the foot of a *wh*-dependency chain where a gap would be expected (the relativization site, in the case of RCs) and obligatorily referring to the element associated with that same position (the RC head, in the case of RCs).

The central question addressed in the dissertation is what mechanism – or mechanisms – brings about resumption in Slavic languages (while having no effect in a language like English). The properties and patterns of resumption are examined with the goal of providing an account of the empirical data from Slavic relative clauses, elucidating the syntactic structure and derivation of RCs in the process. Further details on the structure of the dissertation and an outline of the claims I argue for are provided in 1.4.

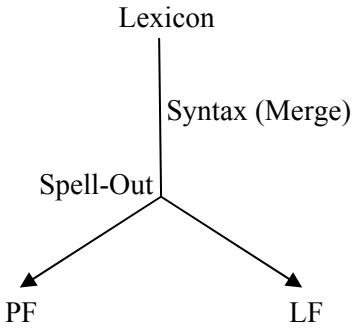
## 1.2 Theoretical Framework

### 1.2.1 The grammar model

The research presented in this dissertation is couched in the framework of generative grammar, with Minimalism as its latest iteration (see Chomsky (1993, 1995) and later work). It therefore utilises a grammar model that conceives of syntax as a derivational system combining syntactic elements into hierarchical structures by means of the operation *Merge*. Merge comes in two guises, but always combines exactly two elements. External Merge takes either two lexical items from the Lexicon, or one lexical item and a previously built structure, and combines them into a larger syntactic

constituent. Internal Merge, also called *Move*, makes a copy of an already merged constituent and re-merges it at the root of the structure built by that point (the moved element thus necessarily ends up in a hierarchically higher position). Syntactic movement, according to such an approach, therefore leaves behind a copy of the moved constituent (cf. Chomsky 1993). At the point of Spell-Out the derivation branches, continuing on to Phonological Form (PF) and Logical Form (LF), two interface level representations, feeding into the articulatory-perceptual and conceptual-intentional cognitive systems, respectively. This architecture of grammar is also known at the Y- or T-model, and is illustrated below.

Figure 1.1 The Y/T-model of grammar




### 1.2.2 Post-syntactic morphology

I further assume a post-syntactic, late insertion model of morphology, namely Distributed Morphology (cf. Halle & Marantz 1993, 1994). According to such an approach, syntax operates on roots and abstract bundles of morphosyntactic features available in the Lexicon. At the end of the derivation the resulting syntactic structure may undergo further morphological operations (which becomes particularly relevant in section 3.3.2), and as a final step phonological material is inserted when feature bundles are replaced by items from the Vocabulary (where information about their phonological value and their feature specification is stored) at the level of PF.

Individual features (in syntax and as part of Vocabulary items) are represented as attribute-value pairs (e.g. *number: plural*), with missing values indicating underspecification for that particular feature (cf. Cheng & Rooryck 2000, Rooryck 2000, Chomsky 2001, Pesetsky & Torrego 2007, Schoorlemmer 2009, a.o.). Vocabulary items are inserted in accordance with the Subset Principle (cf. Halle 1997):

(4) *The Subset Principle*
The phonological exponent of a Vocabulary Item is inserted into a morpheme in the terminal string if the item matches all or a subset of the grammatical features specified in the terminal morpheme. Insertion does not take place if the Vocabulary Item contains features not present in the morpheme. Where several Vocabulary Items meet the conditions for insertion, the item matching the greatest number of features specified in the terminal morpheme must be chosen.

Note that it follows from the above that more specific forms, when available, block the insertion of less specific ones, while items with underspecified features have a wider potential distribution. This lexicalization mechanism becomes of relevance in section 2.3.2 in particular.

Theoretical assumptions beyond this basic outline of grammar architecture will be addressed at the points in the dissertation where they become relevant to the discussion.

## 1.3 Empirical Data

### 1.3.1 Languages

The core of the data this dissertation is built on comes from the following Slavic languages: Slovene, Bosnian/Croatian/Serbian (B/C/S), and Polish (though others are also touched upon, especially in the opening sections of Chapter 2 as part of the descriptive overview). Slovene is also known as

Slovenian; the two terms are interchangeable, with the latter being more transparently built on the name of the country where it is spoken as the official majority language. B/C/S is one of the names used for the Slavic language continuum in the Western Balkans with several standard varieties named after the countries where they are spoken; the term is herein used with zero political (or any other) implications. Both of the above belong to the South Slavic branch of languages, while Polish is a West Slavic language. In addition, a limited set of data from Bulgarian (South Slavic) and Russian (East Slavic) is likewise addressed in some more detail, specifically in Chapter 3.

### 1.3.2 Sources

There are a number of sources I employ beyond the standard, and equally as important, linguistic examples obtained via literature review combined with grammaticality judgements provided by individual native speaker informants.

The first set of data comes from my research on syntactic variation at the Meertens Instituut in Amsterdam from 2009, as part of the *Edisyn* (European Dialectal Syntax) project.[1] Among the data collected by means of a written online questionnaire was also information on Slovene relativization patterns, obtained by relative acceptability judgement tasks and translation (standard to dialectal variety) tasks. In total, 70 informants from 55 different locations participated. Additional interviews were subsequently conducted with selected informants to confirm and clarify their answers. Throughout the dissertation, when I mention attested Slovene constructions, I refer to the data from this questionnaire, unless indicated otherwise.

Secondly, an online survey concerned with the distribution of gaps and resumptive pronouns in Polish, B/C/S, and Slovene relative clauses was

[1] For more info on the project, including further details on the Slovene data collected, see http://www.dialectsyntax.org/.

deployed in 2012. The stimuli consisted of recorded sentences spoken by native speakers, and the participants were asked to provide acceptability judgements. The methodology and details of the survey are comprehensively discussed in Chapter 4, section 4.3, together with an analysis of the data and the associated theoretical implications.

Thirdly, a Slovene corpus study forms an important part of the discussion on the choice between alternative relativization constructions. All the details of this study can be found in Chapter 4, section 4.4.

### 1.3.1 Conventions used

In terms of glossing non-English examples, only those morphological details that are relevant for the discussion at hand are provided, as a rule. Lesser-known abbreviations are explained in footnotes. The relative complementizer, as the most frequently occurring one, is glossed simply as *C* across examples from all languages.

Example numbers start over at (1) for each chapter. The intended meaning of ungrammatical examples is given in brackets, as indicated in (5).

(5) *ungrammatical example
*English gloss*
('intended meaning')

## 1.4 Dissertation Outline

The central contrast underlying the discussion in Chapter 2 is the one illustrated in (6a-b), representing the basic pattern of resumption that is widely spread in Slavic languages. As a rule, no resumption takes place in RCs introduced by a relative pronoun (or pronoun RCs, for short), as shown in (6a), while RCs introduced by a complementizer (or complementizer RCs, for short) contain a resumptive pronoun, as shown in (6b).

(6) a. Poznam človeka, **katerega** so iskali. [Slovene]
*know.1SG man.ACC which.ACC AUX.3PL searched*
b. Poznam človeka, **ki** so **ga** iskali.
*know.1SG man.ACC C AUX.3PL he.ACC.CL searched*
Both: 'I know the man they were looking for.'

Upon exploring their morphological and syntactic properties, I conclude that these two available RC configurations, though they appear superficially different, share a single syntactic derivation. I argue that the differences between the two arise at PF, where the choice between spelling out either the relative pronoun or the complementizer is made. Resumption in complementizer RCs is triggered by the requirement that morphological case be recoverable. I discuss the principle of recoverability as a general interface requirement in the second part of the chapter.

Chapter 3 introduces additional data that serves to highlight further variation in relative clause constructions. As illustrated in (7a-b), resumption in some cases appears to be optional.

(7) a. Ovo je auto **što** sam **ga** kupio. [B/C/S]
*this is car.NOM C AUX.1SG he.ACC.CL bought*
b. Ovo je auto **što** sam kupio.
*this is car.NOM C AUX.1SG bought*
Both: 'This is the car that I bought.'

I discuss the conditions on when the apparent resumption omission, shown in (7b), can take place and argue that there is no real optionality, but rather that the two sentences in (7a-b) result from distinct syntactic derivations. A more detailed proposal concerning the structure of relative clauses and the available possibilities to derive them is presented. I argue that in constructions such as (7a) the RC head is base-generated in the left periphery of the relative clause, while the dependency is created by movement of a silent relative pronoun. On the other hand, constructions such as (7b) are

derived by RC head raising. The observed conditions on when resumption can be absent are shown to follow from the proposed RC syntax.

In Chapter 4 the different types of resumption established in the literature are discussed and a typological overview is made to show where resumption in Slavic languages as presented in the previous chapters finds its place within the bigger picture. However, this morphosyntactic type of resumption is not the only one that exists – I identify another type that needs to be kept apart. The relevant contrast is given in (8a-b).

(8) a. Poznam človeka, **katerega** mislim, [Slovene]
*know.1SG man.ACC which.ACC think.1SG*
da iščejo.
*that search.3PL*

b. Poznam človeka, **katerega** mislim,
*know.1SG man.ACC which.ACC think.1SG*
da **ga** iščejo.
*that he.ACC.CL search.3PL*
Both: 'I know the man who I think they are looking for.'

As we see in (8b), resumption actually can – optionally – appear in (long distance) pronoun RCs as well. I demonstrate that such resumption has properties distinct from those of the resumption exemplified in (6b) or (7a), and that its presence can be best explained by resorting to processing considerations. Lastly, I discuss the role of processing in another area, namely in the choice between syntactically available relativization alternatives in language use.

Chapter 5 summarizes the dissertation and its most important contributions, as well as presents some topics for further research.

Chapter 2

# Properties of Resumption in Slavic Relative Clauses

## 2.1 Introduction[2]

Slavic languages share the property of having two ways of constructing a relative clause (RC). Namely, a RC can be either introduced by a pronoun or by a complementizer, much like in English, yet with further differences – resumption occurs in complementizer relative clauses, but is absent in the ones introduced by a pronoun. This allows for a study of the interplay between different relative constructions and the phenomenon of resumption.

The chapter first introduces the dual way of constructing a relative clause in Slavic languages in section 2.2, providing a description of the basic relativization pattern. The properties of the elements that introduce relative clauses are analysed in section 2.3, where I provide arguments for them being identified as either relative pronouns or complementizers. The form that resumption takes in different configurations is likewise described.

Faced with the two alternative, superficially different, relative clause constructions, the first research question that presents itself is whether they differ syntactically, and if not, what the source of the observable variation is. The second, related, question is what mechanism brings about resumption in one of the alternatives. I argue in section 2.4 that both types of relative clauses are derived by movement. The two constructions behave

[2] Early versions of parts of this chapter were presented at *Syntax Circle* (Utrecht University, December 2010), and at the *Irish Network in Formal Linguistics* conference in Belfast (University of Ulster, May 2011). I would like to thank the audience at these events for the feedback and discussion. Parts of the material were later also published as Hladnik (2013).

syntactically uniform, insofar as they both show sensitivity to islands (i.e. configurations where the relativization site and the RC left periphery are separated by an island boundary are ungrammatical), and they are both environments in which parasitic gaps are licensed. In section 2.5 I propose that the two relative constructions share the same underlying syntactic derivation, but differ at the level of phonological form (PF), where either the complementizer or the relative pronoun is spelled out. Resumption is a result of the requirement that morphological case assigned at the relativization site be recoverable (i.e. non-pronunciation of the relative pronoun carrying a case feature in the left periphery of the relative clause triggers a partial spell-out of a lower copy within the RC). Section 2.6 is dedicated to a discussion of the general principle of recoverability.

## 2.2 Two Alternatives

To start with specifics, let us resort to Slovene, where both relative clause construction alternatives are attested in all its varieties, standard and dialectal (based on questionnaire data, cf. Chapter 1, section 1.3.2, see also Toporišič (2000) and Greenberg (2006) for standard reference grammars). They are exemplified by the sentences in (1) and (2), with the differences highlighted.

(1) Poznam človeka, **katerega** so iskali.[3]
*know.1SG man.ACC which.ACC AUX.3PL searched*

(2) Poznam človeka, **ki** so **ga** iskali.
*know.1SG man.ACC C AUX.3PL he.ACC.CL searched*
Both: 'I know the man they were looking for.'

In example (1) the relative clause is introduced by the pronoun *kateri* in an appropriate morphological form (see section 2.3 for details). The second option, shown in example (2), is to introduce the RC by the complementizer *ki* , and use a resumptive clitic within the relative clause.

[3] Note that Slovene orthography requires a comma even with restrictive relative clauses, in contrast to the rule in English.

Schematically, the two constructions can be represented as follows:

(3) a. [$_{\text{matrix clause}}$ ... RC head [$_{\text{relative clause}}$ pronoun ... gap ]]
b. [$_{\text{matrix clause}}$ ... RC head [$_{\text{relative clause}}$ C ... resumption ]]

These same basic relativization patterns appear in other Slavic languages as well (for Bosnian/Croatian/Serbian (B/C/S), for example, see Goodluck & Stojanović (1996), or an earlier description by Browne (1986), and Szczegielniak (2005) for Polish, Šimík (2008) for Czech, and Krapova (2010) for Bulgarian). The table below gives an overview of pronouns (in their masculine singular form) and complementizers used in relative clauses in a range of Slavic languages.[4] As a rule, in each language the pronoun is a *wh*-pronoun meaning 'which'. The complementizer is equivalent in its form to the *wh*-pronoun that in each of the languages corresponds to 'what', which suggests that these complementizers have diachronically developed from pronouns. We look more closely at the morphosyntactic properties of these elements that identify them as complementizers – despite their formal resemblance to pronouns – in section 2.3.3. Exceptions to these generalizations are marked with superscripts and discussed below the table.

Table 2.1 Pronouns and complementizers in Slavic RCs

| **Language** | **Pronoun (m.sg.)** | **Complementizer** |
|---|---|---|
| B/C/S | koji | što |
| Bulgarian | kojto | što/deto[i] |
| Czech | který/jenž[ii] | co |
| Macedonian | koj | što |
| Polish | który | co |
| Russian | kotoryj | chto |
| Slovak | ktorý | co |
| Slovene | kateri | ki[iii] |
| Ukrainian | jakyj/kotryj[iv] | shchto |

[4] Sources other than interviews with native speakers comprise: Bošković (2009), Brohier (1995), Gareiss (1999), Gołąb & Friedman (1972), Goodluck & Stojanović (1996), Leafgren (2011), Krapova (2010), Šimík (2008).

i) *Deto* is diachronically associated with the *wh*-adverbial 'where' and is typical of general colloquial Bulgarian. The *–to* morphology (also appearing on the relative pronoun) is referred to as an anaphoric definiteness marker. The complementizer *što* 'what' is used in the standard variety of the language (Krapova 2010, p. 1241).

ii) *Jenž* belongs to a specialized non-*wh* relative pronoun series morphologically related to personal pronoun forms. It is restricted to the formal register and falling out of use (Šimík 2008). See also (iii).

iii) *Ki* has no synchronic formal correspondence to any other element in the language. However, based on the diachronic development of *ki* from Proto-Slavic and Old Church Slavonic as presented in Cazinkić (2001, p. 56, fn. 4), it developed from a pronoun like the rest of the relative complementizers under discussion, namely from the relative pronoun *jьže (> iže > kiže > kir(e) > ki)*; see also Greenberg (1999). This also suggests that *ki* is diachronically related to the extant Czech relative pronoun *jenž* in (ii) above.

iv) *Kotryj* 'which' is available alongside *jakyj* 'what-kind-of', but is less preferred (Gołąb & Friedman 1972; S. Katrenko, p.c.).

## 2.3 Relative Elements

De Vries (2002, pp. 155-62) relates the key relative construction properties to the syntactic characteristics of the relative elements. Subordination is expressed by relative complementizers, which carry neither φ-features nor case, while attribution to the head of the relative clause and the identification of the gap within the clause are associated with relative pronouns bearing both. In this section we look at these and other properties of the relative elements in Slavic languages in order to, first and foremost, justify the syntactic roles attributed to them in 2.2.

### 2.3.1 *Kateri* and its counterparts as pronouns

The Slovene element *kateri* can appear in any of the six case forms of Slovene, which relate the head noun to a position within the relative clause. At the same time it agrees with the RC head noun in gender and number. This is typical of pronouns, which *kateri* and its counterparts in other Slavic languages uncontroversially are. Typologically, relative pronouns often show either demonstrative or *wh*-morphology (De Vries 2002, p. 173), which also holds true in Slavic languages – as mentioned above, the relative pronoun in these languages is equivalent to the interrogative 'which'. The full paradigm of *kateri* is shown in the table below.[5]

Table 2.2 The paradigm of the pronoun *kateri*

| Singular | masculine | feminine | neuter |
|---|---|---|---|
| nominative | kateri | katera | katero |
| genitive | katerega | katere | katerega |
| dative | kateremu | kateri | kateremu |
| accusative | katerega | katero | katero |
| locative | (pri) katerem | (pri) kateri | (pri) katerem |
| instrumental | (s) katerim | (s) katero | (s) katerim |

| Dual | masculine | feminine | neuter |
|---|---|---|---|
| nominative | katera | kateri | kateri |
| genitive | katerih | katerih | katerih |
| dative | katerima | katerima | katerima |
| accusative | katera | kateri | kateri |
| locative | (pri) katerih | (pri) katerih | (pri) katerih |
| instrumental | (s) katerima | (s) katerima | (s) katerima |

[5] Locative and instrumental are cases whose assignment in Slovene is limited to certain prepositions. The prototypical ones included in the table are *pri* 'at' for locative and *s* 'with' for instrumental.

| Plural | masculine | feminine | neuter |
|---|---|---|---|
| nominative | kateri | katere | katera |
| genitive | katerih | katerih | katerih |
| dative | katerim | katerim | katerim |
| accusative | katere | katere | katera |
| locative | (pri) katerih | (pri) katerih | (pri) katerih |
| instrumental | (s) katerimi | (s) katerimi | (s) katerimi |

Examples (4) through (7) below illustrate the use of the relative pronoun in a number of different relative constructions. Note the case form that corresponds to the relativized position, and the displayed agreement with the RC head.

(4) *Subject RC*
Vzemi ključe, **kateri** ležijo na mizi.
*take.IMP.SG keys.MASC.PL which.MASC.PL.NOM lie.3PL on table*
'Take the keys that are lying on the table.'

(5) *Direct Object RC*
Slika, **katero** si občudoval,
*painting.FEM.SG which.FEM.SG.ACC AUX.2SG admired*
ni naprodaj.
*is-not on-sale*
'The painting you admired is not for sale.'

(6) *Indirect Object RC*
Človek, **kateremu** si dal denar, je nevaren.
*man.MASC.SG which.MASC.SG.DAT AUX.2SG gave money is dangerous*
'The man you gave money to is dangerous.'

(7) *Prepositional RC*
Poznam človeka, **s katerim** govoriš
*know.1SG man.MASC.SG with which.MASC.SG.INS talk.2SG*
'I know the man you are talking with.'

### 2.3.2 Feature specification of Slovene *wh*-pronouns

In this section, the feature specification of Slovene *wh*-pronouns will be explored with the aim of answering the question why *kateri* 'which' in particular – and not *kaj* 'what' and/or *kdo* 'who' – is the one used in relative clauses. Pronouns used in the context of free relatives will be briefly touched upon as well. As to the theoretical framework underlying the considerations of the section, I assume late lexical insertion following the subset principle of Distributive Morphology (cf. Chapter 1, section 1.2).

#### 2.3.2.1 *Kaj* and *kdo* vs. *kateri*

Slovene *wh*-pronouns *kaj* 'what' and *kdo* 'who' have a rather wide distribution, similar to that of their Germanic counterparts, which suggests a substantial level of underspecification with regard to the morphosyntacytic features they carry. *Kaj* can function as an interrogative pronoun (8), an indefinite pronoun (9), as well as a quantifying determiner denoting indefinite quantity (10).

(8) Kaj vidiš?
*what see.2SG*
'What do you see?'

(9) Morda je kaj slišal.
*maybe AUX.3SG what heard*
'Maybe he heard something.'

(10) Kupi kaj kruha.
*buy.IMP what bread*
'Buy some bread.'

*Kdo* is likewise a multipurpose pronoun, appearing both in interrogative (11) and indefinite contexts (12).

(11) Kdo pride?
*who come.3SG*
'Who is coming?'

(12) Pokliči me, če kdo pride.
*call me if who come.3SG*
'Call me if anyone comes.'

The interpretation of Slovene *wh*-pronouns as interrogatives or indefinites depends on the syntactic configuration. Sentence initially they function as interrogatives, and when they remain in-situ as indefinites (cf. Postma (1994) for Dutch, and Yanovich (2006) for a discussion of Russian indefinites). More specifically, they belong to the class of polarity indefinites since they need a licensor to be interpreted as such. In Slovene they are for example licensed by yes-no question particles as in (13), conditionals (cf. (12) above), epistemic operators (cf. (9) above), imperatives (cf. (10) above), and quantified expressions as in (14).

(13) Ali kdo pride?
*Q who come.3SG*
'Is anyone coming?'

(14) Vsak fant je kaj videl.
*every boy AUX.3SG what saw*
'Every boy saw something.'

*Kaj* 'what' can in principle question both human and non-human constituents, with the interpretation that the speaker does not assume their humanness in advance. The question in (8) – 'what do you see?' – is thus compatible both with the answer *človeka* 'a man' and *drevo* 'a tree'. As shown in (15), *kaj* is not specified for number or gender either.

| (15) | Kaj? | Hiša. | Hiše. |
|---|---|---|---|
| | *what?* | *house.FEM.SG* | *house.FEM.PL* |
| | | Svinčnik. | Svinčniki. |
| | | *pencil.MASC.SG* | *pencil.MASC.PL* |
| | | Kolo. | Kolesa. |
| | | *bike.NEUT.SG* | *bike.NEUT.PL* |

*Kdo* 'who', on the other hand, is more specified, namely with regard to animacy, as it can only refer to humans. As such, *kdo* as a more specific element would block the lexical insertion of *kaj* in contexts where the animacy feature has the value 'human'. Gender and number remain underspecified, as shown in (16):

| (16) | Kdo? | Ženska. | Ženske. |
|---|---|---|---|
| | *who?* | *woman.FEM.SG* | *women.FEM.PL* |
| | | Moški | Moški. |
| | | *man.MASC.SG* | *man.MASC.PL* |
| | | Dekle. | Dekleta. |
| | | *girl.NEUT.SG* | *girls.NEUT.PL* |

Both *kaj* and *kdo*, as well as all other pronouns discussed herein, appear in the full range of case forms (which I abstract away from at this point); every instance of a pronoun thus also carries a case feature that gets assigned a value in the course of the derivation, which in turn gets lexicalized by the corresponding morphological form. Furthermore, I assume they carry an operator feature, as is the case with *kateri* and other A-bar pronouns.

Summing up the feature specification of the two pronouns, leaving out underspecified features, we arrive at (17):

(17) Feature specification of *kaj* and *kdo*

a. *kaj* 'what': Op, case

b. *kdo* 'who': Op, case, animacy = human

*Kaj* and *kdo* cannot be used in relative constructions, as demonstrated by the ungrammaticality of (18) and (19).

(18) *kolo, kaj sem videl
*bike what AUX.1SG saw*
('the bike which I saw')

(19) *človek, kdo dela v tovarni
*man who work.3SG in factory*
('the man who works in a factory')

As we have seen at the beginning of the chapter, the *wh*-pronoun used in Slovene relative clauses is *kateri* 'which'. Unlike *kaj* and *kdo*, the forms of *kateri* are specified for number and gender, as well as case (cf. section 2.3.1, Table 2.2). Animacy, on the other hand, is not specified on the pronoun *kateri* – note that there is no difference in the form regardless of the (in)animacy of the head noun:

(20)

| | | |
|---|---|---|
| svinčnik, kateri | hiša, katera | kolo, katero |
| *pencil.MASC.SG which* | *house.FEM.SG which* | *bike.NEUT.SG which* |
| človek, kateri | ženska, katera | dekle, katero |
| *man.MASC.SG which* | *woman.FEM.SG which* | *girl.NEUT.SG which* |

The feature specification of *kateri*, leaving out underspecified features, is therefore as follows:

(21) Feature specification of the forms of *kateri*
*kateri* 'which': Op, case, gender, number

In syntax, the features of the RC head and the relative pronoun need to match. To determine what element in the lexicon is best suited to spell out the relative pronoun feature bundle, we now look at a specific example. Let the RC head be *punce* 'girl.FEM.PL', and let the relativized position be assigned accusative. The situation is then as presented in Table 2.3 below.

Table 2.3 Relative pronoun lexical insertion comparison

| **Target** | ***katere*** *(which.FEM.PL.ACC)* | ***koga*** *(who.ACC)* |
|---|---|---|
| gender: feminine | gender: feminine | gender: |
| number: plural | number: plural | number: |
| animacy: human | animacy: | animacy: human |
| case: accusative | case: accusative | case: accusative |

We see that at the point of Spell-Out, the pronoun *kateri* is the prime candidate to lexicalize the relative pronoun feature bundle – which is referred to as 'target' in the table – in accordance with the subset principle, spelling out most syntactic features (even though the semantic feature of (in)animacy is not expressed – which is reminiscent of the situation in (Standard) Dutch, cf. Boef (2013), Chapter 2). Regardless of the feature values of the target, the appropriate form of *kateri* 'which' will always win over *kdo* 'who' (or *kaj* 'what') as a candidate for lexical insertion.

#### 2.3.2.2 Free relatives

There has been no need to lexically specify the *wh*-pronouns as to their function, since their distribution could be accounted for by the interplay between their feature specifications and syntactic configuration. However, there is a series of pronouns that are specifically relative in the sense that they do not appear outside relative contexts.

These are the free relative (FR) forms *kar* 'what.REL' and *kdor* 'who.REL'. Morphologically, they are quite transparently built on the *wh*-pronouns discussed at the beginning, with an additional feature (let us call it [+relative], as a convenient shorthand) that gets its morphological exponent in the suffix *-r*.[6]

[6] A possible approach would be to assume that *-r* is a reflex of a special (free) relative operator that is part of the pronoun. Free relative clauses contain a complementizer with distinct properties, according to Ott (2011): $C_{FR}$ has no interpretable features. It then stands to reason that the operator moving to its specifier would be a distinct one as well.

In addition, there are also interrogative–relative *wh*-adverbial pairs such as *kje-kjer* 'where' (see example (27) below), *kdaj-kdar* 'when', and *kako-kakor* 'how', which behave the same way. These carry additional semantic features [+place], [+time], and [+manner], respectively, or what Aoun & Li (2003, p. 242, fn. 5) call 'substantive' features:

(22) Feature specification of free relative pronouns
  a. *kar* 'what.REL': operator, +relative, case
  b. *kdor* 'who.REL': operator, +relative, case, animacy = human
  c. *kjer* 'where.REL': operator, +relative, +place
  d. *kdar* 'when.REL': operator, +relative, +time
  e. *kakor* 'how.REL': operator, +relative, +manner

Since these pronouns are not specified for φ-features, it is not surprising that we find them in free relative clauses – as FR involve no RC head noun to match the syntactic features with. Their use is illustrated below in (23) and (24). These pronouns receive a definite or a universally quantified reading (see Van Riemsdijk (2005, section 5.2) for a discussion of free relative interpretation). The latter is the most salient reading in these examples:

(23) Kar seješ, to žanješ.
  *what.*REL *sow.2SG this reap.2SG*
  'You reap what you sow.'
(24) Kdor išče, ta najde.
  *who.*REL *seek.2SG this-one finds*
  'He who seeks will find. / Seek and you will find.'

At the same time, the lack of gender and number features makes these *-r* pronouns unsuitable for lexical insertion in headed relative contexts, same as their 'bare' *wh*-counterparts, as demonstrated by (25) and (26):

(25) *kolo, kar sem videl
  *bike what.*REL *AUX.1SG saw*
  ('the bike which I saw')

(26) *človek, kdor dela v tovarni
*man who*.REL *work.3SG in factory*
('the man who works in a factory')

In contrast, a completely acceptable use of specialized relative pronouns is adverbial relativization. Since adverbs do not carry number or gender features, this is not unexpected. In example (27), the adverb as such is the relativized antecedent, and the pronoun needs to match it with a [+place] feature. *Kjer* 'where.REL' is the lexical element that is the best match to spell out the relative pronoun.[7]

[7] In addition to the contexts discussed, *-r* relative pronouns also appear in so-called light-headed RCs (cf. Citko (1999, 2004) for details), headed by a demonstrative, indefinite, or universal pronoun, not a full lexical head. In Polish, discussed by Citko, headless (free) and light-headed RCs are likewise introduced by the same class of *wh*-pronouns (which excludes *ktoryś* 'which'), but unlike in Slovene they do not carry any special morphology. Furthermore, in Slovene, *-r* relative pronouns are also attested with a lexical head like *človek* 'man', provided it is quantified and therefore non-referential. Such use sounds rather archaic. Here are two old newspaper examples, from 1912 and 1933, respectively, encountered in online archives (Digital Library of Slovenia, www.dlib.si). Note that the pronoun appears in the accusative form (*kdor* = NOM, *kogar* = ACC).

(i) Med nami ni človeka, kogar bi prijetno ne
*among us be.NEG man, who.REL would pleasantly not*
iznenadila ta brezprimerno važna novica.
*surprise this incomparably important news*
'There is no man among us who would not be pleasantly surprised by this extremely important news.'

(ii) … omami slednjega človeka, kogar se vitez loti.
*stuns last man who.REL REFL knight take-on.3SG*
'… it stuns every last man who the knight takes on.'

See Greenberg (1999) for a discussion of the diachronic phonological development of the suffix. The morphology of *-r* pronouns and their distribution opens interesting avenues for future research.

(27) Dobiva se [na vogalu, kjer sem te
*meet.2PL REFL on corner where.*REL *AUX.1SG you.ACC.CL*
zadnjič videl].
*last saw*
'Let's meet on the corner where I last saw you.'

The alternative is to relativize the noun 'corner' itself, resulting in a regular prepositional relative clause, where *kateri* matches the φ-features of the antecedent.

(28) Dobiva se na [vogalu, na katerem sem te
*meet.2PL REFL on corner on which AUX.1SG you.ACC.CL*
zadnjič videl].
*last saw*
'Let's meet on the corner on which I last saw you.'

### 2.3.3 *Ki* and its counterparts as complementizers

The element *ki* and its counterparts in other languages have the characteristics of relative complementizers: they are invariable in form, and carry neither φ-features nor case. This is contrary to how pronouns behave, including those that these complementizers may be homophonous with.

In addition, it can be demonstrated that these elements are indeed complementizers when we consider pied-piping contexts. Since Slovene and other Slavic languages are not P-stranding languages, moving pronouns necessarily pied-pipe prepositions they are complements of (observe the contrast between (29a) and (29b)). However, prepositions never appear alongside *ki* (29c); instead, PP relativization (see section 2.4.3 for further discussion) in such cases involves resumption in the form of a preposition selecting a pronoun (29d). The equivalent pattern exists in other Slavic languages as well (cf. Rudin (1986, p. 131) and Goodluck & Stojanović (1996, p. 291), for example). This shows that *ki* does not behave like a

pronoun and is first merged in the left periphery, rather than moving to it, as expected from a complementizer.

(29) a. *orodje, katerim sem popravil streho s
*tool.NEUT.SG which.NEUT.SG.INS AUX.1SG repaired roof with*
b. orodje, s katerim sem popravil streho
*tool.NEUT.SG with which.NEUT.SG.INS AUX.1SG repaired roof*
c. *orodje, s ki sem popravil streho
*tool.NEUT.SG with C AUX.1SG repaired roof*
d. orodje, ki sem z njim popravil streho
*tool.NEUT.SG C AUX.1SG with it.INS repaired roof*
All (intended): 'the tool I repaired the roof with'

Yet another argument for the complementizer status of the invariable element comes from Bosnian/Croatian/Serbian (B/C/S). The interrogative pronoun with the meaning 'what' is, depending on the variety, either *šta* or *što*, as shown in (30).

(30) a. **Što** te muči? [B/C/S variety #1]
*what you.ACC bothers*
b. **Šta** te muči? [B/C/S variety #2]
*what you.ACC bothers*
Both: 'What bothers you?'

However, the complementizer invariably has the form *što*, even in the B/C/S varieties where the pronoun form is *šta*, as we see in example (31). This decisively dissociates the complementizer from the pronoun, synchronically.

(31) Ono **što** mene muči ti ne možeš razum(j)eti.
*that C I.ACC bothers you.NOM NEG can.2SG understand*
'You cannot understand the thing that bothers me.'
[B/C/S varieties #1 and #2]

The role of the complementizer *ki* in Slovene is specialized, i.e. it appears only in relative constructions. This is true for the standard variety and the majority of dialects. In a geographically contained group of dialects in north-eastern Slovenia (the Pannonian dialectal group), however, a complementizer with a form resembling *ki* is used not only in relative clauses, but in declarative clauses and clausal complements to factive predicates as well (just like the English *that*). Further variation in the distributional pattern of complementizers exists across Slavic languages, as shown in Table 2.4 below (sources as listed in section 2.2). Russian patterns with north-eastern Slovene dialects in that a single complementizer is used in all three contexts, while Czech and Polish show the distribution of standard Slovene. In B/C/S (cf. Arsenijević 2014) and Bulgarian (cf. Krapova 2010), the use of the relative complementizer may optionally extend to clausal complements of (certain subgroups of) factive predicates.

Table 2.4 Complementizer distribution table for a range of Slavic languages

| | *Declarative* | *Factive* | *Relative* |
|---|---|---|---|
| *Russian* | chto | | |
| *Dialectal Slovene (NE)* | ka | | |
| *Slovene* | da | | ki |
| *Czech* | že | | co |
| *Polish* | że | | co |
| *B/C/S* | da | što | |
| *Bulgarian* | če | deto | |

While a closer examination of Slavic complementizer systems remains a topic for further research, it is worth noting at this point that there is no attested pattern where the factive complementizer has a specialized form, distinct from both the declarative and the relative ones.[8]

[8] For an ongoing discussion of whether or not clausal complements of factive predicates and/or noun complement clauses (such as '(the fact) that they have come') should be analysed on a par with relative clauses, see Aboh (2005), Kayne (2008, 2010), Arsenijević (2009), Krapova (2010), Roussou (2010), Haegeman & Ürögdi (2010), Haegeman (2012), Boef (2013), among others.

There are limitations as to what can be spelled out in the CP domain of relative constructions. Firstly, a Doubly Filled COMP Filter type of restriction in the sense of Chomsky & Lasnik (1977) applies: not more than one of the relative elements can be overtly expressed, regardless of their relative order (cf. example (32)). Secondly, zero relativization is not allowed: one element must always be expressed (cf. example (33)). The presence or absence of resumption plays no role; when these requirements are violated, the resulting Slovene sentences are ungrammatical.

(32) *Poznam človeka, <katerega, ki> so (ga) iskali.
(33) *Poznam človeka, so (ga) iskali.
*know.1SG man which C AUX.3PL he.ACC.CL searched*
Both: ('I know the man they were looking for.')

This leaves us with the two options presented in the beginning (see the schematic representations in (3)): either only the pronoun or only the complementizer is present.

### 2.3.4 Basic data on resumption forms

As described in the beginning, resumption takes place when the relative clause is introduced by the complementizer. This applies to object relatives, whereas in subject relative clauses there is no resumption even with the complementizer (cf. section 2.5.2). With object relatives, resumption is obligatory, as shown in (34a).[9] Furthermore, the resumptive pronoun must be a clitic – tonic pronouns in a neutral context will not do, as demonstrated by (34b).[10] Resumption is likewise not present in relatives introduced by a relative pronoun such as in (34c).[11]

[9] This holds true for Slovene and the basic pattern in other Slavic languages. Further variation is discussed and analysed in Chapter 3.
[10] When focussed, and in particular when modified by a focus particle, resumptives have the form of tonic pronouns. See section 2.5.2.
[11] Though see Chapter 4 concerning the discussion of resumption in long distance RCs introduced by relative pronouns.

(34) a. To je človek, ki *(ga) iščejo.
*this is man C he.ACC.CL search.3PL*
b. *To je človek, ki njega isčejo.
*this is man C he.ACC search.3PL*
c. To je človek, katerega (*ga) isčejo.
*this is man which he.ACC.CL search.3PL*
All (intended): 'This is the man they are looking for.'

The locative and the instrumental in Slovene are only assigned by prepositions (cf. footnote 5 above). Relativization of all prepositional objects requires resumption in the form of a prepositional phrase with a tonic pronoun as the complement.[12] PP relativization with resumption is illustrated in (35), see also the examples in (29).

(35) Na vogalu živi prijatelj, ki se pri njem večkrat ustavim.
*on corner lives friend C REFL at he.LOC often stop*
'At the corner lives a friend who I often drop by at.'

An overview of resumptive elements in the singular paradigm is given in Table 2.5 and illustrated for the feminine gender in examples (36) through (41).[13]

[12] Clitics, as a rule, cannot be complements to prepositions (cf. Abels 2003), which hold true for Slavic languages as well. Since the locative and the instrumental are limited to PP contexts in Slovene, it stands to reason that there are no locative or instrumental clitics in the language.

[13] The forms of Slovene masculine and neuter pronouns, both tonic and clitic, are syncretic (also in the dual and the plural) – except in the nominative. Since nominative RCs do not involve resumption, the distinction between the two genders is not apparent from Table 2.5.

Table 2.5 Singular resumptive forms in Slovene

| | masculine | feminine | neuter |
|---|---|---|---|
| nominative | -- | -- | -- |
| genitive | ga | je | ga |
| dative | mu | ji | mu |
| accusative | ga | jo | ga |
| locative | pri njem | pri njej | pri njem |
| instrumental | z njim | z njo | z njim |

(36) *Nominative*
prijateljica, ki igra šah
*friend.FEM C play.3SG chess*
'the friend who plays chess'

(37) *Genitive*
prijateljica, ki se **je** spominjam
*friend.FEM C REFL she.GEN.CL remember.1SG*
'the friend who I remember'

(38) *Dative*
prijateljica, ki **ji** zaupam
*friend.FEM C she.DAT.CL trust.1SG*
'the friend who I trust'

(39) *Accusative*
prijateljica, ki **jo** pogrešam
*friend.FEM C she.ACC.CL miss.1SG*
'the friend who I miss'

(40) *Locative*
prijateljica, ki se **pri njej** večkrat ustavim
*friend.FEM C REFL at she.LOC often stop*
'the friend who I often drop by at'

(41) *Instrumental*
prijateljica, ki ob petkih **z njo** igram tenis
*friend.FEM C on Fridays with she.INS play.1SG tennis*
'the friend who I play tennis with on Fridays'

The discussion of the mechanism that brings about resumption will be the topic of section 2.5.

## 2.4 Syntactic Properties of the Two Constructions

Authors discussing resumption in Slavic languages generally follow what has previously been established as the standard analysis in the literature on resumption, with Irish, Hebrew, and (dialects of) Arabic being among the most studied languages in that respect (cf. Borer 1984, McCloskey 1990, 2002, Shlonsky 1992, Aoun, Choueiri & Hornstein 2001, a.o.). An often made assumption is that the presence of resumption in a particular structure means that there is no movement involved in its derivation – the resumptive pronoun is merged within the RC, and is bound by a null operator merged in Spec,CP (cf. Franks 1995, pp. 82f). On closer inspection, though, the non-movement hypothesis cannot be maintained for the Slavic languages under discussion, based on data from Slovene, B/C/S, and Polish. The two relative constructions display a number of common syntactic properties, and as I show in the continuation, both alternatives, including the one with resumption and no overt relative pronoun, in fact involve *wh*-movement.

### 2.4.1 Island sensitivity

Examples (21a) and (21b) illustrate the impossibility of *wh*-extraction out of a relative clause, a known property of the constructions as a subtype of Complex NP island (cf. Ross 1967). Both sentences in (42) contain material in the intermediate CP domain, preventing the movement of *kaj* 'what' through it and thus rendering the example ungrammatical. While (42a) involves an overt relative pronoun, the operator establishing the relative dependency in (42b) is null.

(42) a. *Kaj$_i$ vidim [človeka, kateremu sem dal t$_i$]?
*what see.1SG man.ACC which.DAT AUX.1SG gave*
('What do I see a man whom I gave?')

b. *Kaj$_i$ vidim [človeka, ki sem mu dal t$_i$]?
*what see.1SG man.ACC C AUX.1SG he.DAT.CL gave*
('What do I see a man whom I gave?')

The fact that the null operator element in the intermediate CP domain moves there from within the relative clause the same way as the overt relative pronoun does, and is not base-generated in that position, can be demonstrated by using known islands as a diagnostic tool for movement.

Slovene displays sensitivity to strong islands, as shown in (43), but as shown in Golden (1996 and 1997, p. 143), embedded *wh*-interrogative clauses such as in (44) do not constitute a syntactic island [original example (18a)].

(43) *Koga$_i$ je Janez jezen, [ker je Peter odpustil t$_i$]?
*who is J. angry because AUX.3SG P. fired*
('Who is John angry because Peter fired?')

(44) Katere knjige$_i$ se je Peter spraševal, [kdo$_j$ t$_j$
*which books SELF AUX.3SG P. wondered who*
bo izdal t$_i$]?
*would publish*
'Which books did Peter wonder who would publish?'

The quoted example in (44) involves a D(iscourse)-linked interrogative phrase *katere knjige* 'which books' (implying the existence of a context-determined set of books) that are known to be able to violate superiority and extract more easily out of *wh*-islands (cf. Pesetsky 1987). To exclude that as a factor, it is important to note that a simple *wh*-word can just as easily move out of a *wh*-clause in Slovene:

(45) a. Kaj$_i$ se je Peter spraševal, kdo$_j$ t$_j$
*what.ACC SELF AUX.3SG P. wondered who*
bo izdal t$_i$?
*would publish*
'What did Peter wonder who would publish?'

b. Koga$_i$ se je Peter spraševal, kdo$_j$ t$_j$
*who.ACC SELF AUX.3SG P. wondered who*
bo srečal t$_i$?
*would meet*
'Who did Peter wonder who would meet?'

If complementizer relative clauses are derived by movement, then the prediction is that they are sensitive to islands – which indeed proves to be the case. When we form relative clauses that involve relativization out of an adjunct island based on example (43), the result is ungrammatical, as in (46). Relativization out of an embedded *wh*-clause, which allows *wh*-extraction, on the other hand, is licit, as we see in (47).

(46) *človek, ki je Janez jezen, [ker ga je
*man C is J. angry because he.ACC.CL AUX.3SG*
Peter odpustil]
*P. fired*
('the man that John is angry because Peter fired him')

(47) človek, ki je Janez pozabil, [kje ga
*man C AUX.3SG J. forgot where he.ACC.CL*
je spoznal]
*AUX.3SG met*
'the man that John forgot where he met him'

B/C/S according to Bošković (2009) displays both adjunct island and *wh*-island effects (pace Goodluck & Stojanović 1996) resulting in the ungrammatical status of relativization from within strong and weak islands[14] alike [original examples (6) and (2b)].

[14] For a review paper on the properties of weak and strong islands see Szabolcsi (2005). I am not directly concerned with the distinction between the two types, but rather with showing in general that whenever interrogative *wh*-movement out of a particular structure is impossible, so is relativization, and vice versa.

(48) *čovjek što si otišao [zato što ga je
*man C AUX.2SG went-away because he.ACC.CL AUX.3SG*
Petar otpustio]
*P. fired*
('the man that you went away because Peter fired him.')

(49) *čovjek što je zaboravio [gdje ga je upoznao]
*man C AUX.3SG forgot where he.ACC.CL AUX.3SG met*
('the man that he forgot where he met him')

Contrary to Bošković (2009), however, I. LaTerza (p.c.) maintains an alternative view based on her own judgements and confirmed by her test subjects (cf. also LaTerza 2013) – namely that *wh*-clauses do not constitute islands either for question formation or relativization in B/C/S. This is demonstrated by the examples in (50) and (51). In each of the cases the example in (a) shows that *wh*-movement out of the embedded clause is allowed, and the corresponding (b) example demonstrates that relativization is possible as well.

(50) a. Koje pesme o ratu$_i$ ne znamo [kad
*what songs about war NEG know.1PL when*
su komponovali $t_i$]?
*AUX.3PL composed*
'What songs about the war we don't know when they composed them?'

b. Pesme o ratu što ne znamo [kad su
*songs about war C NEG know.1PL when AUX.3PL*
ih komponovali] puštaju se redovno na radiju.
*they.ACC.CL composed played REFL regularly on radio*
'The songs about the war that we don't know when they composed them are regularly played on the radio.'

(51) a. Koga$_i$ se sećaš [gde si upoznala t$_i$]?
*who.ACC REFL remember.2SG where AUX.2SG met*
'What do you remember where you met?'

b. Čovek što se sećam [gde sam ga
*man C REFL remember.1SG where AUX.1SG he.ACC.CL*
upoznala] došao je na slavlje.
*met came AUX.3SG to celebration*
'The man that I remember where I met him came to the celebration.'

On the other hand, examples in (52) and (53) are all ungrammatical, which is crucial for the argument that complementizer relatives with resumption are sensitive to islands and thus derived by movement. The (a) examples demonstrate that the bracketed structure is an island for extraction (a relative clause island in (52a) and a Complex NP (CNP) island in subject position in (53a)), while the relativization examples in (b) follow suit in terms of ungrammaticality and show that the presence of resumption does not void island effects.

(52) a. *O kome$_i$ si poljubio ženu [što je pričala t$_i$]?
*about who.LOC aux.2SG kissed woman C AUX.3SG talked*
('About whom did you kiss the woman who talked')

b. *Poznajem čovjeka što si poljubio ženu [što je
*know.1SG man C AUX.2SG kissed woman C AUX.3SG*
pričala o njemu].
*talked about he.LOC*
('I know a man who you kissed a woman who talked about him.)

(53) a. *Šta$_i$ [činjenica da je tvoj komšija izgubio t$_i$]
*what fact that AUX.3SG your neighbour lost*
tebe nervira?
*you.ACC irritates*
('What the fact that your neighbour lost irritates you?')

b. *To su kola što [činjenica da ih je
*this be.3PL wheel.PL C fact that they.ACC.CL AUX.3SG*
tvoj komšija izgubio] tebe nervira.
*your neighbour lost you.ACC irritates*
('This is the car that the fact that your neighbour lost it irritates you.')

An apparent counterexample to island sensitivity comes from Lavine (2003). Quoting the following examples from Bondaruk (1995), he maintains that Polish relative clauses with resumptive pronouns are not sensitive to islands:

(54) To jest ten samochód, co mój sąsiad właśnie dał
*this is the car C my neighbour just placed*
[ogłoszenie, że go sprzeda].
*advertisement that he.ACC.CL will-sell*
'This is the car that my neighbor just placed an advertisement that he wants to sell it.'

(55) Czy to ten mężczyzna, co Ewa nie chce ci
*Q.PRT this the man C E. NEG want you.DAT*
powiedzieć, [kiedy go zaprosi].
*to-say when he.ACC.CL will-invite*
'Is this the man that Ewa does not want to tell you when she will invite him?'

However, upon conferring with Polish native speakers to examine further intuitions,[15] I conclude that Lavine's claim can actually be invalidated. While examples (54) and (55) are – at least relatively – acceptable, so are the parallel interrogative examples in (56) and (57), where a *wh*-word has been extracted out of the same constructions:

(56) $Co_i$ twój sąsiad dał [ogłoszenie, że sprzeda $t_i$]?
*what your neighbour gave advertisement that will-sell*
('What did your neighbour give an advertisement that he will sell?')

[15] A special *dziękuję* goes to Marta Ruda.

(57) Kogo$_i$ Ewa nie chce ci powiedzieć, [kiedy zaprosi $t_i$]?
*who.ACC E. NEG wants you.DAT to-tell when invite*
('Who does Ewa not want to tell when she will invite?')

The sentences in (54) and (55) thus do not contain islands strong enough to block *wh*-movement. When we test relativization involving constructions that prevent *wh*-extraction out of them, the situation is clear. First, we can establish that it is impossible to move out of either the adjunct island in (58) or the CNP in subject position in (59):

(58) *Co$_i$ twój sąsiad dał ogłoszenie, [bo zgubił $t_i$]?
*what your neighbour gave advertisement because lost*
('What did your neighbour place an advertisement because he lost?')

(59) *Co$_i$ [sytuacja, że twój sąsiad zgubił $t_i$], cie irytuje?
*what situation that your neighbour lost you.ACC irritates*
('What the situation that your neighbour lost irritates you?')

Crucially, relativization out of those same islands is likewise impossible, i.e. resumption cannot void island effects.

(60) *To jest ten samochód, co twój sąsiad dał ogłoszenie,
*this is the car C your neighbour placed advertisement*
[bo go zgubił].
*because he.ACC.CL lost*
('This is the car your neighbour placed an advertisement because he lost it')

(61) *To jest ten samochód, co [sytuacja że twój sąsiad
*this is the car C situation that your neighbour*
go zgubił], cie irytuje.
*he.ACC.CL lost you.ACC irritates*
('This is the car that the fact that your neighbour lost it irritates you.')

The parallelism in acceptability of interrogative *wh*-movement and relativization out of islands suggests that movement is involved in these languages also in the formation of relatives introduced by complementizers, and not only those with an overt *wh*-pronoun.

### 2.4.2 Parasitic gaps

If complementizer relative clauses are derived by *wh*-movement, they should license parasitic gaps the same way as pronoun RCs would. In Slovene, parasitic gaps are rather limited, but they are possible – same as in Russian, and in contrast to Polish and B/C/S (cf. Franks 1995). One of the environments where parasitic gaps are most acceptable in Slovene is relative clauses, which is illustrated in (62) by an example provided in Golden (1997, p. 135, fn. 2). The *wh*-movement of the relative pronoun relativizing the object of *ceni* 'appreciates' licenses the parasitic gap in the embedded relative clause. Without movement, the presence of the putative parasitic gap triggers ungrammaticality, as expected, which is shown in (63).

(62) To je predavatelj, katerega vsak, ki spozna ***_pg_***, ceni.
*this is lecturer.NOM which.ACC everyone C meets appreciates*
'This is a lecturer whom everyone who gets to know appreciates.'

(63) *Vsak, ki spozna ***_pg_***, ceni tega predavatelja.
*everyone C meets appreciates this lecturer.ACC*
('Everyone who gets to know him appreciates this lecturer.')

When we adapt the example from Golden and turn the relative pronoun RC into a complementizer RC with resumption, we still obtain a grammatical result:

(64) To je predavatelj, ki ga vsak,
*this is lecturer.NOM C he.ACC.CL everyone*
ki spozna ***_pg_***, ceni.
*C meets appreciates*
'This is a lecturer whom everyone who gets to know appreciates.'

In (64), despite there being no *wh*-pronoun in the relative clause [*ki ga vsak ceni* 'that everyone appreciates'], the parasitic gap in the embedded relative clause [*ki spozna _pg_* 'that gets to know'] is licensed. This is then a further argument in favour of a movement derivation of complementizer relative clauses, the presence of resumption notwithstanding.

## 2.5 The Spell-Out Origin of the Alternatives

### 2.5.1 Two spell-out options

Let us summarize what has been established thus far:

1. There are two RC constructions that differ in the element that introduces the RC, which can be a complementizer or a pronoun.
2. Gaps and resumptives have a (near) complementary distribution that correlates with the choice of the relative element (gaps pattern with pronouns, while resumption patterns with complementizers).
3. The syntactic properties of the two relative constructions show they are both formed by movement (as witnessed by their sensitivity to islands intervening between the relativization site and the left periphery of the relative clause, and their ability to license parasitic gaps).

In view of these facts, I propose that the two relative constructions share one and the same underlying syntactic derivation. Namely, I argue that the RC derivation involves movement of the relative pronoun (or rather the bundle of features that correspond to the pronoun) from the relativization site to a specifier position in the left periphery of the RC (I defer the discussion on

the details of relative clause syntax and the structure of the RC left periphery until Chapter 3, where additional empirical data will contribute to a particular syntactic analysis).

The observable differences between pairs of sentences such as in (65) and (66) arise post-syntactically from the choice of which element in the CP domain gets overtly realized. This in turn influences which features in the pronoun movement chain are spelled out in which position (assuming the copy theory of movement, cf. Chomsky (1993)).

(65) To je človek, katerega iščejo.
*this is man.NOM which.ACC search.3PL*

(66) To je človek, ki ga iščejo.
*this is man.NOM C he.ACC.CL search.3PL*
Both: 'This is the man they are looking for.'

Let us take a closer look at the two possibilities in turn. First, the highest copy of the relative pronoun can be spelled out in the left periphery as *kateri* with appropriate case morphology. This at the same time suppresses the pronunciation of the complementizer – as mentioned in section 2.3.3, only one of the elements can be overt at the same time. The pronoun carries an operator feature, φ-features matching those on the head noun, and a case feature that identifies the gap in the embedded clause (since case has been assigned to the element in that position). This spell-out configuration is schematically shown in Table 2.6, indicating the crucial features and their realization.

Table 2.6 The spell-out of pronoun RCs

| *Position* | *RC head* | *Pronoun* | *C* | *RC internal* |
|---|---|---|---|---|
| *Features* | [φ, NOM] | [Op, φ, ACC]$_i$ | ~~[+rel]~~ | ~~[Op, φ, ACC]~~$_i$ |
| *Realization* | **človek** | **katerega** | – | – |

The key mechanism of the resumption analysis comes into play when the second option is chosen. In (66) it is the complementizer that is overt, and to

comply with the limitations of the CP domain spell-out, the relative pronoun cannot be pronounced. The unique case feature on the pronoun associated with a morphological exponent is thus not spelled out. In order to preserve the case and ensure that the gap information it encodes is recoverable, the minimal element that spells it out – a clitic – becomes overt in the lower copy position, as shown in Table 2.7. Note that, as is generally true for all clitics in Slovene, the resumptive clitic is pronounced in the second position (or as part of a second position clitic cluster).

Table 2.7 The spell-out of complementizer RCs

| *Position* | *RC head* | *Pronoun* | *C* | *RC internal* |
|---|---|---|---|---|
| *Features* | [φ, NOM] | ~~[Op, φ, ACC]~~$_i$ | [+rel] | [~~Op,~~ φ, ACC]$_i$ |
| *Realization* | **človek** | **–** | **ki** | **ga** |

Not all the features of the lower copy are selected for spell-out (otherwise the result would be *kateri*), only the key case feature and the associated φ-features necessarily encompassed by the clitic – there are no elements in the lexicon that would spell out case only, to the exclusion of φ-features. Together, the complementizer and the resumptive clitic, the overt elements, spell out the same set of features in sentence (66) as the overt relative pronoun does in the alternative construction in (65).

### 2.5.2 Subject relative clauses

As discussed in the overview in section 2.3.4, subject relative constructions involve no resumption. There are no nominative clitics in Slovene, and a nominative tonic pronoun is not an alternative (though see below). Compare the examples in (67):

(67) a. Poznam človeka, ki išče službo.
*know.1SG man.ACC C search.3SG job*
'I know a man who is looking for a job.'

b. *Poznam človeka, ki **on** išče službo.
*know.1SG man.ACC C he.NOM search.3SG job*
('I know a man who is looking for a job.')

This absence of resumption in the subject position is a near-universal property of languages,[16] and not specific to Slovene constructions. It has been proposed by McCloskey (1990, p. 210) that the following descriptive restriction holds:

(68) *Highest Subject Restriction (HSR)*
A resumptive pronoun cannot occupy a subject position immediately subjacent to its binder.

Informally speaking, resumptive elements are obligatorily bound, and since they are by virtue of their form and their properties pronouns, they also behave like pronouns in that they obey some type of anti-locality restriction when it comes to binding. HSR thus rules out subject resumption in the highest clause, while embedded subject resumption still takes place – in Irish and Hebrew, for example – and is fully grammatical (McCloskey 1990, 2005).

An additional argument for the absence of resumption being dependent on the structural configuration also comes from Hebrew. The following data was first noted in Doron (1982). When there is some intervening material present (here a topicalized adjunct PP), subject resumption is accepted, even obligatory for some speakers. Compare (69a) and (69b), two examples from Shlonsky (1992, p. 449).

(69) a. *ha-ʔiš še-**hu** ʔohev le-daber ʕal politika
*the-man that-he likes to-talk about politics*
b. ha-ʔiš še-ʕal politika ??(**hu**) lo ʔohev le-daber
*the-man that-about politics he NEG likes to-talk*
'the man who does not like to talk about politics'

[16] See Comrie & Kuteva (2005) for documented exceptions.

In Slovene long relatives, however, subject resumption is ruled out even in long distance relative constructions (for more on long distance relativization see Chapter 4). Note the unacceptability of example (70a) compared to the licit (70b) that does not contain resumption:

(70) a. *Poznam človeka, ki mislim, da **on**
*know.1SG man.ACC C think.1SG that he.NOM*
išče službo.
*search.3SG job*
b. Poznam človeka, ki mislim, da
*know.1SG man.ACC C think.1SG that*
išče službo.
*search.3SG job*
'I know a man who I think is looking for a job.'

This suggests that HSR does not apply in Slovene (cf. Bošković (2009) for parallel judgements in B/C/S). Examples with non-nominative subject constructions point in the same direction. Consider first example (71) with the apparent subject in the accusative, and example (72) with the dative.

(71) Janeza zebe.
*John.ACC be.cold*
'John is cold.'
(72) Janezu paše plesati salso.
*John.DAT pleases to.dance salsa*
'John likes to dance salsa.'

Parallels to these constructions have been discussed in the literature for Russian; Lavine & Freidin (2001) and Bailyn (2004), for example, contend that such non-nominative phrases move to the canonical subject position, i.e. Spec,TP.[17] Importantly, the accusative and the dative are preserved when the

[17] Subjecthood and quirky subjects are of course extensive research topics in their own right. See also Sigurðsson (2002) for a discussion of Russian (and German)

constructions in (71) ad (72) are relativized, even though the relativized position is arguably the highest subject position in the relative clause:

(71') Poznam človeka, ki **ga** zebe.
*know.1SG man.ACC C he.ACC be.cold*
'I know a man who is cold.'

(72') Poznam človeka, ki **mu** paše plesati salso
*know.1SG man.ACC C he.DAT pleases to.dance salsa*
'I know a man who likes to dance tango.'

A similar case can be made on the basis of involuntary state constructions such as the one given in (73). The analysis by Rivero & Milojević Sheppard (2003) involves no movement of the dative phrase, which is merged directly in the specifier of a modal phrase, as the highest nominal phrase in the clause. Again, the relativized counterpart of (73) contains a dative clitic, as shown in (73').

(73) Janezu se spi.
*John.DAT REFL sleep*
'John feels like sleeping.'

(73') Poznam človeka, ki se **mu** spi.
*know.1SG man.ACC C REFL he.DAT sleep*
'I know a man who feels like sleeping.'

These observations suggest that the decisive factor concerning the absence of resumption in Slovene is not the structural position of the relativized element, but rather the content of this position. If we subscribe to the views in the literature that argue, informally put, that nominative is not a case, but rather the absence of it (see Marantz (1991), Bittner & Hale (1996), Neeleman & Weerman (1999), Preminger (2011), a.o. for different implementations of that idea), resumption facts follow from the analysis as

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non-nominative subject properties and how they compare to Icelandic quirky subjects.

presented above. Since there are no case features to be recovered, there is no nominative resumption either.

If the relativized subject is focused, however, and thus carries additional features, it is resumed as in (74a) – since otherwise the focus would not be recoverable. Another example, with a focus particle, is given in (74b). Such examples were brought to my attention by J. Orešnik (p.c.).[18] While I also consider them acceptable, I find it that relativizing a focused constituent would require a rather elaborate context to sound completely natural.

(74) a. (?)človek, ki **ON** kadi
*man* *C* *he.NOM* *smokes*
'the man that (he in particular) smokes'
b. (?)človek, ki **tudi** **on** kadi
*man* *C* *also* *he.NOM* *smokes*
'the man that also he smokes / the man who *also* smokes'

The conditions on the presence of nominative resumption are thus similar to those allowing overt subject pronouns in pro-drop languages (of which Slovene is one). If pro-drop is characterized as non-pronunciation of recoverable pronoun features (see the discussion in section 2.6.2), the parallel is unsurprising.

### 2.5.3 Prepositional relative clauses

As previously mentioned in section 2.3.3, preposition stranding is banned in Slovene. Compare the ungrammatical example in (75a) to the grammatical one in (75b).

[18] Resumption of relativized focused objects similarly involves a tonic pronoun, not a clitic, as expected:

(i) človek, ki bi **vsaj** **njemu** radi dali to knjigo
*man* *C* *would* *at-least* *he.DAT* *like* *give* *this book*
'the man at least to whom we would like to give this book'

(75) a. ***Kom*** govoriš **o**?
*who.LOC talk.2SG about*
b. **O** **kom** govoriš?
*about who.LOC talk.2SG*
'Who are you talking about?'

The exact same restriction of course applies to relative constructions as well. When the relative clause involves an overt relative pronoun, the pronoun cannot move on its own as in (76a), but must rather pied-pipe the entire prepositional phrase to the left edge of the relative clause as in (76b).

(76) a. *Poznam človeka, **katerim** govoriš **s**.
*know.1SG man.ACC which.INS talk.2SG with*
b. Poznam človeka, **s** **katerim** govoriš.
*know.1SG man.ACC with which.INS talk.2SG*
'I know the man you are talking with.'

Choosing the option of introducing the relative clause with an overt complementizer means that the highest PP copy in [Spec,CP] must be left unpronounced. As the preposition is not otherwise recoverable, the lowest chain link position then necessarily gets spelled out as a PP the nominal part of which is a [-wh] pronoun, as we see in (77). Such spell-out preserves both the case in question as well as the preposition that assigns it.

(77) Poznam človeka, **ki** govoriš **z** **njim**.
*know.1SG man.ACC C talk.2SG with he.INS*
'I know the man you are talking with.'

### 2.5.4 Spell-out and derivation by phase

At a first glance, the approach stands in contradiction to derivation by phase (Chomsky 2000, 2001) and faces a look-ahead problem. The presence or absence of resumption depends on the element in the CP domain, i.e. on the

yet unmerged material outside the lower *v*-phase, which is countercyclic. However, note that there is only a single syntactic derivation proposed that proceeds uniformly and does not violate any principles. Although phases have been described as subparts of the structure that get sent to PF at points of Spell-Out, the function of their theoretical introduction is to capture the cyclicity of *syntactic* derivations by principles such as PIC in (78).

(78) *Phase Impenetrability Condition (PIC)*
In phase α with head H, the domain of H (its complement) is not accessible to operations outside of α; only H and its edge are accessible to such operations.
(Chomsky 2000, p. 108)

Phase theory taken less strictly, i.e. applying at the core syntax level only, or at least allowing for certain aspects of PF to be resolved at the end of the derivation, simultaneously evaluating the entire structure, makes the proposed approach viable. When the pronunciation of the pronoun movement chain in relative clauses is evaluated, that happens post-syntactically, and there are no additional dependencies created or feature valuations taking place – just the process of externalizing the chain previously built cyclically in syntax.[19]

There are other known cases of *wh*-chains whose pronunciation is evidently determined at PF by considering copies in the movement chain that syntactically belong to different phases. Bošković (2002) discusses lower copy pronunciation in multiple *wh*-fronting (MWF) languages (cf. also Bošković & Nunes 2007). Romanian as a MWF language requires all *wh*-phrases to front in questions, as shown by the contrast in (79a-b). The same applies to Bulgarian in (80a-b) as well.

[19] See Franks (2010) for a discussion of cyclic Spell-Out and clitic phenomena that likewise necessitate a global PF resolution. Based on clitic placement in Bulgarian and Macedonian, Franks argues that in each cycle the *entire* linearized string is subject to prosodic requirements.

(79) a. Cine ce precede? [Romanian]
*who what precedes*
b. *Cine precede ce?
*who precedes what*
'Who precedes what?'

(80) a. Koj kakvo kupi? [Bulgarian]
*who what bought*
b. *Koj kupi kakvo?
*who bought what*
'Who bought what?'

However, if the two *wh*-elements are homophonous, the second one does not appear to move, as demonstrated by examples (81) and (82). Bošković (2002) proposes that this is the result of a PF constraint against consecutive homophonous *wh*-phrases (*pace* Billings & Rudin 1996).

(81) a. *Ce ce precede? [Romanian]
*what what precedes*
b. Ce precede ce?
*what precedes what*
'What precedes what?'

(82) a. *Kakvo kakvo obuslavlja? [Bulgarian]
*what what conditions*
b. Kakvo obuslavlja kakvo?
*what conditions what*
'What conditions what?'

Examples in (83) from B/C/S, another MWF language, further show that the relevant constraint operates at the PF level, and is as such sensitive to linear order. Consecutive homophonous *wh*-words are equally impossible in B/C/S, as seen in (83a), but an intervening adverb can obviate the constraint, as shown in example (83b). The second *šta* 'what' in fact has to move in this case, as example (83c) suggests, obeying the syntactic obligatoriness of *wh*-fronting in the language.

(83) a. *Šta šta uslovljava? [B/C/S]
*what what conditions*
('What conditions what?')
b. Šta neprestano šta uslovljava?
*what constantly what conditions*
'What constantly conditions what?'
c. ?*Šta neprestano uslovljava šta?
*what constantly conditions what*
('What constantly conditions what?')

Analysing the data in accordance with the copy theory of movement allows us to account for these patterns. Movement does take place in syntax, but a lower copy – rather than the highest one – of the second *wh*-phrase is pronounced in order to satisfy the PF constraint against homophony. Example (82b) thus has the following underlying structure (with only the relevant copies indicated):

(84) Kakvo ~~kakvo~~$_i$ obuslavlja kakvo$_i$? [Bulgarian]
*what what conditions what*
'What conditions what?'

This approach, much like the proposed analysis of resumption in relative clauses, violates no syntactic requirements (in this case that all *wh*-phrases must be fronted), and creates no look-ahead problems.

## 2.6 Recoverability

As we have seen, the notion of recoverability is central to the analysis of resumption in relative clauses as presented herein. The recoverability condition can be expressed in the following way – deletion of an element is allowed if another instantiation of the features it carries can be recovered from a syntactically related position elsewhere in the structure. Or, conversely, non-pronunciation of features necessitates the presence of an

element in a syntactically related position sharing those same features in order to maintain recoverability.

### 2.6.1 Relative clauses

2.6.1.1 Recoverability of deletion in the CP domain

Recoverability is invoked already in early literature concerning the spell-out (in modern terms) of the complementizer domain of relative clauses. One of the earliest uses of the term in the relevant sense, can be traced to the following principle from Chomsky (1964, p. 41):

(85) A transformation can delete an element only if this element is the designated representative of a category, or if the structural condition that defines this transformation states that the deleted element is structurally identical to another element of the transformed string.

Later, Chomsky (1986, p. 70) couched the 'structural identity to another element' in terms of features – a structurally related phrase needs to contain the features of the deleted element. In both works, Chomsky makes use of the category of 'designated elements', which covers the (relatively) free deletion of the complementizer *that*. The key notions of the principle still 'have to be made precise', according to Chomsky (1986, p. 71).

Specifically discussing the (non)pronunciation of elements in the CP domain, Chomsky & Lasnik (1977, pp. 447f) write the following:

> We assume that [the possibility of deleting the *wh*-phrase] is excluded by the recoverability principle for deletion. Exactly how to formulate this principle is a nontrivial question, but there is little doubt that such a principle is required /.../ an appropriate form of the recoverability condition will prevent deletion of the quantifier-like *wh*-word, with its intrinsic semantic content, but not the *wh*-form that appears in relatives, which simply marks a certain category.

The *wh*-word Spec,CP of an embedded question as in example (86a) cannot be deleted, in contrast to what we find in relative clauses such as (86b), where the *wh*-pronoun is recoverable since its features are also found on the RC head *man* it is related to. In the case of prepositional relative clauses illustrated in (86c), the element in the specifier position once more cannot be deleted, in contrast to (86b), since the preposition *to* is not present elsewhere in the structure, and thus unrecoverable (cf. Chomsky 1986).

(86) a. *I wonder ~~who~~ you talked to.
b. I saw the man ~~who~~ you talked to.
c. *I saw the man ~~to whom~~ you talked.

Similarly, Van Riemsdijk & Williams (1986, p. 60), in summarizing the discussion of deletion in the CP domain, state the relevant principle in its simplest form as:

(87) Delete an element in COMP freely up to recoverability,

and again explain the possibility of deleting a relative pronoun with the fact that it is related to the head of the relative clause, and thus recoverable.

The RC head and the relative pronoun indeed share φ-features, but the pronoun also carries a case feature which is *not* shared, as is obvious in Slavic language examples we have seen – the case on the two elements is unrelated, as it is assigned independently. According to the analysis I advocate, case features with overt morphological exponents need to be recoverable, and consequently non-pronunciation of the relative pronoun triggers resumption, i.e. spell-out of the case feature elsewhere in the movement chain.

#### 2.6.1.1 Recoverability of case

The first to operate with the notion of case recoverability in relative clauses was Broihier (1995), who in his unpublished manuscript discussing Polish

and Russian RCs in an Optimality Theory (OT) framework (cf. Prince & Smolensky 1993) writes that we "[need to consider the] possibility that certain case morphology also qualifies as unrecoverable".[20]

Broihier's approach is based on a manuscript by Pesetsky, whose work was eventually published as Pesetsky (1998). Pesetsky argues for relaxing the requirement that all OT constraints be strictly ordered, and extends the theory with the possibility of tied constraints. These are resolved by computing optimal candidates emerging from individual possible orderings of tied constraints, with the union of them representing available grammatical alternatives. He uses the framework to account for the patterns of overt realization of elements in the CP domain of French and English. Broihier (1995) takes Pesetsky's approach and applies it to Polish and Russian relative clauses. The key constraints he operates with are the following:

- Recoverability (RCV): Deleted material must be recoverable (an overt link ensures the recoverability of the entire movement chain);
- Minimize Trace (MIN): Traces must silent where possible, pronominal elsewhere;
- Left Edge Complementizer (LEC): A complementizer must be pronounced at the left edge of CP;
- Telegraph (TEL): Functional morphemes (i.e. complementizers) must be unpronounced.

Brohier attempts to capture Polish and Russian empirical facts with two different constraint rankings: RCV >> MIN = LEC = TEL for Polish, and RCV >> MIN >> LEC = TEL for Russian (where complementizer RCs are more limited, see section 3.4.3). The proposed system, however, has several

[20] Broihier (1995) and Pesetsky (1998), as well as Toman (1998), suggest that only inherent case needs to be resumed, i.e. made recoverable. The data discussed in this dissertation shows that both inherent and structural case in fact require resumption, as a rule, *pace* Lavine (2003). In Chapter 3, section 3.2, I discuss the conditions on (obligatory) resumption in more detail, showing why empirical data may at a first glance lead to this imprecise generalization.

shortcomings. Firstly, it overgenerates zero relatives (with neither the complementizer nor the relative pronoun being overt). Secondly, it requires a number of additional assumptions: structural case is considered recoverable, while inherent case is not; subject positions likewise need to be considered inherently recoverable since they do not involve resumption; animate objects are assumed unrecoverable, and inanimate recoverable.

Apart from these weaknesses, acknowledged by Broihier, a major issue is that the empirical generalizations themselves are faulty. The structural vs. inherent case division does not hold true (as mentioned above in footnote 20), and the apparent animacy effect proves to be a side-product of a more general morphological requirement (as will be discussed in section 3.2.3). All these issues are examined extensively in Chapter 3, where a better characterization of the empirical facts concerning recoverability and resumption in Slavic relative clauses is provided together with a syntactic analysis that accounts for them.

Recoverability, however, does not play a role only in relative clauses. It is instead a general principle operating at the PF interface level, and in the continuation we will briefly look at some analyses of different phenomena that showcase that same principle in action.

### 2.6.2 Pro-drop

Languages differ in whether they allow pro(noun)-drop, i.e. silent referential (subject) arguments or expletives, or not. This property is correlated with the presence and richness of agreement: pro-drop is only possible in languages with sufficiently rich agreement morphology.[21]

[21] The so-called radical pro-drop languages which display no agreement at all and yet allow silent arguments, go against this generalization. However, Huang (1984) characterizes the phenomenon as topic drop instead. These languages are considered to have a different feature configuration of pronouns and T, resulting in a different derivation mechanism. See Phimsawat (2011) and Holmberg & Roberts (2013) for

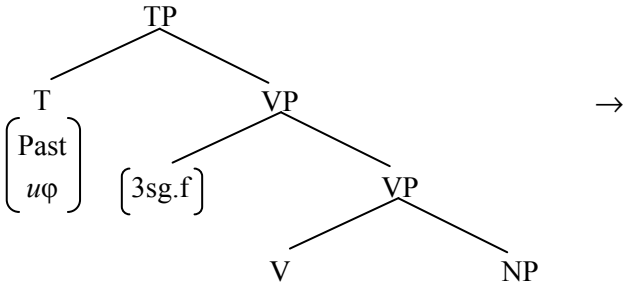
In contrast to traditional approaches in earlier literature on pro-drop (Rizzi (1982, 1986), Chomsky (1982), a.o.), Holmberg & Roberts (2013) postulate no inherently empty category in the subject position. Instead of a non-overt subject *pro*, the subject pronoun is represented as a bundle of features in syntax, same as in constructions with overt pronouns. Thus it is not the pronoun itself that is non-obligatory, but rather the *pronunciation* of the pronoun, which in turn means that pro-drop is characterized as a PF interface phenomenon.

The authors standardly assume the presence of a tense feature and a set of initially unvalued φ-features (person, number, and gender) which are eventually spelled out as verbal agreement morphology in T (see example (88a)). The φ-features receive their value by copying the value of the corresponding φ-features on the subject with which they enter into an Agree relation (cf. Chomsky 1995). The same set of φ-features is thus shared between the two categories, with T bearing an additional feature, namely tense (see example (88b)).[22]

one implementation of that idea, or Jayaseelan (1999), Tomioka (2003), and Neeleman & Szendrői (2007) for an alternative approach.

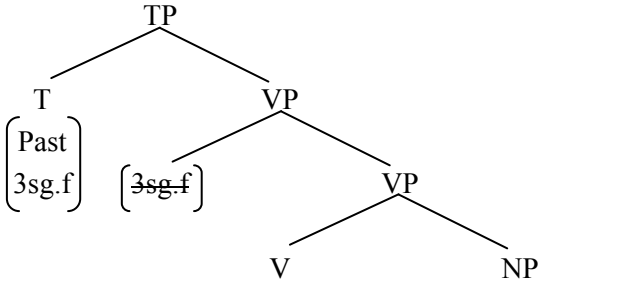
[22] The examples discussed focus on subject pro-drop. In languages that exhibit object agreement morphology, the pro-drop of object arguments is similarly licensed through agreement; two such examples are Chichewa (Baker 1988, via Ouhalla 1999), and Pashto (Huang 1984).

(88) a.




→

b.




[Holmberg & Roberts 2013, original examples (20a,b)]

Of the two copies of the φ-features only one needs to be pronounced, and the choice necessarily falls to the copy in T (non-pronunciation is indicated in the example (88b) by strikeout), because the φ-features in T form a morphological unit with tense. Should that set remain silent, tense would be left unexpressed as well, "resulting in unrecoverable loss of information" (Holmberg & Roberts 2013, p. 119).

The remaining theoretical question is what precisely counts as agreement morphology rich enough to allow pro-drop (in other words, when is agreement with the subject and/or incorporation possible, depending on the details of the approach used), in order to exclude languages that show some agreement, but do not exhibit pro-drop, such as English or Dutch.[23] Regardless of the answer, the fact remains that in cases where agreement *is*

[23] Jaeggli & Safir (1989), Rohrbacher (1999), Rizzi (2002), and others, for example, rely on finding the minimal necessary number of (relevant) distinctions, while Müller (2007), working in the framework of Distributive Morphology, links pro-drop availability to the absence of φ-feature neutralizing impoverishment rules in pre-syntactic morphology.

established and therefore two copies of the φ-features exist, the subject can remain unpronounced since the features are present elsewhere in a syntactically related position and are thus recoverable.

### 2.6.3 Topic drop

Topic drop is a label referring to constructions which involve silent pronouns that receive a topic interpretation. Analyses of topic drop often involve movement (of an inherently empty element or a pronoun that is not spelled out) to the left periphery, in the tradition of Huang's (1984) Chinese topic drop analysis. In an alternative approach by Erteschik-Shir, Ibnbari & Taube (2012), who discuss Russian and Hebrew null arguments, topic drop constructions involve non-moving silent pronouns merged as unvalued φ-feature bundles which receive a valuation at the interface via matching with an accessible topic from the discourse.

In licensing topic drop/silent pronouns in Dutch recoverability also plays a role, according to the analysis argued for in Barbiers (2013). In declarative clauses, the D-pronouns *dat* 'that.NEUT' and *die* 'that.COMM/those'[24] in the function of direct (89a), indirect (89b), as well as prepositional objects can be silent if they move to Spec,CP:

(89) a. (Dat) zag ik toen niet.
*that saw I then not*
'That I did not see then.'
b. (Die) breng ik dat boek niet.
*those bring I that book not*
'Them, I will not bring the book.'

In imperative constructions, only direct object *dat* and *die*, alongside second person pronouns such as *jij* 'you', can stay unpronounced, as in (90a), whereas indirect object, for instance, cannot – see (90b):

[24] NEUT = neuter gender, COMM = common gender

(90) a. Bestudeer (dat) goed!
*study that well*
'Study that well!'
b. Breng *(die) een boek, die jongens!
*bring those a book, those boys*
'Bring those boys a book! / Bring them a book, those boys!'

What these pronouns have in common is the feature 'distal': *dat* and *die* are both distal D-pronouns, and it is argued that the second person pronoun is represented in syntax as a bundle of the features 'distal' and 'person'. The difference in silent pronoun availability between declaratives and imperatives is explained by the different distribution of the licensing distal feature: it appears on C in declaratives, and on little *v* in imperatives. The presence of the feature 'distal' in the C position is supported by the fact that in embedded contexts the declarative complementizer *dat* has the same form as the distal D-pronoun.

The generalization is thus that Dutch silent pronouns are licensed if they carry a distal feature and appear in a particular configuration, namely in the specifier of a head that itself also carries a distal feature. Distal pronouns in declaratives can move to Spec,CP and in turn remain unpronounced. The Spec,*v*P position, on the other hand, can only license subjects and direct objects (cf. Chomsky 1995), and they can be silent in imperatives provided they carry the feature 'distal' (i.e. second person pronouns and distal pronouns only). When the pronoun is not spelled out, "the presence of a distal feature on [the C or *v*] head guarantees recoverability of the distal feature of the pronoun" (Barbiers 2013).[25]

As we see, the condition of recoverability as outlined in the beginning once again applies: distal pronouns can remain silent when they are in the right

[25] Note that, unlike in other instances of recoverability phenomena here discussed, the licensing distal feature on the C head is not associated with any morphology, i.e. it remains silent as well. We have to assume that L1 learners gather sufficient clues from the input to posit an abstract distal feature on C that is always present in declarative clauses.

syntactic configuration with another position that carries the same (distal) feature, which makes recoverability possible.

### 2.6.4 Ellipsis

Recoverability of deletion is uncontroversially one of the necessary conditions on ellipsis (for an early discussion, see Chomsky (1965)).[26] Defining the details of the recoverability requirement is at the forefront of the endeavours in the literature on ellipsis. There has to be some type of identity between the ellipsis site and its antecedent, but evidence points in two different directions as to whether the condition should be formulated in syntactic (identity of structure) or semantic terms (identity of meaning). Van Craenenbroeck & Merchant (2013) offer an exhaustive overview and show that there is no consensus or converging evidence on that matter.

Empirical evidence suggests that at least in certain cases the ellipsis site is not a silent proform, but contains a full syntactic structure that is deleted, i.e. does not get pronounced at PF (Merchant 2001, Johnson 2001, Van Craenenbroeck 2010). The arguments, among others, include the possibility of extracting constituents out of the ellipsis site, case assignment within the ellipsis site (cf. example (91) below), and – in languages with that particular property – the observance of the ban on preposition stranding within ellipsis (cf. examples (92a-b) below).

In German, the verb *schmeicheln* 'flatter' assigns dative case, while *wissen* 'know' assigns accusative. Thus, in (91) it must be *schmeicheln* that assigns the case to 'who' within the elided structure whence it was extracted:

[26] Yet not a sufficient one; ellipsis also needs to satisfy independent licensing conditions. Put differently, even when easily recoverable, not every phrase is elidable. The possible cut-off points are at the clausal, predicate, and nominal levels, which is how types of ellipsis are traditionally grouped as well.

(91) Er will jemandem schmeicheln, [German]
*he wants someone.dat flatter*
aber sie wissen nicht *wen/ OKwem.
*but they know not who.acc/who.dat*
'He wants to flatter someone but they do not know who.'

English allows preposition stranding, whereas French does not. The same restriction is observed under ellipsis as well, even when the stranded preposition is part of the ellipsis site and thus not pronounced:

(92) a. He wants to speak with someone, but I don't know who.
b. *Il veut parler avec quelqu'un, [French]
*he wants speak with someone*
mais je ne sais pas qui
*but I not know NEG who*
('He wants to speak with someone, but I don't know who.')

The domain of nominal ellipsis offers an important generalization on the recoverability of nominal features. It was first discussed for Spanish, and later on the basis of Brazilian Portuguese data (cf. Nunes & Zocca 2005) as well. If the elided nominal expression has an inherent, lexically specified gender (as has been argued for certain classes of noun pairs, e.g. *tío-tía* 'uncle-aunt', *conde-condessa* 'count-countess'), there cannot be a mismatch in gender between the antecedent and the ellipsis site. However, when the nominal expression gets its gender valued as a result of agreement with a controller outside the ellipsis site, such a mismatch is allowed. An example from Masullo & Depiante (2004) is given in (93). See Merchant (2011) for a more detailed discussion of this generalization.

(93) Juan es un buen abogado y
*J. is a.masc good.masc lawyer.masc and*
María también ~~es una buena abogada~~.
*M. also is a.fem good.fem lawyer.fem*
'Juan is a good lawyer, and so is Maria.'

The following interpretation of this empirical observation can be made. The gender feature on the elided nominal in principle has to match that of the ellipsis antecedent, but if not, there is a way out if that feature comes from agreement with an element outside the ellipsis site, as in the above example. In (93), another copy of the gender feature is overt on *María*, an element syntactically related to the elided nominal (by the agreement mechanism), much like in the case of other recoverability-related phenomena discussed herein, which makes the feature recoverable and the construction grammatical.

### 2.6.5 The principle

We have looked at several instances of one and the same recoverability principle at work. Both (a) the feature configuration and (b) the syntactic configuration conditions need to be satisfied to allow recoverability. The syntactic relation between the positions concerned may vary from an agreement relation (as in the case of pro-drop and nominal ellipsis gender mismatches), to standing in a specifier-head configuration (in the case of Dutch topic drop), and to being part of the same movement chain (when it comes to resumption in Slavic relative clauses). In all these instances, though, an element can forego spell-out at PF only if another instantiation of its features is present on an element in the related position in question.

## 2.7 Interim Summary

Relativization in Slavic languages involves two strategies differing in the element that introduces the relative clause: *ki* or *kateri* in Slovene, and corresponding ones in other Slavic languages. The two elements have been identified as a relative complementizer and a relative pronoun, respectively. With the exception of subject relative clauses, the complementizer construction requires resumption. The two available relative constructions exhibit common syntactic properties that lead us to conclude that they are

both formed by movement. Namely, they display sensitivity to islands intervening between the relativization site and the left periphery of the relative clause, as well as the ability to license parasitic gaps.

I have proposed that the two strategies share the same syntactic derivation involving *wh*-movement. The differences arise at the point of Spell-Out, depending on which of the two elements – the pronoun or the complementizer – is overt. The presence of resumption is a reflex of a recoverability condition: when the relative pronoun features are not spelled out in the left periphery of the RC, the case feature, otherwise associated with a morphological exponent in the languages in question, is pronounced as a partial spell-out of the pronoun copy within the RC. From this approach it follows that, in accordance with the view that the nominative case is encoded in syntax as the absence of case features (cf. Marantz 1991, Neeleman & Weerman 1999, a.o.), nominative subject RCs do not involve resumption. Unlike in Irish or Hebrew (cf. McCloskey 1990), the absence of resumption in Slovene thus depends on the featural content of the relativized position rather than on its position within the RC (for a discussion of Slovene resumption being of an altogether different type, see Chapter 4). The recoverability condition triggering resumption does not affect only relative clauses, but is instead a general interface principle, as illustrated by its application in a number of areas ranging from pro-drop and topic drop constructions to nominal ellipsis.

Chapter 3

# Optionality of Resumption and the Syntax of Relative Clauses

## 3.1 Introduction[27]

This chapter introduces further relativization data in Slavic languages that reveals an additional resumptive configuration, namely one where object relative clauses introduced by a complementizer need not be resumed – which diverges from the standard pattern discussed in Chapter 2. The investigation of the properties of this further variation serves as a point of departure on the way towards a syntactic analysis of the structure and derivation of relative clauses. I argue that, despite the initial impression, resumption is never optional, but rather that complementizer relatives with and without resumption are derived in two distinct ways.

In section 3.2 data involving apparent optionality of resumption is presented. It is shown that resumption can be omitted only under specific circumstances, conditioned by case morphology and the type of case assigned at the relativization site. Section 3.3 introduces an analysis of relative clauses that I adopt. Specifically, I will argue for the existence of two alternative derivation options: a head external and a head raising one. Section 3.4 then integrates the observed resumptive patterns with the proposed structure of relative clauses. The head external analysis with a base-generated RC head underlies pronoun relatives and complementizer relatives with resumption (i.e. the patterns presented in Chapter 2), while complementizer relatives without resumption (introduced in the present

[27] Early versions of parts of this chapter were presented at *Ling Lunch* (University of Connecticut, November 2012), *Syntax Square* (MIT, November 2012), and *TiN Dag* (Utrecht University, February 2013). I would like to thank the audience at these events for the feedback and discussion.

chapter) are derived by head noun raising. I show how the properties of resumptive constructions and the conditions imposed on them follow from the analysis, and how that analysis extends to cover empirical data from other languages, namely Bulgarian and Russian, as well.

## 3.2 Apparent Optionality of Resumption

### 3.2.1 An additional configuration

As presented in the previous chapter, relative clauses in Slovene and other Slavic languages introduced by a complementizer contain a resumptive pronoun. This property is once again illustrated by the example in (1):

(1) To je avto, **ki** sem **ga** kupil. [Slovene]
*this is car.NOM C AUX.1SG he.ACC.CL bought*
'This is the car that I bought.'

Relative clauses introduced by a pronoun, on the other hand, do not involve resumption. The situation is summarized in Table 3.1, which also recapitulates the main point argued for in the Chapter 2. Namely, the differences between the two types of relative clauses arise only at the level of spell-out, while the constructions otherwise share a common syntactic derivation that involves *wh*-movement of the relative pronoun.

Table 3.1 The two relative clause constructions

| **Derivation** | **Spell-out** | **Resulting configuration** |
|---|---|---|
| • involves pronoun movement to RC left periphery | • silent C<br>• overt pronoun | RC head, pronoun ... gap |
| | • overt C<br>• silent pronoun & partial lower copy spell-out | RC head, C ... resumption |

Once further data from other Slavic languages is examined, however, the clear dichotomy of the pattern in Table 3.1 disappears. We can observe that there exist alternatives to the construction in (1) *without* the resumptive element, displaying an apparent optionality in the use of resumption. In Bosnian/Croatian/Serbian it is also grammatical to use (2b), alongside the counterpart of (1) given in (2a).

(2) a. Ovo je auto **što** sam **ga** kupio. [B/C/S]
*this is car.NOM C AUX.1SG he.ACC.CL bought*
b. Ovo je auto **što** sam kupio.
*this is car.NOM C AUX.1SG bought*
Both: 'This is the car that I bought.'

Accusative direct object resumption in complementizer relative clauses thus appears optional in B/C/S. The possibility of omitting resumption in direct object relative clauses has been observed in descriptions of Polish and Czech RCs as well. The Polish example in (3) is from Fisiak, Lipińska-Grzegorek & Zabrocki (1978) via Broihier (1995, p. 25), and the Czech example in (4) is given in Šimík 2008; cf. also Gołąb & Friedman (1972) and Toman (1998).

(3) ten samochód, **co** Janek widział wczoraj [Polish]
*this car C John saw yesterday*
'the car that John saw yesterday'

(4) to okno, **co** ti chlapci rozbili [Czech]
*this window C these boys broke*
'the window that the boys broke'

In all the cases, the regular pattern with resumption is always available as well. Due to this optionality, relative clauses with complementizers might at first glance lend themselves to a possible processing account (contrary to the approach presented in Chapter 2) where the use of resumption would ostensibly depend on the complexity of the examples and possibly vary across speakers. Alternatively, they would necessitate a less strict

recoverability requirement than the one I employed, exempting from it certain positions or case features as inherently recoverable without resumption.

As we will see once the data is looked at in more detail, however, this is not the right way to approach this particular empirical puzzle. I will argue in this chapter that, to the contrary, complementizer relatives without resumption are actually a distinct syntactic construction with a derivation different from the one underlying the two common alternatives where pronouns pattern with gaps and complementizers with resumption.

### 3.2.2 Restrictions on resumption omission

First of all, it is important to note that there are restrictions as to when resumption can be omitted. Unlike the common complementizer relative construction *with* resumption, this one is not always possible, not even in all direct object relative clauses. Bošković (2009) offers the following animacy contrast in B/C/S (noted already in Browne (1986), Goodluck & Stojanović (1996) and Kordić (1995)):

| | | | | | |
|---|---|---|---|---|---|
| (5) | auto | što | **(ga)** | je | kupio |
| | *car.MASC.SG* | *C* | *he.ACC.CL* | *AUX.3SG* | *bought* |
| | 'the car that he bought' | | | | |
| (6) | čovjek | što | ***(ga)** | je | sreo |
| | *man.MASC.SG* | *C* | *he.ACC.CL* | *AUX.3SG* | *met* |
| | 'the man that he met' | | | | |

We see that it is possible to omit the resumptive clitic when the RC head is inanimate (such as *auto* 'car'), but not when it is animate (such as *čovjek* 'man'). Such animacy effects have been observed for Czech (cf. Toman 1998) and Polish as well (cf. Gołąb & Friedman 1972). See the unacceptable Polish example with an animate RC head in (7) from Broihier (1995, p. 25) and contrast it with the one in (3) above.

(7) *ten mężczyzna, co Janek widział wczoraj
*this man.MASC.SG C John saw yesterday*
'the man that John saw yesterday'

Bošković (2009) notes a further gender distinction – namely, only masculine or neuter head nouns can be relativized without resumption. See his example in (8) with a feminine noun *stolica* 'chair', which stands in contrast to the one involving a masculine RC head used in (5). Bošković (2009) also adds a number distinction that has previously gone unnoticed in the literature: only singular head nouns such as in (5) can be relativized without resumption, whereas plural ones such as *brodovi* 'ships' used in example (9) cannot. For both of these constructions to be grammatical, the resumptive clitic must be present, as in (8') and (9').

(8) ??stolica što je kupio
*chair.FEM.SG C AUX.3SG bought*
'the chair that he bought'
(9) ??brodovi što su kupili
*ship.MASC.PL C AUX.3PL bought*
'the ships that they bought'

(8') stolica što **ju** je kupio
*chair.FEM.SG C she.ACC.CL AUX.3SG bought*
'the chair that he bought'
(9') brodovi što su **ih** kupili
*ship.MASC.PL C AUX.3PL they.ACC.CL bought*
'the ships that they bought'

Summing up the claims in the literature discussed so far, resumption may be absent when the relativized object is: accusative, inanimate, masculine or neuter, and singular.

I here observe that objects with these exact properties are the ones that follow a well-known pattern of syncretism within Slavic declension

paradigms. Such objects carry null morphology, i.e. the accusative is not marked and is thus syncretic with the nominative. Note the B/C/S case forms listed in Table 3.2 which illustrate that, with the crucial forms shaded.

Table 3.2 Case paradigms for selected nouns in B/C/S[28]

| | *linden (f)* | *rabbit (m, +anim)* | *window (m, -anim)* | *window (m, pl)* |
|---|---|---|---|---|
| *nom* | lip-a | zec | prozor | prozor-i |
| *gen* | lip-e | zec-a | prozor-a | prozor-a |
| *dat* | lip-i | zec-u | prozor-u | prozor-om |
| *acc* | lip-u | zec-a | prozor | prozor-e |
| *voc* | lip-o | zec-u | prozor-u | prozor-i |
| *loc* | lip-i | zec-u | prozor-u | prozor-ima |
| *ins* | lip-om | zec-om | prozor-om | prozor-ima |

Based on these observations it is safe to conclude – as a first step – that case morphology is once again a factor (as in the previous chapter, where the recoverability of morphological case is argued to be the trigger for resumption), and plays a crucial role in the construction of these particular relative clauses as well. In the continuation, the exact conditions on when resumption can be absent will be laid out, of which the above syncretism is just a particular subcase.

### 3.2.3 Morphological matching condition

The discussion of inanimate direct object morphology guides us in the right direction, i.e. towards reducing the nominal feature restrictions on resumption omission to a case-morphological requirement. The observations made thus far are a consequence of the fact that examples in the literature tend to, unsurprisingly, feature head nouns in the nominative or accusative case – the two cases that are syncretic under the circumstances described

[28] nom = nominative, gen = genitive, dat = dative, acc = accusative, voc = vocative, loc = locative, ins = instrumental

(singular number, masculine or neuter gender, inanimacy). However, there are further configurations that allow the absence of resumption in relative clauses introduced by a complementizer, which will serve to demonstrate the properties and the nature of this morphological requirement.

Gračanin-Yuksek (2010) describes and discusses a range of examples that build an argument for a general morphological matching condition on resumption omission. Firstly, Gračanin-Yuksek shows that animacy as such does not actually preclude the absence of resumption. The case of the RC head and the case assigned at the relativization site do not match in example (11) – same as in the equivalent example given in (6) above – and resumption is indeed required. On the other hand, in (12), the case of the head matches that of the resumptive, which can consequently be omitted, despite the animacy of the RC head.

(11) Čovjek što sam ***(ga)** video voli Ivu.
*man.NOM C AUX.1SG he.ACC.CL saw loves I.*
'The man that I saw loves Iva.'

(12) Upoznao sam čovjeka što **(ga)** je
*met AUX.1SG man.ACC C he.ACC.CL AUX.3SG*
Iva obožavala.
*I. adored*
'I met the man that Iva adored.'

At the same time, the example in (12) also demonstrates that complete absence of case morphology (displayed by the grammatical resumption omission examples from the beginning of the chapter) is not necessary. Matching case morphology alone satisfies the requirement.

The morphological nature of the requirement is underscored by examples where the abstract cases assigned to the two positions do not match, such as in example (13). Neuter nouns such as *dijete* 'child' with a nominative-accusative syncretism as part of their paradigm (see Table 3.3)

allow for resumption to be omitted. Note, in addition, that the RC head in (13) is animate as well.

(13) Dijete što sam **(ga)** video voli Ivu.
*child.NOM C AUX.1SG he.ACC.CL saw loves I.*
'The child that I saw loves Iva.'

Table 3.3 Case paradigms for 'child', 'chair' and 'love' in B/C/S

| | *child (n)* | *chair (f)* | *love (f)* |
|---|---|---|---|
| *nom* | dijet-e | stolic-a | ljubav |
| *gen* | djetet-a | stolic-e | ljubav-i |
| *dat* | djetet-u | stolic-i | ljubav-i |
| *acc* | dijet-e | stolic-u | ljubav |
| *voc* | dijet-e | stolic-o | ljubav-i |
| *loc* | djetet-u | stolic-i | ljubav-i |
| *ins* | djetet-om | stolic-om | ljubav-i |

Gračanin-Yuksek (2010) disproves the claims that gender *per se* plays a role, specifically that feminine RC heads always require resumption in complementizer relatives. If the feminine head belongs to the right declension class, i.e. one that contains the appropriate syncretisms, the resumptive clitic need not be present. The example used by Bošković (2009) in (8) above is based on the noun *stolica* 'chair', whose declension paradigm does not contain sycretisms. The noun *ljubav* 'love', on the other hand, displays syncretism between its nominative and accusative forms (see Table 3.3), and the resumptive clitic in (14) is not obligatory, accordingly.

(14) Ljubav što sam **(je)** osjetio bila je jaka.
*love.NOM C AUX.1SG she.ACC.CL felt was AUX.3SG strong*
'The love that I felt was strong.'

When we turn to Polish, another language that can seemingly omit resumption, as mentioned at the beginning of the chapter, we find that the same generalizations apply. Examples (3) and (7) above, repeated here as

(15) and (16), differ as to the obligatoriness of resumption. Table 3.4 below highlights the morphological difference between the two RC heads: just like in B/C/S, the inanimate *samochód* 'car' displays nominative-accusative syncretism, while the animate *mężczyzna* 'man', belonging to a different declension paradigm, does not. The former allows resumption omission, and the latter not:

(15) ten samochód, co **(go)** Janek widział wczoraj [Polish]
*this car.NOM C he.ACC.CL J. saw yesterday*
'the car that John saw yesterday'

(16) ten mężczyzna, co ***(go )** Janek widział wczoraj
*this man.NOM C he.ACC.CL J. saw yesterday*
'the man that John saw yesterday'

Table 3.4 Case paradigms for 'car', 'man' and 'child' in Polish

| | *car (m)* | *man (m)* | *child (n)* |
|---|---|---|---|
| *nom* | samochód | mężczyzn-a | dzieck-o |
| *gen* | samochod-u | mężczyzn-y | dzieck-a |
| *dat* | samochod-owi | mężczyzn-ie | dzieck-u |
| *acc* | samochód | mężczyzn-ę | dzieck-o |
| *voc* | samochodz-ie | mężczyzn-o | dzieck-o |
| *loc* | samochodz-ie | mężczyzn-ie | dzieck-u |
| *ins* | samochod-em | mężczyzn-ą | dzieck-iem |

Example (17) where the case assigned to an animate masculine noun in the main clause is the same as the case within the relative clause is notably better compared to (16):

(17) Spotkałam tego faceta, co ?**(go)** Ania uwielbiała.
*met.1SG this guy.ACC C he.ACC.CL A. adored*
'I met the guy that Ania adored.'

Furthermore, as we see in (18), resumption can be omitted with neuter animate nouns as well, as long as their paradigm contains the appropriate syncretism (see Table 3.4).

(18) To dziecko, co **(je)** widziałam, kocha Anię.
*this child.NOM C it.ACC.CL saw.1SG loves A.*
'The child that I saw loves Ania.'

Further evidence that it is case morphology that governs resumption omission rather than animacy, gender, or number, comes from the following three examples, featuring RC head nouns whose declension paradigms are given in Table 3.5. Despite the noun *prawdziwek* 'boletus mushroom' being inanimate, resumption in example (19) cannot be omitted, as predicted by the absence of syncretism between its nominative and accusative forms.

(19) Ten prawdziwek, co ***(go)** znalazłam, będzie świetny
*this boletus C he.ACC.CL found.1SG be.AUX great*
w jajecznicy.
*in scrambled-eggs*
'The boletus that I found will be great with scrambled eggs.'

Table 3.5 Case paradigms for 'boletus', 'girls' and 'boys' in Polish

| | *boletus (m)* | *girls (f)* | *boys (m)* |
|---|---|---|---|
| *nom* | prawdziwek | dziewczyn-y | chłopc-y |
| *gen* | prawdziw-ka | dziewczyn | chłopc-ów |
| *dat* | prawdziw-kowi | dziewczyn-om | chłopc-om |
| *acc* | prawdziw-ka | dziewczyn-y | chłopc-ów |
| *voc* | prawdziw-ku | dziewczyn-y | chłopc-y |
| *loc* | prawdziw-ku | dziewczyn-ach | chłopc-ach |
| *ins* | prawdziw-kiem | dziewczyn-ami | chłopc-ami |

Even though *dziewczyny* 'girls' in example (20) is feminine and plural, resumption can be left out due to the nominative-accusative syncretism,

whereas in (21) with the masculine plural relative clauses head *chłopcy* 'boys' that is not possible, due to the lack of syncretism (see Table 3.5).

(20) Te dziewczyny, co **(je)** widziałam, kochają Metallicę.
*these girls.NOM C them.ACC.CL saw.1SG love M.*
'The girls that I saw love Metallica.'

(21) Ci chłopcy, co ***(ich)** widziałam, kochają Metallicę.
*these boys.NOM C them.ACC.CL saw.1SG love M.*
'The boys that I saw love Metallica.'

To sum up, case-morphological matching is a necessary condition on resumption omission in relative clauses introduced by a complementizer. The RC head needs to have the same morphological form as it would had it been assigned case at the relativization site by the relative clause predicate. Animacy and gender play a role only inasmuch as nouns with different features belong to different declension paradigms, which in turn may or may not contain syncretisms that are capable of satisfying the matching condition.

### 3.2.4 Structural case condition

Morphological matching alone is not sufficient to allow the omission of resumption. Gračanin-Yuksek (2010) shows that the type of case inside the relative clause also plays a role – namely, only constituents assigned structural (accusative) case can be relativized without resumption (but only provided the matching condition is met), whereas others, assigned inherent case, require resumption.[29] This is illustrated by the examples in (22) and (23) where genitive is assigned within the RC.

(22) Vidio sam psa što ***(ga)** se bojiš. [B/C/S]
*saw AUX.1SG dog.ACC C he.GEN.CL REFL fear.2SG*
'I saw the dog that you fear.'

[29] This property may explain the faulty claims in earlier descriptions that only inherent case needs to be resumed (cf. Chaper 2, section 2.6.1).

(23) Sjećam se psa što si ***(ga)** se bojao.
*remember.1SG REFL dog.GEN C AUX.2SG he.GEN.CL REFL feared*
'I remember the dog that you used to fear.'

The noun *pas* 'dog' displays genitive-accusative syncretism, as show in Table 3.6 below. Despite morphological matching in (22), and even full abstract case matching in (23), resumption cannot be omitted.

Table 3.6 Case paradigms for 'dog' in B/C/S and Polish

| | *B/C/S* | *Polish* |
|---|---|---|
| *nom* | pas | pies |
| *gen* | ps-a | ps-a |
| *dat* | ps-u | ps-u |
| *acc* | ps-a | ps-a |
| *voc* | ps-u | ps-ie |
| *loc* | ps-u | ps-ie |
| *ins* | ps-om | ps-em |

The example in (24) shows that the genitive as such is capable of satisfying the matching requirement. When the predicates are switched between the matrix and the relative clauses with respect to (22), so that structural case is assigned within the RC and the inherent genitive by the matrix predicate, both conditions are satisfied and resumption can be omitted:

(24) Bojim se psa što si **(ga)** vidio.
*fear.1SG REFL dog.GEN C AUX.2SG he.ACC.CL saw*
'I fear the dog that you saw.'

Once more, the generalizations described by Gračanin-Yuksek extend to Polish as well. Inherent genitive within the RC has to be resumed, even when it is syncretic with the accusative assigned by the matrix predicate, as in example (25), or when both cases are the same, as we see in (26).

(25) Widziałam tego psa, co się ***(go)** boisz.
*saw.1SG this dog.ACC C REFL he.GEN.CL fear.2SG*
'I saw the dog that you fear.'

(26) Pilnowałam tego psa, co się ***(go)** boisz.
*look-after.1SG this dog.GEN C REFL he.GEN.CL fear.2SG*
'I looked after the dog that you fear.'

When inherent case is assigned by the matrix predicate and structural case within the relative clause (in contrast to example (25)), the sentence becomes acceptable, as we see in (27):

(27) Boję się tego psa, co ?**(go)** widziałaś.
*fear.1SG REFL this dog.GEN C he.ACC.CL saw.2SG*
'I fear the dog that you saw.'

## 3.3 The Syntax of Relative Clauses

Before a syntactic analysis of resumption omission, and in fact of RC resumption patterns in general, can be proposed, we need to arrive at an analysis of the restrictive relative clause structure itself. This section outlines some key developments in the literature concerning the syntax of relative clauses,[30] and traces a line of related approaches from Kayne (1994) and Bianchi (1999) to Aoun & Li (2003), arriving at an analysis that I adopt. It will be shown to be compatible with and supported by data from Slovene and other Slavic languages. The remainder of the chapter will then be dedicated to explicating how the observed resumption patterns in Slavic languages follow from the proposed analysis.

[30] For an extensive review of approaches to relative clause syntax and their evaluation, beyond the scope of this work, see De Vries (2002) and Salzmann (2006a), a.o.

### 3.3.1 From traditional HEA to Kayne (1994)

The traditional type of analysis of relative clauses is the head external analysis (HEA) according to which the relative clause is either adjoined to the RC head noun or is selected as its complement, and involves *wh*-movement of a relative pronoun or a silent operator within the RC from the relativization site to the left periphery (cf. Chomsky 1977, Smits 1988, Borsley 1997, a.o.). This configuration is sketched in (15).

(28) RC head [$_{CP}$ *which*/Op$_i$ [C ... t$_i$]]

The pronoun in Spec,CP is proposed to be related to the RC head noun by means of predication (cf. Chomsky 1982 and Browning 1987, pp. 52-63), under which it agrees with it in φ-features.

An alternative to the HEA approach to the syntax of relative clauses is the head raising analysis (HRA). The key property of such an analysis is the generation of the RC head inside the relative clause, from where it moves towards the matrix clause (originally proposed by Schachter (1974), who in turn cites Brame (1968), and by Vergnaud (1974), cf. Kayne (1994), Bianchi (1999) and (2000), Zwart (2000), De Vries (2002), Bhatt (2002), a.o.). An advantage of the HRA is a straightforward account of connectivity effects that follows from this particular type of analysis. Consider an example like the one in (29):

(29) the [$_{RC\ head}$ picture of **her$_i$** boyfriend] that **every girl$_i$** adores __

The phrase in (29) can receive a bound variable interpretation as indicated by the subscripts, where *her* is bound by *every girl* (i.e. every girl adores a picture of her own boyfriend). For this to be possible, however, the pronoun needs to be interpreted in the position of the gap, where it is c-commanded by the universal quantifier. The HRA posits movement of the RC head containing *her* from the gap position, and therefore allows for syntactic reconstruction of the pronoun. Assuming the copy theory of movement (cf.

Chomsky 1993), reconstruction amounts to interpreting the lower copy of the moved material at LF:

(29') the ~~[picture of her$_i$ boyfriend]~~ that **every girl$_i$**
adores [picture of **her$_i$** boyfriend]

Under a HEA, on the other hand, there is no representation of the RC head within the relative clause, and consequently syntactic reconstruction cannot be employed to account for the connectivity effect. See section 3.3.3 for further types of connectivity effects and more examples.

An approach related to the HRA by virtue of likewise posing an internal RC head to account for reconstruction data is the matching analysis (MA) of relative clauses (cf. Lees 1960, 1961, Chomsky 1965, Munn 1994, Citko 2001, Salzmann 2006a, a.o.). The DP containing the head raises RC-internally to Spec,CP. At the same time, a matching external RC head to which the relative CP is adjoined is present as well. According to the MA approach, the mechanism of PF deletion under identity (also referred to as relative deletion) is then applied to the internal head, deriving the relative clause as sketched in (30).

(30) the picture [$_{CP}$ [$_{DP}$ which ~~picture~~] she adores __ ]

A discussion of this alternative RC analysis with regard to the findings and generalizations presented in this chapter is given in section 3.5.2.

Kayne (1994) brought much renewed attention to the HRA and as such to the debate concerning the syntax of relative clauses as a whole. His analysis of relative clauses introduces a structural change concerning how the relative clause is attached to the rest of the sentence (reviving an idea from Smith (1964)). While the standard head external analysis, the matching analysis, and earlier head raising ones, e.g. Vergnaud's (1974), employ right-adjunction of the RC, any such structures are disallowed following the central tenet of Kayne's antisymmetry framework, the Linear

Correspondence Axiom (LCA). Therefore, he proposes that the RC head occupies the specifier position of the relative CP, which in turn is a complement of an external determiner, as schematically represented below (and hinted at already earlier in (29) and (29')) by the bracketing):

(31) $[_{DP}$ D $[_{CP}$ RC head [C ... ]]]

In (32), Kayne's (1994) raising analysis[31] is exemplified by a *that*-relative clause, with the RC head *picture* moving to the Spec,CP position. In a HRA approach, *wh*-relative clauses are derived by movement in two steps, with the *which* phrase generated as a constituent that first moves to the left periphery as a whole. In Kayne's analysis, the observed surface word order is reached by the RC head noun subsequently moving DP-internally to Spec,DP, as shown in (33).

(32) $[_{DP}$ the $[_{CP}$ $[_{NP}$ picture$_i$] [that $[_{TP}$ Bill liked $t_i$]]]]
(33) $[_{DP}$ the $[_{CP}$ $[_{DP}$ $[_{NP}$ picture$]_j$ which $t_j]]_i$ $[_{TP}$ Bill liked $t_i$]]]

According to the external determiner complement hypothesis, the highest determiner does not form a constituent with the RC head alone, and selects the entire relative clause. Such an analysis captures observations (listed below) indicating that the presence of D depends on the presence of a relative CP, and that the determiner could not be part of the relative clause itself, while the relative head behaves as a nominal phrase without a definite determiner.

Examples (34a) and (34b), from Vergnaud (1974) and Kayne (1994), respectively, show that *the* is licensed when a relative clause is present, but cannot select a proper name or a genitive structure such on its own.

(34) a. the Paris *(that I knew)
b. the three books of John's *(that I read)

[31] For an analysis combining the D-complement hypothesis with head noun raising the name *promotion analysis* is also used (cf. De Vries 2002).

Similarly, (35a) demonstrates that the determiner is not part of the idiom *make headway*, but it can nevertheless co-occur with *headway* in a relative clause construction. Despite the position of the determiner in (35b), it cannot be the case that it is part of the relativized nominal itself.

(35) a. We made (*the) headway on that problem
b. the headway that we made on that problem

Browning (1987, pp. 129-131) notes that the relativization trace is interpreted as an indefinite even in the presence of a definite determiner. This is demonstrated by the contrast in (36). The existential *there* construction requires an indefinite expression as seen in (36a), and yet (36b) is grammatical.

(36) a. There were (*the) men in the garden.
b. The men that there were in the garden were all diplomats.

This suggests that the definite determiner is not part of the relative clause head, and expresses the definiteness of the entire structure, rather than of the RC head itself.

Aoun & Li (2003, p. 103), based on examples from Bianchi (1999, pp. 45f), offer the following contrast in scope interpretation. The object *two patients* in (37a) allows for a narrow scope interpretation with respect to *every doctor* (every doctor will examine two patients each) alongside the inverse scope reading (there are two specific patients that every doctor will examine). When, on the other hand, the object contains a definite determiner, as in (37b), it necessarily takes wide scope. In a relative clause such as (37c), the narrow scope interpretation of *two patients* is again available, as in (37a), despite the presence of the definite determiner, which shows that the determiner is in fact not part of the relativized object.

(37) a. Every doctor will examine two patients. [*two* > ∀, ∀ > *two*]
b. Every doctor will examine the two patients. [*two* > ∀, *∀ > *two*]
c. I phoned the two patients that every doctor will examine tomorrow. [*two* > ∀, ∀ > *two*]

Cross-linguistically, there is evidence that a determiner can indeed have a CP complement. In (38a) we see a Spanish example from Donati (1994, p. 23, via Bianchi 1999). Example (38b) is the Slovene counterpart of an oft-quoted Polish example from Borsley (1997, p. 631). See also De Vries (2002, pp. 75f).

(38) a. No me gusta el [$_{CP}$ que tu actúes así]. [Spanish]
*not to-me pleases the that you behave like-that*
'I don't like your behaving like that.'
b. To, [$_{CP}$ koga je Marija videla], je skrivnost. [Slovene]
*that who AUX.3SG M. saw is secret*
'Whom Mary saw is a secret.'

These facts all support the external D-complement structure given in (31) above.

### 3.3.2 Relative clause head as a DP with an empty D

Borsley (1997) criticizes Kayne's (1994) revival of the raising analysis of relative clauses that characterizes the moved nominal element in *that*-relatives as an NP raised directly from the gap position, rather than a DP, as repeated in (39).

(39) [$_{DP}$ the [$_{CP}$ [$_{NP}$ picture$_i$] [that [$_{TP}$ Bill liked t$_i$]]]]

He offers evidence that the moved element must in fact be a DP, contra Kayne. Firstly, the constituent is generated as an argument. It has been argued by Stowell (1989) and Longobardi (1994), among others, that only

DP projections are referential and can act as arguments, while NP's cannot. If *like* could take an NP complement, then (40) should be acceptable as well.

(40) *Bill liked picture.

Empirically, Borsley (1997, pp. 632f) demonstrates, traces in relative clauses such as in (39) behave like DP-traces with respect to several tests. For example, they can control a PRO just like DP-traces in a *wh*-question do:

(41) Who$_i$ $t_i$ tried PRO to fool everybody?
(42) the man$_i$ that $t_i$ tried PRO to fool everybody

The relative clause traces also license parasitic gaps, same as DP-traces of *wh*-movement in questions:

(43) [Which book]$_i$ did Bill criticize $t_i$ without reading *pg*?
(44) the [book]$_i$ that Bill criticized $t_i$ without reading *pg*

I here add another parallelism, for an even more direct comparison. As we have seen, *wh*-relatives are – according to Kayne (1994) – derived by first moving the DP [$_{DP}$ which NP] to Spec,CP. The relevant example is repeated in (45).

(45) [$_{DP}$ the [$_{CP}$ [$_{DP}$ [$_{NP}$ picture]$_j$ which $t_j$]]$_i$ [$_{TP}$ Bill liked $t_i$]]]

Traces of moved RC heads in *that*-relatives and *wh*-relatives, however, behave the same way, both when it comes to controlling a PRO or licensing parasitic gaps, further supporting the position that it is a DP that moves in both types or relative clauses. Example (42) above is parallel to example (46), and example (44) to the one in (47):

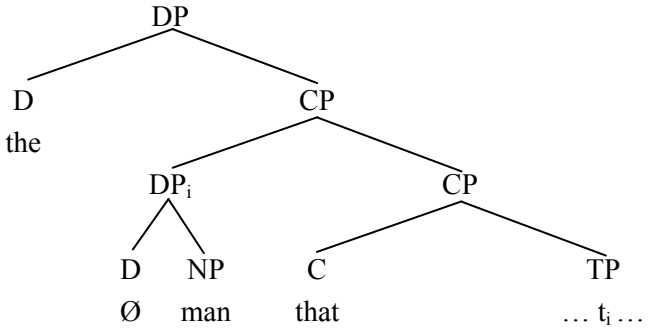
(46) the [man who]$_i$ $t_i$ tried PRO to fool everybody
(47) the [book which]$_i$ Bill criticized $t_i$ without reading *pg*

If the moved nominal constituent under scrutiny is indeed a DP, and thus referential, argues Borsley, then one would expect relativization out of a weak island such as an infinitival *wh*-complement or a complement to a factive verb to be possible, while an NP, as a non-referential expression, could not be extracted (cf. Cinque 1990, Rizzi 1990). The grammaticality of examples (48) and (49) again suggests that the raised relative head is a DP.

(48) the [book]$_i$ that we wondered [how to afford $t_i$]
(49) the [book]$_i$ that we regretted [that John read $t_i$]

Bianchi (2000) acknowledges Borsley's arguments as valid, and offers a modified Kayne's (1994) analysis of relative clauses to accommodate for the raising relative head noun to be a DP in *that*-relatives as well, and not only in *wh*-relatives. Her proposed structural configuration of the left periphery is presented in (50). The RC head moving to Spec,CP has a DP layer and is introduced by an empty D (cf. also Bianchi 1999).

(50)




The analysis leads to the question of how this empty D is licensed. Bianchi (1999, Ch. 6, and 2000, pp. 125f) proposes that licensing takes place under a strictly local configuration by means of syntactic incorporation to the external determiner. The empty D head is immediately c-commanded by the external D, there are no intervening heads in terms of Relativized Minimality (cf. Rizzi 1990). The (feature bundle of the) internal D incorporates into the external one, where they are fused – under the condition of feature compatibility – before being spelled out as a single determiner. At the same

time the incorporation allows the external D to check its features against the raised NP (Bianchi 2000, pp. 127f).

### 3.3.3 The availability of alternative relativization constructions

Aoun & Li (2003) maintain that two separate syntactic strategies are available to derive relative clauses.[32] Rather than arguing for a single analysis, either a head noun raising analysis or a head external one,[33] they show that the existence of both strategies in a single language can capture important empirical observations.

Using reconstruction effects as a diagnostics, they divide relative clauses into two groups: relative constructions that involve a *wh*-pronoun (henceforth *wh*-relatives) and those that do not, i.e. zero relatives or those introduced by the complementizer *that* (henceforth *that*-relatives). The following generalizations are made (adapted from Aoun & Li 2003, p. 114):

(51) a. *Wh*-relatives do not exhibit reconstruction effects; that is, the head noun is not derived by movement from the RC gap position. It is base generated in its surface position.
b. *That*-relatives exhibit reconstruction effects; that is, the head noun can be derived by movement from the position within the RC where it is interpreted to its surface position.

[32] For other authors arguing for the need to maintain the availability of different RC constructions within and across languages, predominantly on the basis of divergent connectivity effect data, cf. Åfarli (1994), Sauerland (1998, 2003), Szczegielniak (2004), Hulsey & Sauerland (2006), a.o.

[33] Note that Aoun & Li (2003) use the term *matching analysis* for the derivation involving *wh*-movement, in reference to the moved pronoun whose features must match those of the head noun. The choice is potentially confusing, as the name is usually used in the literature to refer to the analysis with two matching relative heads, as mentioned in 3.3.1.

The particular contrasts that support these generalizations are illustrated in the below examples (for the full range of examples tested, see Aoun & Li 2003, pp. 110-115).

In all these examples, *wh*-relatives (the primed sentences) were found degraded by native speakers compared to *that*-relatives. To obtain a grammatical result, the relative head in each of the cases needs to reconstruct to its base position within the relative clause. This is only possible in *that*-relatives, suggesting that the two types of relatives are derived differently, as specified in (51) above. The examples in (52) illustrate idiom reconstruction; the relative head needs to be interpreted in the position next to the verb to obtain the idiomatic readings of *to keep (careful) track* and *to pay lip service*.

(52) *Idiom chunks*

a. The [**careful track**] that she **is keeping** of her expenses pleases me.

a'. ??The [**careful track**] which she **is keeping** of her expenses pleases me.

b. I was offended by the [**lip service**] that **was paid** to civil liberties at the trial.

b'. ??I was offended by the [**lip service**] which **was paid** to civil liberties at the trial.

In the examples in (53), the RC head needs to be interpreted within the relative clause in order for the anaphor it contains to be c-commanded and bound by *John*. The ungrammaticality of (53a') and (53b') indicates that such reconstruction is not possible in *wh*-relatives.

(53) *Principle A*

a. The [picture of **himself$_i$**] that **John$_i$** likes best is impressive.

a'. *?The [picture of **himself$_i$**] which **John$_i$** likes best is impressive.

b. We admired the [picture of **himself$_i$**] that **John$_i$** painted in art class.
b'. *We admired the [picture of **himself$_i$**] which **John$_i$** painted in art class.

The judgements in (54) are given with respect to the interpretation where *his* is bound by *everyone*, as indicated by the subscripts, i.e. one where each person brings the picture of their own best friend. Such a reading is only possible with *that*-relative clauses, which shows that they allow RC head reconstruction. *Everyone* consequently c-commands *his* and can bind it to obtain the bound variable interpretation.

(54) *Variable binding*
a. I would like to collect the [best pictures of **his$_i$** best friend] that **everyone$_i$** will bring tomorrow.
a'. ??I would like to collect the [best pictures of **his$_i$** best friend] which **everyone$_i$** will bring tomorrow.
b. The [picture of **his$_i$** mother] that **every student$_i$** painted in art class is impressive.
b'. *?The [picture of **his$_i$** mother] which **every student$_i$** painted in art class is impressive.

In (55), both types of relative clauses have the reading where *two* scopes over *every*, i.e. one where there exist two specific patients that every doctor will examine. Only the *that*-relative allows for an additional reading where *two* is interpreted lower than *every*, i.e. where every doctor examines two of the patients, potentially a different pair each. This again suggests that only *that*-relatives allow reconstruction.

(55) *Scope interpretation*
a. I phoned the [**two patients**] that **every doctor** will examine tomorrow. [*two* > ∀, ∀ > *two*]
a'. I phoned the [**two patients**] who **every doctor** will examine tomorrow. [*two* > ∀, *∀ > *two*]

Aoun & Li (2003) find that some speakers regard the difference between *that*- and *wh*-relatives as stylistic variation only, with no contrast concerning reconstruction. They suggest (p. 244) that those speakers have reanalysed the simple relative pronoun *which* as a complementizer head. However, when examples contain a complex *wh*-element that is clearly an XP and such a reanalysis is impossible, reconstruction is not an option even for this group of speakers, as predicted. The pronoun within the RC head in example (56) thus cannot be bound by *every boy*.

(56) *I saw the [**girl of his$_i$ dreams**] *whose pictures* **every boy$_i$** was showing off.

### 3.3.4 The two syntactic constructions

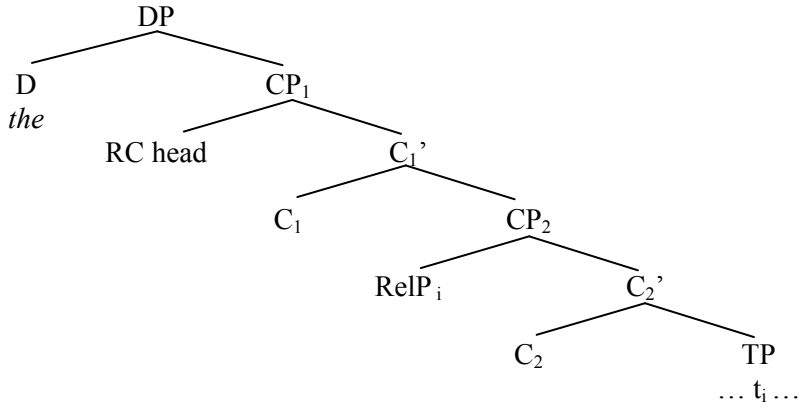
Even though the traditional head external approach assumes an adjunction structure, while the head raising analysis has been associated with complementation since Kayne (1994), the relative clause attachment structure and the derivation of the relative clause itself are independent of each other. The external determiner complement structure, which has been convincingly argued for in the literature (cf. section 3.3.1), is sufficient and compatible both with the head noun raising and the base-generated RC head strategies of Aoun & Li's (2003) approach. Building on Bianchi (1999), whose analysis involves a split CP domain (cf. Rizzi 1997), Aoun & Li argue for the following two constructions to be available.

In the case of *wh*-relatives, as illustrated in (57), the head noun is base-generated in the specifier of the higher $CP_1$ layer, dedicated to clause typing.[34] The lower $CP_2$ projection is where the operator-variable dependencies are established, and its specifier is the position to which the relative pronoun moves. Note that the RC head is in fact located *inside* the relative CP, but since the construction shares key properties with the

[34] Aoun & Li (2003), following Bianchi (1999), label it ForceP, accordingly.

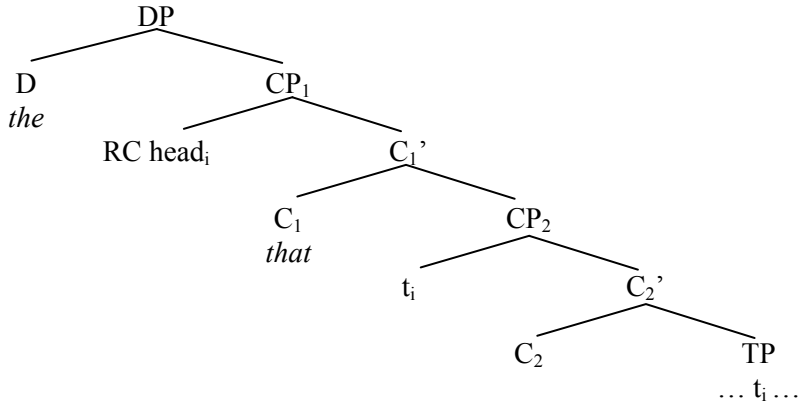
traditional head external analysis of RCs (base-generated head combined with pronoun/operator movement), I will still refer to it as HEA, for short.

(57) The boy who$_i$ I like t$_i$.




The second option, available with *that*-relatives and illustrated in (58), is derived by RC head raising, in contrast to (57). The higher $C_1$ head is realized as the complementizer *that*, while the head noun moves from the position where it is interpreted within the relative clause through the left periphery to the specifier position of the clause typing projection $CP_1$.

(58) The boy$_i$ that I like t$_i$.



The availability of the head noun raising derivation depends on the licensing of the empty internal D under incorporation (see section 3.3.2). Failure to do so makes the head raising option unviable. In English the determiner *the* and a class of others allow the head noun raising derivation, while another class of determiners – that cannot occur alongside a number expression (compare 'the/these/any forty men' vs. *'a/several/most forty men') – does not allow the raising analysis. See Carlson (1977) and Aoun & Li (2003, pp. 107-118) for further discussion. Aoun & Li (p. 117) speculate that since the non-raising determiners must not occur with a number expression they are the realization of conflated D and Number nodes, and thus fail to incorporate a simple D since identity of nodes is required. I here add that this restriction can be further formalized if we follow Kayne's (1994) approach to phrase structure: under the assumption that the external determiner in these cases is already a complex head, it is impossible – in the antisymmetry framework – to incorporate the internal D into it as well. That would lead to double adjunction to a single head, which is an illicit structure according to Kayne (1994, pp. 19f), since it is incompatible with the LCA.

The account by Aoun & Li (2003) is an improvement over Kayne (1994) and Bianchi (1999), where both *wh*-relatives and *that*-relatives are derived similarly, involving head noun raising. The movement of the head noun opens the possibility of its reconstruction in all cases, thus precluding the generalizations Aoun & Li capture. In addition, Kayne's and Bianchi's derivations of *wh*-relatives involve the generation of a [$_{DP}$ *wh* NP] phrase that is first raised as a whole, and the NP part of which is extracted as the last step. Phrases such as [*who boy*], [*why reason*], [*where place*], however, are not attested in other contexts. As Aoun & Li (2003, pp. 120-21) phrase it:

> *Which* in fact cannot occur when the head is inanimate even though [*which* + animate NP] is perfect. That is, we need to generate the otherwise unacceptable [*who boy*] in order to derive a well-formed relative construction. If we generate the acceptable [*which boy*], we cannot derive a well-formed relative construction.

Another advantage of avoiding *wh*-relative derivation by two-step movement *pace* Kayne (1994) or Bianchi (1999), which Aoun & Li actually do not discuss, is that one does not run into certain movement constraint problems. Bianchi's approach where the NP is raised out of the DP to the specifier of a higher phrase in the second step of the derivation violates the ban on extraction out of phrases that have undergone movement. This principle has been variously formalized as the Freezing Principle (Wexler & Culicover 1980, Corver 2005) or the Condition on Extraction Domains (Huang 1982). Kayne's analysis involves movement of the NP within the determiner phrase to its specifier, and thus respects the above-mentioned principle, but runs afoul of another proposed constraint. According to some theoretical views (cf. Abels 2003, Grohmann 2003, a.o.), syntactic movement should also respect the principle of anti-locality, which bans movement of the complement to the specifier position of the same phrase as too local.

Slovene RCs provide further empirical support for the proposed structure of the left periphery of relative clauses.[35] As we will see, multiple positions predicted by the structure can be filled by overt material, and such a split CP analysis is required in order to accommodate it.

The two, by now familiar, relative constructions in (59a-b) below can appear with additional material in their left periphery. Alongside (59a-b) we also find examples where the relative pronoun or the relative complementizer is followed by the element *da*, as in (60a-b). The presence of *da*, whose form is equivalent to that of the declarative complementizer (see example (61)), is not optional, since it comes with a change in interpretation. In the examples below, *da* has an epistemic modal ('supposedly') or evidentiality effect: we can paraphrase the meaning of (60a-b) as 'the man who is said to be coming'.

[35] See also Boef (2013, pp. 131-46) for independent evidence in favour of the proposed structure of RCs based on Dutch data, and a discussion of parallelisms with the left periphery of embedded questions (cf. Van Craenenbroeck 2004, 2010).

(59) a. človek, kateri pride
*man which come.3SG*
b. človek, ki pride
*man C come.3SG*
Both: 'the man who is coming'

(60) a. človek, kateri da pride
*man which DA come.3SG*
b. človek, ki da pride
*man C DA come.3SG*
Both: 'the man who is said to be coming'

(61) Rekel je, da je vesel.
*said AUX.3SG that is happy*
'He said that he was happy.'

Most importantly, *da* can occur alongside the relative complementizer *ki*, the position of the latter being evidently higher than that of the former. This is in accordance with the proposed structure of relative clauses, where the relative complementizer spells out the higher C head, while *da* is a realization of the available lower C position (see the following section, 3.3.5, for a more detailed discussion of *da*, its role, and its position in the left periphery). The options are schematically represented in the table below.

Table 3.7 The possible realization of the RC left periphery in Slovene

| **Spec,CP$_1$** | **C$_1$** | **Spec,CP$_2$** | **C$_2$** |
|---|---|---|---|
| RC head | *ki* | | |
| RC head | *ki* | | *da* |
| RC head | | *kateri* | |
| RC head | | *kateri* | *da* |

According to the proposed RC structure and derivation, the relative head is generated in Spec,CP$_1$, while the relative pronoun *kateri* moves to Spec,CP$_2$, i.e. to a position lower than C$_1$. While *ki* and *kateri* are never spelled out

simultaneously in Slovene, their predicted structural order that follows from the above is *ki* before *kateri*.

Polish, interestingly enough, offers an empirical window into the order of the relative complementizer and the pronoun that is denied to us in Slovene. Szczegielniak (2004, 2005), reports (rare) attested cases of relativization involving both an overt complementizer (*co*) and an overt relative pronoun (*który*) that at least a small number of speakers accept (which is indicated by the *%* sign in the examples). The complementizer, as seen in the examples (62) and (63) below, appears higher than the pronoun, which is congruent with the prediction following from the proposed structure of the left periphery of relative clauses.

(62) *%*Marysia zna chłopców, **co których** Ania lubi
*M. knows boys C which A. likes*
'Mary knows some boys who Ann likes.'

(63) *%*każdy chłopiec **co którego** ty wiesz
*each boy C which you know*
że jakaś dziewczynka pocałowała
*that some girl kissed*
'Each boy who you know that some girl kissed'

### 3.3.5 A richer structure of the left periphery

Before demonstrating in 3.4 how the patterns of (optional and obligatory) resumption follow from what has been established in this chapter so far, let us look more closely in this section at the nature of the element *da* introduced in (60a-b) and the structure of the RC left periphery, as an aside.

In Slovene, the declarative complementizer has the form *da*, as shown in (61). Here follow some more examples with single and double embeddings (examples in (64) and (65), respectively), as well as long distance questions (illustrated in (66)):

(64) Rekel je, **da** pride.
*said AUX.3SG that come.3SG*
'He said that he is coming.'

(65) Peter je rekel, **da** Janez ve, **da** pridem.
*Peter AUX.3SG said, that John knows, that come.1SG*
'Peter said that John knows that I am coming.'

(66) Kdo si rekel, **da** pride?
*who AUX.2SG said that come.3SG*
'Who did you say is coming?'

Unlike in English, the declarative complementizer is obligatorily present, as demonstrated by example (67). It marks subordination and is selected in declarative contexts only, as shown by the ungrammaticality of the example in (68).

(67) *Rekel je, pride.
*said AUX.3SG come.3SG*
('He said he is coming.')

(68) *Sprašujem se, da pride.
*wonder.1SG SELF that come.3SG*
('I am wondering whether he is coming.')

The *da* that we encountered in (60a-b) is homonymous with the declarative complementizer, and can appear, nonobligatorily, in a wide variety of contexts: we find it in questions, simple (69) and embedded (70), *yes-no* questions (71), as well as relative clauses (72-73), and exclamatives (74). Its presence has a semantic effect, as mentioned in the previous section; the translation of the following examples tries to capture the interpretation:

(69) Kdo da pride?
*who DA come.3SG*
'Who is said to be coming?'

(70) Sprašujem se, kdo da pride?
*wonder.1SG SELF who DA come.3SG*
'I wonder who is said to be coming?'

(71) Da je Marija prišla?
*DA AUX.3SG M. came*
'So Mary is said to have come?'

(72) oseba, ki da pride
*person C DA come.3SG*
'the person said to be coming'

(73) oseba, katera da pride
*person which DA come.3SG*
'the person who is said to be coming'

(74) Da nimam denarja!
*DA not-have.1SG money*
'That I do not have money! (I certainly do!)'

The syntactic positions of the declarative complementizer and *da* in examples (69) through (74) are distinct, with the declarative complementizer occupying a higher one. A focused element (or any other material, for that matter) cannot precede the declarative complementizer in a clause, which is shown by the ungrammaticality of example (75).

(75) *Rekel je, **jaz da** pridem.
*said AUX.3SG I that come.1SG*
('He said that *I* am coming. / He said that it is me who is coming.')

The other *da*, however, can be preceded by additional material, which then gets a focus interpretation. This works for both embedded (relative) contexts, as in (76) and in root (exclamative) clauses, illustrated in (77).

(76) oseba, ki **danes da** je ne bo, ampak
*person C today DA she.CL.GEN NEG be but*
pride jutri
*come.3SG tomorrow*
'the person that today won't be here, but is coming tomorrow'

(77) **On da** nima dobrih idej!
*he DA not-have.3sg good ideas*
'*Him* not to have good ideas! (He sure does!)'

Gruet-Skrabalova (2012) discusses a similar state of affairs in Czech, where the element *že* plays a double role along the lines described above for the Slovene *da*. In its prototypical role as a declarative complementizer, *že* occupies the head of ForceP, typing the clause. In its other use, the morpheme *že* is optionally used in questions and exclamatives with a semantic effect parallel to the one discussed above for Slovene (Gruet-Skrabalova remains silent on the possible use of *že* in Czech relatives), and is analyzed as a focus particle realizing the head of a lower Focus phrase.

The argumentation in Gruet-Skrabalova (2012) follows Arnstein's (2002) take on echo questions being interpreted through focus semantics:

> According to Arnstein /…/ what is focused in these questions is the fact that their content is not new, but rather **disputed**. Moreover, Arnstein argues that echo-questions are not only inquiry about a particular utterance, but rather an inquiry about alternatives of this utterance. This would make them also similar to constructions involving focalization, since the focused constituent denotes a set of alternatives [emphasis added].

Due to the low position of *že* as a Focus head, *wh*-words and focused constituents precede it (more on the structure below). This focus particle marks everything it c-commands as (a part of) an utterance that is old, given information, i.e. presupposed. When the Focus head is clause initial, and

therefore all other constituents are contained in the TP, the entire presupposed utterance is disputed, as illustrated for Slovene in (78).

(78) Da je Marija prišla? [=71]
*DA AUX.3SG M. came*
'So Mary is said to have come?'
Presupposed: The utterance 'Mary came'.
Interpretation: Is it true that it was said: 'Mary came'?

In (79) the fronted *wh*-word inquires as to the content of a presupposed utterance:

(79) Kdo da pride? [=69]
*who DA come.3SG*
'Who is said to be coming?'
Presupposed: The utterance 'x is coming'.
Interpretation: Which x is such that it was said: 'x is coming'?

While I choose to follow the gist of Gruet-Skrabalova's approach, viewing the two *da*'s as distinct elements predicts that both heads could appear in a single declarative clause, each with its own role. This, however, is not attested in the language. We should therefore consider the possibility of a single complementizer *da* realizing the lower of the two heads in question, and then moving to the higher position in declarative clauses.[36]

Polish again provides some interesting relevant data. In colloquial Polish, embedded declarative clauses can contain two identical complementizers (*że*) with no effect on the interpretation (Szczegielniak 1999), which can be construed as a case of doubling by spelling out more than one copy in a movement chain, in accordance with the movement approach above. Double complementizers are licensed only in case when agreement morphology (analysed as a clitic) appears on the second complementizer (example (80b))

[36] For complementizers as (complex) heads derived by movement (albeit in a very different context) in Germanic languages, see Postma (1997) and Leu (2010).

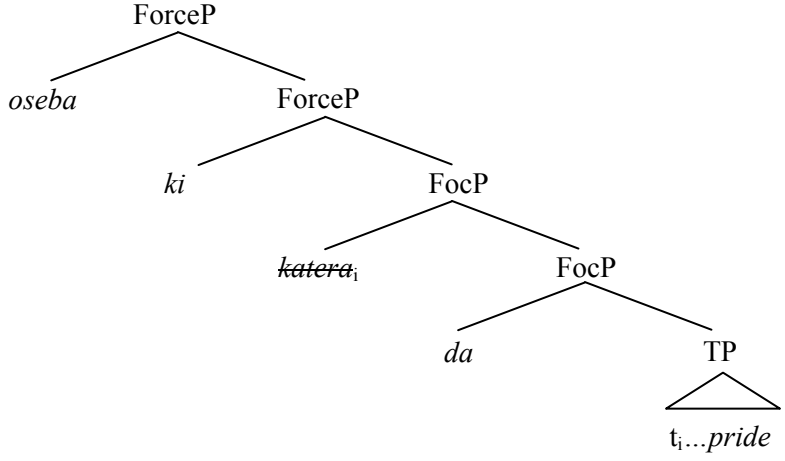
rather than on the verb (80a), which makes the two copies distinct for linearization (see the discussion in Richards (2010, pp. 41f)).

(80) a. *On wie, że że poszedł**eś** do kina. [colloquial Polish]
*he knows that that went.2SG to movies*
b. On wie, że że**ś** poszedł do kina.
*he knows that that.2SG went to movies*
'He know that you went to the movies.'

Combining these insights with the relative clause structure advocated in 3.3.4 gives us the configuration in (81b), also corresponding to Table 3.7. In accordance with the assumption that the higher projection is a clause-typing one, we can label it ForceP. The element *da* then realizes the lower, FocP head in this split CP, contributing to the interpretation: person x, such that it was said: 'x is coming'.

(81) a. oseba, ki da pride (=58)
*person C DA come.3SG*
'the person said to be coming'

b.

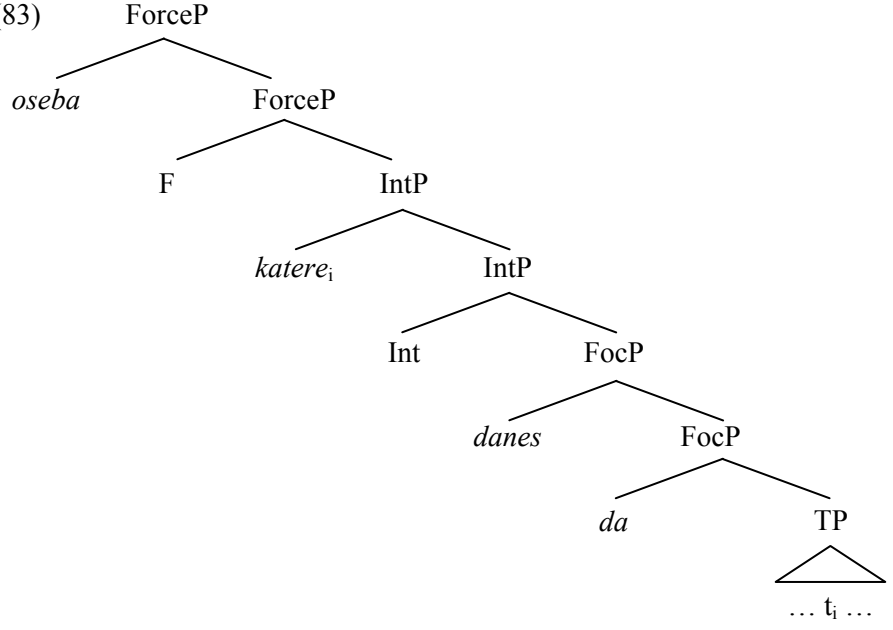


However, (81b) cannot be correct, as it is incompatible with empirical data. Consider examples of relative constructions involving a focused constituent, such as the one in (82).

(82) oseba, katere **danes da** ne bo, ampak pride jutri
*person which today DA NEG be but come.3SG tomorrow*
'the person that today will not be here, but is coming tomorrow'

In structure (81b), the focused adverb *danes* 'today' preceding *da* would compete for the same position (Spec,FocP) with the relative pronoun. Additional projections are therefore needed to accommodate all the attested syntactic material. Rizzi (2001), in a revised version of the split left periphery, argues for a further Interrogative Phrase above the Focus Phrase. Assuming an additional projection amends the structure in (81b) to the one in (83), with the positions filled based on example (82):

(83)




The structure in (83) is in line with the observed facts. The highest two projections correspond to $CP_1$ and $CP_2$ from section 3.3.4, while the lower

Focus layer is reserved for elements actually involved with the focus interpretation: the focused adverb itself, and the head *da*. In the continuation, these projections are abbreviated to CP, when appropriate.

## 3.4 Deriving Optional Resumption

### 3.4.1 The three relative configurations

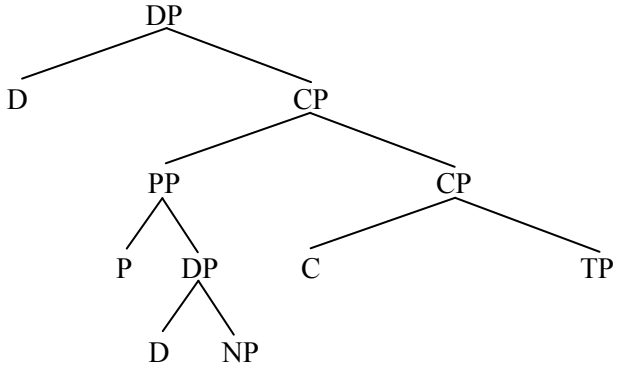
I assume that the same two syntactic options discussed in 3.3.2 (i.e. pronoun movement and head noun raising) are available to derive relative clauses in Slavic languages as well, and I argue that the derivation by head noun raising is what yields complementizer relative clauses without resumption. The availability of two alternative syntactic derivations results in the illusion of resumption being optional. We can invoke the empty D licensing requirement under incorporation to explain the conditions on resumption 'omission' we find in Slavic languages.

Firstly, the following generalization applies: since the internal D needs to incorporate, the case features the two determiners carry (or rather, have been assigned) must not induce a conflict of morphological instructions at spell-out. This can only be achieved under case-morphological matching conditions discussed in section 3.2.3. In contrast, the derivation is much more widely available in English because it leads to no morphological mismatches due to the lack of case morphology.

Secondly, the condition that only structural case positions within the RC can be relativized without resumption (cf. section 3.2.4) also follows from the proposal. I characterize the difference between structural and inherent case by drawing on the frequently adopted assumption that a silent prepositional layer is involved in inherent case assignment (an idea originating, to the best of my knowledge, from Emonds (1985, p. 224)). If we attempt to derive the relative construction by moving the RC head, and the preposition cannot be stranded as is the case in the languages under consideration, the entire PP

has to move to the left edge, as in (84). This configuration does not allow the incorporation of the internal D since the P head intervenes, and the raising derivation is thus rendered ungrammatical.

(84)




The approach by Aoun & Li (2003) does not exclude the possibility of silent operator movement even in complementizer relatives that otherwise allow the raising derivation, which would correspond to constructions with an unpronounced relative pronoun of my proposed approach. The two alternatives in English are, however, indistinguishable on the surface, and examples will test positive for reconstruction effects, since one of the two alternatives allows it. In English, therefore, the parallel existence of the two possible derivations of complementizer relative clauses cannot be easily demonstrated.

In Slavic languages under discussion, though, the two derivations yield different results. As extensively discussed in Chapter 2, deriving a relative clause by *wh*-movement and keeping the pronoun unpronounced necessarily triggers resumption (option [2] in Table 3.8 below).

In contrast, when the conditions allow the alternative head noun raising derivation, no resumption is predicted, and indeed, not attested. There is no relative pronoun involved, and therefore there are no case features that need

to be recovered. This second syntactic possibility gives rise to complementizer relatives without resumption (option [3] in Table 3.8).

Table 3.8 The derivation of three relative configuration options

| **Derivation** | **Spell-out** | **Resulting configuration** |
|---|---|---|
| HEA (*wh*-movement)<br>• RC head in Spec,$CP_1$<br>• pronoun moves to Spec,$CP_2$<br>• reconstruction not possible | • silent C<br>• overt pronoun | [1]<br>RC head, pronoun ... gap |
| | • overt C<br>• silent pronoun & partial lower copy spell-out | [2]<br>RC head, C ... resumption |
| HRA (head-raising)<br>• RC head moves to Spec,$CP_1$<br>• no pronoun involved<br>• reconstruction possible | • overt C<br>• no pronoun | [3]<br>RC head, C ... gap |

The prediction that follows from the analysis is that reconstruction effects are only present in complementizer RCs without resumption, since there the relative head is related to the RC gap via movement, while the presence of resumption or a relative pronoun 'blocks' reconstruction. Szczegielniak (2004, p. 39) demonstrates that contrast for Polish and Russian.[37] Data involving idiom reconstruction is most robust, while the Principle A effect is

[37] I here reproduce the arguments and judgements for Polish, see Szczegielniak (2004) and the discussion therein for a full range of examples, and the illustration of the same contrast in Russian (as to the availability of the resumption strategy, see the discussion in 3.4.3.2). A similar difference between RCs with gaps and RCs with resumption is noted in Šimík (2008) for Czech.

more subtle, but still present.[38] In (85), the Polish idiom *rzucać słowa na wiatr* is used ('make empty promises', literally 'throw words onto the wind') in different relative constructions. Only the complementizer relative clause without resumption allows reconstruction.

(85) a. **słów** co on nie **rzucał na wiatr**
*words C he NEG threw on wind*
b. **??słów** których on nie **rzucał na wiatr**
*words which he NEG threw on wind*
c. **??słów** co ich on nie **rzucał na wiatr**
*words C them he NEG threw on wind*
'empty promises that he did not make'

Examples in (86) show the contrast between the complementizer RC without resumption and the two alternative constructions. The former allows reconstruction, which makes (86a) fully grammatical.

(86) a. Zdjęcie **siebie** (samego) co **Jan** kupił leży na stole.
*picture SELF alone C J. bought lie.3SG on table*
b. ?Zdjęcie **siebie** (samego) które **Jan** kupił leży na stole.
*picture SELF alone which J. bought lie.3SG on table*
c. ?Zdjęcie **siebie** (samego) co je **Jan** kupił leży na stole.
*picture SELF alone C it J. bought lie.3SG on table*
'The picture of himself that John bought is lying on the table.'

Another diagnostics used by Szczegielniak (2004) is the amount reading of relative clauses (cf. Carlsson 1977). The English example recurrently used in the literature is the following:

(87) It will take us the rest of our long lives to drink the champagne that they spilled that evening.

[38] The effect of Principle A in Polish is weak in general, not just in reconstruction tests. For many speakers, reflexives seem to have the ability to be interpreted pronominally when needed to ensure grammaticality (A. Szczegielniak, p.c.).

The interpretation of the relative clause in (87) is limited to indicating the amount or quantity (of the champagne), rather than the implausible identity of substance (where the same champagne that has been spilled is going to be drunk). Carlsson (1977) argues that amount relatives are derived by head raising, as the amount part of the head noun needs to be interpreted inside the RC (cf. also Heim 1987, Grosu & Landman 1998, a.o.). The alternative RC construction in (88) with a relative pronoun does not allow the amount interpretation:

(88) #It will take us the rest of our long lives to drink the champagne which they spilled that evening.

In Aoun & Li's (2003) terms, the contrast is expected, as *wh*-relatives are not derived by head raising and thus do not allow reconstruction.

Szczegielniak (2004) provides the following contrast in Polish. Again, the complementizer relative without resumption in (89a) allows reconstruction, and consequently the amount relative interpretation, while the alternative RC constructions do not.

(89) a. Całe życie nam zajmię wypić tyle szampana, co
*whole life us take drink this-much champagne that*
oni rozlali tego wieczoru.
*they spilled this evening*

b. #Całe życie nam zajmię wypić tyle szampana, ktory
*whole life us take drink this-much champagne which*
oni rozlali tego wieczoru.
*they spilled this evening*

c. #Całe życie nam zajmię wypić tyle szampana, co go
*whole life us take drink this-much champagne that 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.'

### 3.4.2 Ungrammatical vs. unrealized and the situation in Slovene

The seeming optionality of resumption is only observed in languages like Bosnian/Croatian/Serbian or Polish, but not in Slovene, even if that would be expected. I would like to argue we need to maintain the difference between what is ungrammatical and what is allowed by the grammar of the speakers but happens to be unrealized (cf. Barbiers 2009). According to such a view, it is conceivable that the more restricted of the two syntactic options in Slovene is simply unrealized in use, as a rule.

A cursory search of Slovene texts on the internet returns results without resumption as well, such as in (90) and (91), which may indeed suggest that Slovene speakers can generate such structures.

(90) tisti prvi SNES, ki sem dobil …
*that first SNES C AUX.1SG got*
'that first SNES console that I got …'

(91) Zraven dam še dodatni magazin, ki sem
*alongside give.1SG also additional magazine C AUX.1SG*
kupil rabljenega …
*bought used*
'I also enclose the additional magazine that I bought second-hand …'

At the same time, not even all speakers of languages where the raising derivation resulting in a RC without resumption *is* attested recognize the construction as part of their personal grammars. Some B/C/S speakers (S. Beriša, p.c.) reject that option, and are therefore alike to Slovene speakers in that respect.

The unavailability of the raising derivation predicts that reconstruction in Slovene relative clauses is not possible, since the two constructions (options [1] and [2] in Table 3.8) are derived by pronoun movement and there is no copy of the relative clause head inside the RC. As we will see, the prediction proves correct.

Firstly, we can test reconstruction with the idiom *buriti duhove* ('to ruffle feathers', literally 'to excite spirits'), illustrated in (92).

(92) Izjave politikov **burijo** **duhove**.
*statements politicians.GEN excite.3PL spirits*
'The statements of politicians ruffle feathers.'

Examples in (93) demonstrate the impossibility of idiom reconstruction when the nominal part is relativized:

(93) a. *To so **duhovi**, ki jih **burijo**
*this are spirits C they.ACC.CL excite.3PL*
izjave politikov.
*statements politicians.GEN*
b. *To so **duhovi**, katere **burijo**
*this are spirits which.ACC excite.3PL*
izjave politikov.
*statements politicians.GEN*
('These are the spirits that the statements of politicians excite.')

Secondly, the anaphor in example (94) is c-commanded and bound, satisfying binding Principle A. In (95), the *wh*-phrase containing the anaphor has moved and can reconstruct (i.e. its lower copy can be interpreted) in order for the anaphor to be bound.

(94) **Janez** je kupil knjigo o **sebi**.
*J. AUX.3SG bought book about SELF*
'John bought a book about himself.'
(95) [Katero knjigo o **sebi**]$_i$ je **Janez** kupil $t_i$?
which book about *SELF AUX.3SG J. bought*
'Which book about himself did John buy?'

In contrast, the relativization examples in (96) show that the anaphor as a part of the RC head cannot reconstruct, and is therefore not bound, rendering

the sentences ungrammatical. This is consistent with the analysis whereby these RCs are not derived by movement of the RC head.

(96) a. *Knjiga o **sebi**, ki jo je **Janez**
*book about SELF C she.acc.cl AUX.3SG J.*
kupil, leži na mizi.
*bought lie.3SG on table*

b. *Knjiga o **sebi**, katero je **Janez**
*book about SELF which.ACC AUX.3SG J.*
kupil, leži na mizi.
*bought lie.3SG on table*
('The book about himself that John bought is lying on the table.')

The unavailability of the amount reading of relatives (see above) is likewise indicative of the absence of head raising and therefore reconstruction. Both of the Slovene RC constructions in (97) are pragmatically odd, since the only possible interpretation is one where we are going to drink the exact same champagne that has been spilled (and not an equivalent amount).

(97) a. #Celo večnost bomo potrebovali, da spijemo
*whole eternity will.1PL need that drink.1PL*
šampanjec, ki smo ga danes po nesreči razlili.
*champagne C AUX.1PL he.ACC.CL today on accident spilled*

b. #Celo večnost bomo potrebovali, da spijemo
*whole eternity will.1PL need that drink.1PL*
šampanjec, katerega smo danes po nesreči razlili.
*champagne which.ACC AUX.1PL today on accident spilled*
'We are going to need a lifetime to drink the champagne that we accidentally spilled today.'

### 3.4.3 Extending the analysis to other languages

#### 3.4.3.1 No case in Bulgarian

Given that case morphology plays a crucial role in the analysis I advocate, Bulgarian with its impoverished case system compared to other Slavic languages (and Old Bulgarian) is an interesting language to look at. With the exception of vocative remnants, nouns have lost case (cf. the reference grammars by Scatton (1984) and Leafgren (2011), for example). While nominative, accusative, and dative forms of personal pronouns still exist, case distinctions in the relative (and interrogative) pronoun paradigm are further reduced. Only nominative and accusative are distinguished, and then only in masculine animate pronoun forms (Krapova 2010, p. 1242). This is illustrated in (98) by examples from Krapova [original examples (4a-c)]. The masculine pronouns in (98a) and (98b) display the nominative-accusative distinction, while the feminine pronoun in (98c) in unmarked for case, despite relativizing a direct object.

(98) a. Tova e čovekăt **kojto** me snima včera.
*this is man.DEF who.MASC.NOM I.ACC.CL photo'd.3SG yesterday*
'This is the man who photographed me yesterday.'

b. Tova e čovekăt **kogoto** snimax včera.
*this is man.DEF who.MASC.ACC photo'd.1SG yesterday*
'This is the man whom I photographed yesterday.'

c. Tova e ženata **kojato** snimax včera.
*this is woman.DEF who.FEM photo'd.1SG yesterday*
'This is the woman whom I photographed yesterday.'

In light of the above it is not feasible to maintain that the resumptive clitics we find in Bulgarian relative clauses introduced by the relative complementizer (*deto*) are the result of a partial spell-out of a (copy of a) moved relative pronoun (*kojto*). Resumptive clitics appear in their accusative and dative form regardless of the gender and animacy of the RC head; in other words, they carry features not present on corresponding relative

pronouns. However, the insensitivity of Bulgarian complementizer RCs to islands suggests that they are not derived by movement in the first place, but rather by merging an operator which binds the resumptive pronoun within the relative clause directly in Spec,CP, as has often been argued for other languages exhibiting resumption (see McCloskey (1990), Shlonsky (1992), Aoun, Choueiri & Hornstein (2001), a.o).[39] Chapter 4 offers a further discussion of different types of resumption across languages. The lack of sensitivity to islands in Bulgarian is exemplified by (99) and (100), which feature an adjunct and a complex NP island, respectively [original examples (25b) from Krapova (2010, p. 1250) and (42a) from Rudin (1986, p. 142)].

(99) čovekăt, **deto** tja se uplaši, [kato **go**
*man.DEF C she.NOM REFL got-scared.3SG when he.ACC.CL*
vidja da izliza ot stajata]
*saw.3SG MOD leave.3SG from room.DEF*
'the man that she got scared when she saw (him) leaving the room.'

(100) Vidjax edna kniga, **deto** [faktăt, če **ja** prodavat],
*saw.1SG a book C fact.DEF that she.CL.ACC sell.3PL*
me iznenada.
*I.ACC.CL surprised.3SG*
'I saw a book that the fact that they are selling (it) surprised me.'

Bulgarian is thus not a counter-example to the analysis of resumption as a spell-out phenomenon driven by case morphology. What is more, data from Bulgarian concerning the apparent optionality of resumption provided by Krapova (2010) also behaves as predicted by the analysis proposed in this chapter. Complementizer RCs without resumption in Bulgarian exhibit reconstruction effects, much like their B/C/S and Polish counterparts. An example with an idiom chunk (*okazvam natisk* 'exert pressure') is given in (101a-b) and another with variable binding under reconstruction in (102a-b).

[39] It is possible that this alternative, non-movement derivation is available in other Slavic languages as well, at least according to the data provided by Gračanin-Yuksek (2010), who reports that for some speakers of B/C/S relativization with resumption is not sensitive to islands.

In both cases, reconstruction is only possible when resumption is absent. For additional examples see Krapova (2010, pp. 1246-50).

(101) a. **Natiskăt**, deto Evropa **okazva** na Bălgarija zaradi
*pressure.DET C Europe exert.3SG on Bulgaria because-of*
OMO Ilinden, e nepravomeren.
*OMO Ilinden is illegal.*

b. ***Natiskăt**, deto Evropa go **okazva** na Bălgarija
*pressure.DET C Europe it.ACC.CL exert.3SG on Bulgaria*
zaradi OMO Ilinden, e nepravomeren.
*because-of OMO Ilinden is illegal.*
'The pressure that Europe puts on Bulgaria because of the OMO Ilinden organisation is illegal.'

(102) a. snimkata na deteto **si**, deto **vsjaka majka**
*photo.DEF of child.DEF her.REFL C every mother*
nosi v portmoneto si
*carry.3SG in purse.DEF her.REFL*

b. *snimkata na deteto **si**, deto **vsjaka majka**
*photo.DEF of child.DEF her.REFL C every mother*
ja nosi v portmoneto si
*she.ACC.CL carry.3SG in purse.DEF her.REFL*
'the picture of her child that every mother carries in her purse'

These facts can be best captured by a raising analysis of relative clauses on a par with option [3] in Table 3.8, as an alternative to the non-movement derivation. In view of the lack of case on Bulgarian nouns, the morphological matching condition from section 3.2.3 that head raising is subject to is vacuously satisfied (cf. also 3.4.1), and should not limit the possibility of the RC head raising derivation. Indeed, no restrictions of the kind are mentioned in Krapova's description of Bulgarian RCs. However, the structural case condition discussed in section 3.2.4 is still predicted to apply, regardless, as it does not rely on (matching) case morphology, but rather on the absence of an additional PP layer that would otherwise prevent

D-incorporation (cf. 3.4.1). Bulgarian follows the predictions and observes this condition: resumption can only be absent when the relativized position is assigned structural accusative case. This contrast between accusative and dative object relativization is illustrated in (103) and (104) [original examples (10c) and (10b) from Krapova (2010, p. 1244)].

(103) Taja pola săm ja kupila ot nagradite
*this skirt AUX.1SG she.ACC.CL bought from award.PL.DEF*
deto mi **(gi)** dadota.
*C I.DAT.CL they.ACC.CL gave.3PL*
'This skirt I bought from the bonus that they gave me.'

(104) Tova e čovekăt deto ***(mu)** govorix za teb.
*this is man.DEF C he.DAT.CL talked.1SG about you*
'This is the man that I talked to about you.'

We have thus seen that the properties of resumption in Bulgarian relative clauses follow from the interaction of the proposed analysis with the case system of the language in question.

### 3.4.3.2 No clitics in Russian

The approach allowing for two alternative syntactic derivations can be employed to account for the situation in Russian as well. Pronoun relative clauses are widely used in Russian, just as in other Slavic languages:

(105) Eto devushka kotorayu ya videl vchera.
*this girl which I saw yesterday*
'This is the girl who I saw yesterday.'

On the other hand, complementizer RCs, which would usually require resumption, are very restricted in Russian (see Gołąb & Friedman (1972) and Broihier (1995), who state that they are possible with subject and inanimate object relative clauses). They only ever appear without resumption, and the conditions on when this is possible appear to be the

same as in other Slavic languages (cf. section 3.2 in particular). Complementizer relative clauses with resumption are not attested.

Firstly, complementizer RCs are possible in all nominative subject relative clauses, which do not require resumption (cf. 2.5.2), as shown in (106).

(106) a. Chelovek, chto stoit u doma, zhdet zhenu.
*man C stand.3SG by house wait.3SG wife*
'The man standing by the house is waiting for the wife.'
b. Stul, chto stoit v uglu, razvalivaetsya.
*chair C stand.3SG in corner falling-apart.3SG*
'The chair standing in the corner is falling apart.'

Secondly, compare the animate (107a) and inanimate (107b) accusative object relativization in Russian with RC heads in the nominative. When there is syncretism between the nominative and the accusative, as is the case in the inanimate declension paradigm (cf. Table 3.9), the sentence is grammatical.

(107) a. ??Chelovek, chto ya videl vchera, vyglyadel podozritel'no.
*man C I saw yesterday looked suspicious*
'The man I saw yesterday looked suspicious.'
b. Stul, chto ya postavil v ugol, razvalivaetsya.
*chair C I put in corner falling-apart.3SG*
'The chair I put in the corner is falling apart.'

Complementizer relative clauses are likewise acceptable when the cases assigned in the matrix clause and within the RC are identical, as in (108).

(108) Ya uvidel togo cheloveka, chto ya vstretil vchera na ulitse.
*I saw that man C I met yesterday on street*
'I was that man that I met on the street yesterday.'

Table 3.9 Case paradigms for 'man', 'chair', and 'horse' in Russian

| | *man* | *chair* | *horse* |
|---|---|---|---|
| *nom* | chelovek | stul | kon' |
| *gen* | chelovek-a | stul-a | kon-ya |
| *dat* | chelovek-u | stul-u | kon-yu |
| *acc* | chelovek-a | stul | kon-ya |
| *loc* | chelovek-e | stul-e | kon-e |
| *ins* | chelovek-om | stul-om | kon-em |

This suggests that the morphological matching condition on complementizer RCs without resumption (cf. 3.2.3) applies in Russian as well.

Thirdly, the structural case condition discussed in section 3.2.4 also appears to have an effect. The case paradigm of the noun *kon*' 'horse' exhibits genitive-accusative syncretism, as show in Table 3.9. When accusative is assigned within the relative clause and genitive by the matrix predicate, as in (109a), the sentence is grammatical, but the reverse example (109b) with genitive case within the RC is judged degraded compared to (109a).

(109) a. Ya boyus' konya, chto ty privel.
*I fear.1SG horse.GEN C you brought*
'I am afraid of the horse that you brought.'
b. ?Ya privel konya, chto ty boishsya.
*I brought horse.ACC C you fear.2SG*
'I brought the horse that you are afraid of.'

We can conclude that Russian, same as other languages, has the head noun raising construction of relative clauses (option [3] in Table 3.8) available when the matching and structural case conditions are met, resulting in complementizer RCs without resumption. The alternative syntactic construction involving a base-generated head noun and *wh*-movement of the relative pronoun is available as well, but only the spell-out option where the pronoun is overt and no resumption is required (i.e. option [1]) is possible, resulting in (105).

The syntax underlying Russian relative clauses does not differ, and the recoverability of case is a requirement in Russian as well, but we have to assume that the resumption mechanism to ensure recoverability is not available. We can find a tentative reason for it in the fact that clitic pronouns do not exist in Russian (cf. Franks & Holloway King (2000), for example) and there are therefore no clitics that would serve as resumptive elements available in the lexicon. Hence, RCs that require resumption (i.e. option [2]) are not possible. This explains the restricted use of relative clauses introduced by a complementizer in Russian. The judgements, however, are subtle, and further research is needed to establish the robustness of the generalizations and to elucidate the unavailability of tonic pronouns to serve as resumptive elements in the absence of clitics.

## 3.5 A Discussion of Alternatives

### 3.5.1 DP vs. NP Languages

The analysis of resumption patterns in RCs presented in this dissertation, and in the present chapter in particular, relies on regarding relative clauses as complements to an external D, and viewing nominal phrases, including RC head nouns, as DPs (cf. Abney 1987).

However, it has been proposed that in some languages, including most Slavic languages, the functional DP layer is absent from the structure of nominal projections. Corver (1990, 1992) argued for such a 'bare' NP analysis on the basis of left branch (LB) subextraction data. Some languages can violate the Left Branch Condition formulated by Ross (1967), given in (110); note that the label 'NP' in the original wording of the definition is understood to encompass also adjective phrases as well as *that* and *how* as degree words. B/C/S is one such language (see examples (111a-b), from Bošković (2005, p. 2)), whereas English does not allow the violation (see examples (112a-b)).

(110) *Left Branch Condition*
No NP which is the leftmost constituent of a larger NP can be reordered out of this NP by a transformational rule.

(111) a. Lijepe$_i$ je vidio [$t_i$ kuće]. [B/C/S]
*beautiful AUX.3SG saw houses*
'Beautiful houses, he saw.'
b. Čijeg$_i$ si vidio [$t_i$ oca]?
*whose AUX.2SG saw father*
'Whose father did you see?'
(112) a. *Beautiful$_i$ he saw [$t_i$ houses].
b. *Whose$_i$ did you see [$t_i$ father]?

Corver (1990, 1992) relates the ability of certain languages to violate the Left Branch Condition to the absence of the DP layer in these languages (see Corver's work for implementation details). He finds further support for his analysis in the fact that Slavic languages which allow LB subextraction lack articles as prototypical realization of the D head. In addition, Corver argues that demonstratives, possessive pronouns, and other potential determiner elements in these languages should instead be analysed as adjectives due to their adjectival morphology. These elements are thus part of the NP, and there is no need to posit an extended functional projection to accommodate them.

Bošković (2005, 2008, 2009, 2012, a.o.) extends the above observations with further generalizations, or at least tendencies, concerning a number of syntactic and semantic differences between languages with and without articles (also referred to as DP and NP languages, respectively). These generalizations[40] can arguably all be derived from the differences in the

[40] For example, only languages without articles may allow long distance scrambling from finite clauses, may allow subject reflexives, and do not show superiority effects with multiple *wh*-fronting; on the other hand, only languages with articles may allow clitic doubling, allow the majority reading of 'most', and may observe Sequence of Tense (cf. Bošković (2008) and (2012) in particular for a complete list and discussion).

nominal structure of the languages, but cannot – due to their syntactic and semantic nature – be simply reduced to a phonological difference between languages with overt articles as realizations of D and those whose D heads are present, but null (for further works on languages without articles analysed as lacking the DP projection see also Zlatić (1997), Lyons (1999), Stjepanović (2000), Willim (2000), Marelj (2011), Talić (2014), a.o.).

On the other hand, there are also authors who argue for a uniform DP structure of the nominal phrase across languages, such as Fowler & Franks (1994), Babyonyshev (1998), Engelhardt & Trugman (1998, 2000), Progovac (1998), Rappaport (2000), LaTerza (2014), and others. While this dissertation does not engage the arguments of the two sides directly, I would nevertheless like to maintain that when it comes to Slavic RC resumption, assuming the presence of a DP layer provides for a more straightforward analysis with respect to apparent optionality observations (cf. sections 3.2 and 3.4).

An analysis of Slovene, B/C/S, or Polish relative clauses assuming the 'bare' NP structure has not been explicitly proposed in the literature; a viable alternative to the unavailable D-complement analysis would be the former traditional structure of relative clauses as complements to an external relative head in N (Ž. Bošković, p.c.).[41] Following these assumptions on RC structure, the raising derivation is no longer an option for complementizer RCs without resumption, which exhibit reconstruction (see the discussion in 3.4.1). Instead, the matching analysis needs to be employed in order to capture reconstruction effects via the presence of a second, RC-internal head. The matching analysis, however, has drawbacks that will be discussed in the following section. Furthermore, assuming the NP/DP distinction between languages, Slovene, B/C/S, and Polish as NP languages and Bulgarian as a DP language cannot receive a uniform analysis with respect to RC resumption patterns, which would otherwise be possible, as I demonstrated in section 3.4.3.1.

[41] Beyond Slavic languages, see Bošković & Hsieh (2013) for such an analysis of relative clauses in Mandarin Chinese.

### 3.5.2 The Matching Analysis

The matching analysis of relative clauses (cf. section 3.3.1 and references therein) posits the existence of a second RC head internal to the relative clause alongside the external one. The internal head moves to the Spec,CP position and then undergoes PF deletion under identity with the external one, also called relative deletion. Applying the matching analysis to relative clauses showing reconstruction effects as an alternative to the raising analysis requires the morphological matching condition to be part of the deletion rule in order to account for the empirical observations (cf. 3.2.3).[42] This would ensure that such a derivation, resulting in a complementizer RC without resumption, is only available under limited circumstances, as observed – under the assumption that the failure of deletion to apply results in a crashed derivation. Since the precise mechanism underlying the notion of 'PF deletion under identity' remains to be defined, the plausibility of imposing additional conditions on the deletion rule is hard to evaluate. For a criticism along these lines see Bhatt (2002, pp. 77-79), and Boef (2013, pp. 129f).

A serious disadvantage of the matching analysis emerges when it comes to accounting for the structural case condition on resumption omission (cf. 3.2.4). Under the raising analysis, inherent case on the RC head is ruled out because the intervening P head prevents the necessary D-incorporation, as discussed in section 3.4.1. In contrast, following the matching analysis approach we need to independently postulate that RC heads bearing inherent case cannot undergo movement (cf. Gračanin-Yuksek 2010),[43] or are in some other way barred from being subject to PF deletion. Further assuming

[42] Gračanin-Yuksek (2010), who follows the matching analysis, stipulates a requirement that the accusative be overtly realized. Deletion of the internal RC head carrying accusative case is only allowed when the morphological form of the external RC head matches that of the internal one, so that the overt RC head can serve as the carrier of (morphologically) accusative case and thus satisfy the requirement.

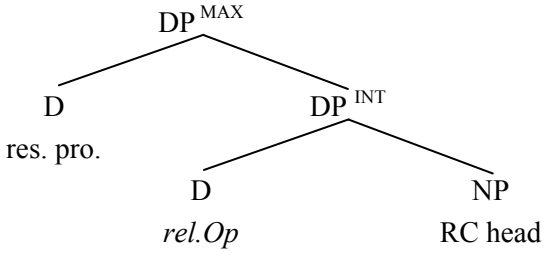
[43] Such a restriction is demonstrated not to hold for Slovak, yet Slovak RCs still follow the structural case condition (Chidambaram 2013, pp. 118-120).

that, again, non-deletion results in a crashed derivation, this would ensure that only the alternative derivation yielding a relative clause with resumption (see the overview in section 3.4.1) is available when inherent case is assigned within the RC, as observed.

### 3.5.3 Chidambaram (2013)

The recent work by Chidambaram (2013) provides an alternative analysis of resumption in relative clauses, combining the matching analysis with Boeckx's (2003) approach to resumption as stranding, where the resumptive pronoun is initially generated in D that takes the RC head as its NP complement, which is subsequently extracted. Chidambaram assumes what she calls the 'stacked DP' pronominal structure illustrated in (113) to be universally generated at the relativization site in all languages, regardless of whether they exhibit resumption or not.

(113)




The difference between resumptive and non-resumptive languages lies in a proposed parameter governing whether the internal DP moves independently, or pied-pipes the resumptive pronoun. When the internal DP is extracted, it strands the pronoun, giving rise to resumption. However, in languages without resumption, the pronoun is pied-piped to the Spec,CP position of the relative clause where the entire maximal DP is deleted under Chidambaram's version of relative deletion given in (114).

(114) *Relative Deletion*
In relative clauses, the internal head must take the external head as its antecedent. Any lexical item in Spec,CP of the relative clause that takes the external head as an antecedent must be deleted.

Resumption in Slavic relative clauses introduced by a pronoun is ruled out by a ban on case being overtly realized on more than one D within a stacked DP phrase (Chidambaram 2013, p. 84). This prohibits the structure in (113) to be generated with a relative pronoun as the internal D (instead of a silent relative operator), since both resumptive and relative pronouns are morphologically marked for case in languages like Slovene or Bosnian/Croatian/Serbian. Instead, RC heads in pronoun relative clauses are generated without the external DP layer, and the construction involves no resumption as a consequence. The relative deletion rule in (114) – necessary to ensure the deletion of the pied-piped pronoun in languages without resumption – does not apply to the relative pronoun, because only the internal RC head (and the resumptive pronoun co-referential with it) is co-indexed with the external head, according to Chidambaram's analysis.

Optional resumption (i.e. the empirical facts discussed in section 3.2 above) is accounted for by Chidambaram (2013, pp. 120-124) in the following way. Since relative deletion takes care of the non-pronunciation of the RC head copy in Spec,CP, the matching relation obtains between the external head and the *lower* copy of the internal RC head at the relativization site. If the matching condition is satisfied, either just the internal DP is deleted, or the whole stacked DP is (cf. example (113) for the DP strcuture). In the former case the resumptive pronoun will be pronounced, in the latter not. Such an analysis does not capture the differences between complementizer RCs with and without resumption described in this chapter (regarding reconstruction data, see section 3.4 in particular). More importantly, it seems to predict that when the matching condition is not satisfied, no deletion applies and thus the lower copy of the RC head is retained – which is counterfactual. Furthermore, in order to account for the structural case condition, Chidambaram has to additionally assume that inherent case must always be

spelled out, so that even under matching only the internal DP is deleted, preserving the inherent case on the resumptive pronoun.

## 3.6 Interim Summary

In this chapter, I have adopted a structure of relative clauses as complements to an external D head, with the RC head located within the relative clause in the highest specifier of a split CP. There are two different ways of deriving a RC available (cf. Aoun & Li 2003). The first one involves base-generating the RC head in its specifier position, while the dependency is created by moving a relative pronoun to a lower Spec,CP. This is the derivation that underlies the Slavic relative clause patterns discussed in Chapter 2 and involves resumption in the case the RC is introduced by an overt complementizer while the moved pronoun remains unpronounced. The second available derivation involves RC head raising within the relative clause, and results in a gap at the relativization site since there are no relative pronouns and unpronounced features involved.

The apparent optionality of resumption in Slavic complementizer relative clauses has been explained by invoking these two ways to derive a RC, one involving resumption, the other not. Part of the raising derivation mechanism is the incorporation of an internal determiner (as part of the RC head) into the external D (cf. Bianchi 2000). I have shown how the adopted analysis, and the D-incorporation requirement in particular, derives the case matching and the structural case conditions on the omission of resumption observed by Gračanin-Yuksek (2010) in Bosnian/Croatian/Serbian, which – as has been demonstrated in this chapter – also hold for Polish. The proposed analysis extends to account for the observed resumption patterns in RCs of Bulgarian and Russian as well.

Table 3.10 on the following page provides an overview of the properties of the Slavic languages discussed in this chapter and the derivation of the available relativization alternatives.

Table 3.10 Observed properties of Slavic languages and the derivation of relativization alternatives

| | *morphological case* | *clitics* | *complementizer RC island sensitivity* | *case matching condition on C + gap* | *structural case condition on C + gap* |
|---|---|---|---|---|---|
| B/C/S | yes | yes | yes | yes | yes |
| Polish | yes | yes | yes | yes | yes |
| Slovene | yes | yes | yes | yes | yes |
| Bulgarian | no | yes | no | yes (vacuously) | yes |
| Russian | yes | no | yes | yes | yes |

| | *pronoun + gap* | *reconstruction* | *C + resumption* | *reconstruction* | *C + gap* | *reconstruction* |
|---|---|---|---|---|---|---|
| B/C/S | *wh*-movement & overt pronoun | no | *wh*-movement & silent pronoun & partial spell-out | no | RC head raising | yes |
| Polish | *wh*-movement & overt pronoun | no | *wh*-movement & silent pronoun & partial spell-out | no | RC head raising | yes |
| Slovene | *wh*-movement & overt pronoun | no | *wh*-movement & silent pronoun & partial spell-out | no | not realized | N/A |
| Bulgarian | *wh*-movement & overt pronoun | no | base-generated relative Op & resumptive pronoun | no | RC head raising | yes |
| Russian | *wh*-movement & overt pronoun | no | not an option (no clitics) | N/A | RC head raising | yes |

Chapter 4

# Types of Resumption and the Role of Processing

## 4.1 Introduction[44]

The aim of this chapter is to address two interrelated topics; as the title suggests, the chapter will be concerned with different types of resumption and the question of what role processing plays in this phenomenon. What connects the two is the discovery that there are two (superficially similar) types of resumption found in Slavic relative clauses that should be kept apart, the morphosyntactic one we discussed in the previous chapters, and another type brought about by processing considerations.

The chapter opens with an examination of resumption typology in section 4.2, which serves as a short review of the relevant literature and establishes what the place of resumption in Slavic relative clauses is within this broader context. Section 4.3 identifies an additional type of resumption that differs from the one triggered by morphosyntactic considerations discussed so far. This resumption type appears in long distance RCs introduced by pronouns and its properties lead us to conclude that it is driven by processing factors. This is confirmed by the results of a broad survey that is likewise presented in the same section. In section 4.4 I discuss another area where processing also plays a role, namely the choice between complementizer and pronoun RCs in actual language use. Though both constructions can be generated by syntax (and subsequent spell-out) and are always available, there are

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preferences as to which of the alternatives is used by the speakers, first and foremost based on the position that is being relativized.

## 4.2 Resumption Typology

While resumption can be broadly defined as – to paraphrase McCloskey (2005, p. 26) – the appearance of a pronominal element in a position where, under other circumstances, a gap would be expected, the phenomenon is not a uniform one across (and sometimes within) languages. Different types of resumption should be distinguished.

### 4.2.1 True vs. intrusive resumption

Already Chao & Sells (1983) and Sells (1984) argue for a distinction between two types of languages that use resumption. Informally, McCloskey (2005) characterizes the two as (a) languages where resumption is part of the grammatical system proper (such as Irish and Hebrew), and (b) those in which resumption is viewed as an auxiliary, repair phenomenon (such as English). The term Sells introduces for the latter type is intrusive resumption.[45] Such resumption is restricted to environments where gaps lead to ungrammaticality, e.g. islands. Furthermore, while intrusive resumption in English ameliorates otherwise ungrammatical constructions involving island violations for at least some speakers, as in examples (1a–b), there are no environments in which resumption occurs as a fully grammatical phenomenon.

(1) a. *I wonder who they think that [if Mary marries t] then
everybody will be happy.

[45] To be precise, Sells (1984) maintains a distinction between (true) *resumptive pronouns* and *intrusive pronouns*. I choose to still use the term resumptive pronoun in the broadest sense for both of the types, as well as for other uses of pronominals that fall under McCloskey's definition given above, while working towards the goal of presenting a typology of resumption.

b. (?)I wonder who they think that [if Mary marries **him**] then everybody will be happy.[46]

Another important property of intrusive resumption identified by Chao & Sells (1983) and Sells (1984) is that intrusive pronouns cannot have a bound reading. This can be demonstrated, for example, by their inability to appear with quantified, non-referential antecedents. Observe the contrast in (2).

(2) a. (?)I'd like to meet the linguist that Mary couldn't remember if she'd seen **him** before.
b. *I'd like to meet **every linguist** that Mary couldn't remember if she'd seen **him** before.

On the other hand, true resumption as found in Hebrew does not display that restriction, i.e. the resumptive pronoun can receive a bound-variable interpretation (Chao & Sells 1983, p. 55), as in (3). The same applies to Slovene, as witnessed by example (4).

(3) **kol gever** še Dina xoševet še **hu** [Hebrew]
*every man C D. thinks that he*
ʔohev et Rina
*loves ACC R.*
'every man that Dina thinks loves Rina'

(4) **Vsak človek**, ki sem **ga** srečal, me [Slovene]
*every man C AUX.1SG he.ACC.CL met I.ACC.CL*
je pozdravil.
*AUX.3SG greeted*
'Every man I met greeted me.'

[46] The intuition that intrusive resumption alleviates violations of syntactic principles repeatedly reported by linguists has recently been challenged by findings in experimental literature showing that test subjects always disprefer resumptive pronouns, regardless of the presence of islands, and that island violations are not voided (cf. Ferreira & Swets 2005, Alexopoulou & Keller 2007, Heestand, Xiang & Polinsky 2011, Polinsky et al. 2013, a.o.).

True resumption, as opposed to intrusive resumption, is not limited to islands and its use is fully grammatical. Irish is a case in point. Alongside a movement strategy to derive a relative clause without resumption, as shown in (5a), there also exists the option of merging a null-operator directly in Spec,CP which binds the resumptive pronoun at the relativization site (McCloskey 1990, 2002). An example of a RC with resumption is given in (5b). There is optionality in the use of resumption, i.e. in the choice between the two strategies. The presence of a resumptive-binding null operator merged in the Spec,CP is reflected in the morphology of the complementizer, according to McCloskey. Observe the difference between the complementizers (*a* vs. *ar*) in the two examples with and without resumption.

(5) a. an ghirseach a ghoid na síogaí [Irish]
*the girl C stole the fairies*
b. an ghirseach ar ghoid na síogaí **í**
*the girl C stole the fairies her*
Both: 'the girl that the fairies stole'

Since the resumptive construction involves no movement, it is immune to island effects. In example (6) that is demonstrated for *wh*-islands, and in (7) for Complex NP islands.

(6) na hamhráin sin nach bhfuil fhios [cé a
*the songs DEM C.NEG is knowledge who that*
chum **iad**]
*composed them*
'those songs that we don't know who composed them'

(7) seanchasóg ar dócha go bhfuil [an táilliúir a dhein **í**]
*old-jacket C probable that is the tailor C made it*
sa chré fadó
*in-the earth long-ago*
'an old jacket that the tailor who made it has probably been in the grave for ages'

A variation of the analysis comes from Shlonsky's (1992) work on Hebrew. He dispenses with the observed optionality of resumption, illustrated in (8a-b) below (cf. also Borer (1984) for a discussion of the distribution of Hebrew resumptives), by rather inelegant means. Shlonsky posits two different, though morphologically indistinguishable, complementizers. One of them (let us call it $še_1$) blocks the movement derivation and the other ($še_2$) does not. This is achieved, in the Government and Binding framework of the time (cf. Chomsky 1981), by positing that the two complementizers mark their specifier positions as A- and A'-positions, respectively. A-positions are not licit landing sites for *wh*-movement and constitute an island barrier, therefore RCs cannot be derived by movement in the case of $še_1$ being used. As a last resort strategy, then, according to Shlonsky, an operator is merged directly in the Spec,CP position which in turn binds the resumptive pronoun inserted at the relativization site, as in (8a). The other complementizer, $še_2$, allows the relative dependency to be formed by operator movement, the way it is shown in (8b).

(8) a. ha-ʔiš *Op* še$_1$- raʔiti **ʔoto** [Hebrew]
*the-man* *that-* *saw.1SG* *him*
b. ha-ʔiš *Op*$_i$ še$_2$- raʔiti $t_i$
*the-man* *that-* *saw.1SG*
Both: 'the man that I saw'

Whenever derivation by movement is allowed, i.e. whenever the complementizer is $še_2$, the movement strategy is postulated to take precedence over the resumptive one, which is therefore only used as a last resort.

### 4.2.2 Slavic RCs and resumption as spell-out of copies

Resumption in Slovene, and by extension in other Slavic languages we discussed, does not fall under the types mentioned above. First of all, as we have seen, resumption in Slavic languages is a productive syntactic strategy,

not associated with any reduction in grammaticality, and the resumptive pronoun can have a bound variable reading (cf. example (4) above). It can therefore be concluded that we are dealing with true resumption, and not the English intrusive type.

However, even as true resumption, it is different from the type described for Irish or Hebrew as well. Resumption in Slovene relative clauses cannot be explained by stipulating the presence of a syntactic island as in Shlonsky (1992). The sensitivity of the construction to islands intervening between the relativization site and the RC complementizer domain was demonstrated in Chapter 2. This means that relative clauses with resumption involve movement, and not operators merged directly in the specifier of CP, binding the pronoun, with no movement between the positions (as proposed for both Irish and Hebrew).

I further show that resumption in Slovene cannot be used as a last resort to repair illicit extractions even outside relative clause contexts. To that end I have tested triplets of related interrogative sentences such as in (9) with native speakers. The constructions involve (a) *wh*-movement out of an embedded clause, (b) *wh*-movement out of a strong island (in this case a Complex NP), and (c) *wh*-movement out of the same strong island with a resumptive pronoun.

(9) a. Katero osebo je Luka trdil,
*which person AUX.3SG L. claimed*
da je Maja poznala?
*that AUX.3SG M. knew*
'Which person did Luke claim that Maya knew?'

b. *Katero osebo je Luka verjel [trditvi,
*which person AUX.3SG L. believe claim*
da je Maja poznala]?
*that AUX.3SG M. knew*
('Which person did Luke believe the claim that Maya knew?')

c. *Katero osebo je Luka verjel [trditvi,
*which person AUX.3SG L. believe claim*
da **jo** je Maja poznala]?
*that she.ACC.CL AUX.3SG M. knew*
('Which person did Luke believe the claim that Maya knew him?')

Speakers accept *wh*-movement out of embedded clauses as grammatical, while intervening islands result in ungrammaticality, as expected. Crucially, sentences involving a resumptive pronoun instead of a gap, show no improvement in grammaticality whatsoever. To repeat, resumption in relative clauses, which is fully grammatical, could therefore not be a result of an island obviation strategy.

Resumption in Slavic received an analysis of its own involving movement and spelling out lower copies in preceding chapters. We find precedence for such an analysis of resumption in the literature; Zaenen, Engdahl & Maling (1981) and Engdahl (1985) described it for Swedish, and Koopman (1982, 1984), independently (according to McCloskey (2005)), in her work on West African Kru languages Vata and Gbadi, which display the same set of properties. An example of a resumptive construction in Swedish is provided in (10).

(10) ett förslag som vi inte kan avgöra om **det** fungerar
*a proposal that we NEG can decide if it works*
'a proposal that we cannot decide if (it) works'

Based on the properties of such sentences, Zaenen, Engdahl & Maling (1981) and Engdahl (1985) conclude that resumptives in these cases behave as phonetically realized traces (the findings are even easier to accommodate theoretically assuming the tenets of the copy theory of movement (cf. Chomsky 1993), treating these resumptives as overt copies). Among other, resumptives in Swedish cannot be used to alleviate island effects, as shown in example (11), and they license parasitic gaps, as in example (12).

(11) ?*Vilken bil åt du lunch med [någon som körde **den**]?
*which car ate you lunch with someone that drove it*
(*'Which car did you have lunch with someone that drove?')

(12) Vilken fånge var det läkarna inte kunde avgöra om **han**
*which prisoner was it doctors-the NEG could decide if he*
verkligen var sjuk utan att tala med ***_pg_*** personligen.
*really was ill without to talk with personally*
'Which prisoner was it that the doctors could not decide if he really was ill without talking to in person.'

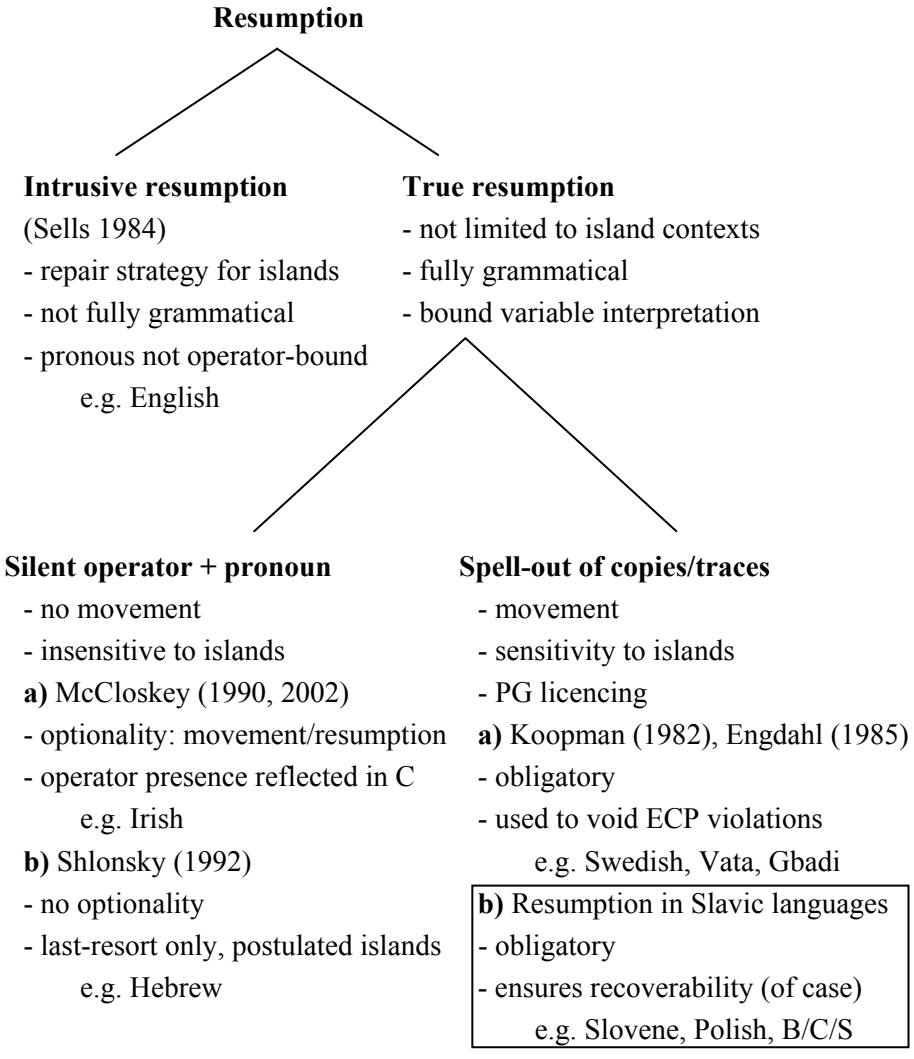
In Swedish and in languages studied by Koopman, resumption is systematically found only in subject positions immediately subjacent to a *wh*-phrase (McCloskey 2005). A gap in such a position would constitute a particular violation of the more general Empty Category Principle (ECP, cf. Chomsky 1981). In example (13), a violation of that kind is illustrated for English.

(13) *He is the kind of guy that you never know what _ is thinking.

To sum up, Swedish as well as Vata and Gbadi display a particular type of resumptive construction derived by movement and used to void ECP violations.

The typology of resumption and the position of Slavic language resumption as discussed herein is summarized in Figure 4.1, with the place of Slavic language resumption within this typology highlighted.

Figure 4.1 Resumption typology



## 4.3 An Additional Resumption Type

The binary option of introducing a relative clause in Slavic languages with either a complementizer or a pronoun, combined with the binary option of resumption being present or not, gives us four theoretically possible configurations, as illustrated in Table 4.1.

Table 4.1 The four configuration options

| | | **Resumption** | |
|---|---|---|---|
| | | *Yes* | *No* |
| **Element** | *Complementizer* | [1] C + resumption | [2] C + gap |
| | *Pronoun* | [3] Pronoun + resumption | [4] Pronoun + gap |

The options in cells [1] and [4] represent the common pattern of relativization discussed in Chapter 2. This complementary distribution of resumption between complementizer and pronoun RCs breaks down with the identification of the configuration in [2]. Such complementizer relative clauses without resumption and their syntactic properties were the focus of Chapter 3. The possibility in cell [3], i.e. resumption following a relative pronoun, has not been discussed yet, but is empirically attested just like the other three and will be the topic of this section. I argue that this particular configuration involves another type of resumption that should be distinguished from the type in [1]. The fact that all four possibilities are available – albeit under different conditions and obeying restrictions (cf. Chapter 3, as well as the discussion below) – demonstrates the complexity of Slavic RC data and contributes to a confusing state of affairs when the variation is looked at only superficially. An important aim of this dissertation is to make sense of the data and present a clear overview by providing an account of the four possibilities given in Table 4.1. With the discussion of the last remaining cell in the table we take the final major step towards that goal. The configuration in [3] surfaces in the context of long distance relative clauses, which is where we turn our attention next.

### 4.3.1 Long distance relative clauses

Long distance relative constructions are those where the relativized position does not appear in the immediately subordinate clause, but rather in the clause that is embedded one or more levels deeper. This is schematically shown in (14) and a Slovene example is given in (15).

(14) [$_{\text{matrix clause}}$ RC head [$_{\text{relative clause}}$ relative element ...
... [$_{\text{embedded clause}}$ gap/resumption]]]

(15) Poznam človeka, ki mislim, da išče službo.
*know.1SG man.ACC C think.1SG that search.3SG job*
'I know the man who I think is looking for a job.'

In (15) *man* plays a role in the matrix clause (as the internal argument of *know*) as well as in the most deeply embedded clause (as the external argument of *search*), and a possible paraphrase of the sentence is: *I know a man and I think that this man is looking for a job*.

The construction is derived on a par with short distance relative clauses. As argued in Chapter 2, the derivation involves *wh*-movement of the relative pronoun (which can eventually be spelled out or not) to the left periphery, and thus the long distance dependency is created by further steps of cyclic movement, much like in long questions.

As expected, then, long relative constructions pattern with short relative clauses in the relevant aspects of obligatory resumption as well. Slovene long relative constructions introduced by complementizers thus obligatorily involve resumption when object positions are relativized, as in example (16a), while relative clauses with overt relative pronouns do not, as in (16b).

(16) a. Poznam človeka, **ki** mislim, da ***(ga)** iščejo.
*know.1SG man.ACC C think.1SG that he.ACC.CL search.3PL*
b. Poznam človeka, **katerega** mislim, da iščejo.
*know.1SG man.ACC which.ACC think.1SG that search.3PL*
Both: 'I know the man I think they are looking for.'

Speakers tend to avoid such long distance relative clauses, though, and would frequently resort to the construction in (17), semantically equivalent to the examples in (16).

(17) Poznam človeka, **za katerega** mislim, da
*know.1SG man.ACC for which.ACC think.1SG that*
**ga** iščejo.
*he.ACC.CL search.3PL*
'I know the man of whom I think that they are looking for him.'

This strategy is not uncommon, and certainly not restricted to Slavic languages. Dutch (from Boef 2008, p. 74 [original example (3)]) and German (from Salzmann 2006a, p. 158 [original example (407b)]) counterparts are given in (18) and (19), respectively.

(18) Dat is de man **van wie** ik denk dat **hij** het verhaal verteld heeft. [Dutch]
*that is the man of whom I think that he the story told has*
'That is the man of whom I think that he told the story.'

(19) der Mann, **von dem** ich glaube, dass Maria **ihn** heiratet [German]
*the man of whom I believe that M. he.ACC marry.3SG*
'the man of whom I believe that Mary will marry him'

On the surface, the construction involves PP relativization (cf. 2.5.3) and resumption, based on the presence of the boldfaced elements in examples

(17) through (19). As we will see, however, resumption is not what is at stake here. I follow Bošković (2009), who analyses the construction (cf. also Goodluck & Stojanović 1996) as short distance relativization of a prothetic object (PO), on the basis of Bosnian/Croatian/Serbian data.[47] An example of a prothetic object construction in English is given in (20a), and the relativized counterpart thereof in (20b). Note that it is a property of POs that they require a co-referential pronoun in the embedded clause, independently of relativization.

(20) a. I know **of John** that **he** likes Mary.
b. the man **of whom** I know that **he** likes Mary

The *for-wh* (or *of-wh*) relative construction is therefore limited to those verbs that allow POs. In B/S/C *znati* 'to know' is one such verb, as shown in examples (21a-b). *Sjetiti se* 'to remember', on the other hand, does not allow prothetic objects, so a relativized construction is likewise impossible, as demonstrated in (22a-b). Note that in (22) the co-referential pronoun is a silent *pro*, given that B/S/C is a pro-drop language.

(21) a. Znaju za njega da ga Marija voli. [B/S/C]
*know.3PL for he.ACC that he.ACC.CL M. love.3SG*
'They know of him that Marija loves him.'
b. čovjek za koga znaju da ga Marija voli
*man.NOM for who.ACC know.3PL that he.ACC.CL M. love.3SG*
'the man of whom they know that Marija loves him'

(22) a. *Sjetili su se za njega da *pro*
*remembered AUX.3PL REFL for he.ACC that pro*
zna francuski.
*know.3SG French*
('They remembered of him that he knows French.')

[47] Salzmann (2006a) dubs this construction *proleptic*, i.e. anticipatory, in reference to the prothetic object constituent providing information that is integrated later in the embedded clause via the obligatory co-referential pronoun.

b. *čovjek za koga su se sjetili da *pro*
*man.NOM for who.ACC AUX.3PL REFL remembered that pro*
zna francuski
*know.3SG French*
('the man of whom they remembered that he knows French')

In contrast, we see in example (23a) that the Slovene verb *spomniti se* 'to remember' allows prothetic objects, and – as predicted – *for-which* relativization as well, as shown in (23b). Again, the co-referential pronoun in the embedded clause in this case is a *pro*.

(23) a. Spomnim se za njega, da zna francosko.
*remember.1SG REFL for he.ACC that know.3SG French*
'I remember of him that he knows French.'
b. človek za katerega se spomnim, da
*man.NOM for which.ACC REFL remember.1SG that*
zna francosko
*know.3SG French*
'the man of whom I remember that he knows French'

The Slovene example we started the discussion with, repeated here as (24), thus involves a relativization of the PO construction in (25).

(24) Poznam človeka, za katerega mislim, da
*know.1SG man.ACC for which think.1SG that*
ga iščejo.
*he.ACC.CL search.3PL*
'I know the man of whom I think that they are looking for him.'
(25) Za tega človeka mislim, da ga iščejo.
*for this.ACC man.ACC think.1SG that he.ACC.CL search.3PL*
'I think of this man that they are looking for him.'

The relativization in (24) is a short distance one, as the relativization site is found in the immediately subordinate clause. This can be confirmed by

examples involving islands, such as in (27). Movement out of a complex nominal phrase is impossible, as shown in (26), but because the relative dependency in (27) does not cross the island boundary, the grammaticality of the sentence is unaffected.

(26) *Katerega človeka$_i$ te moti [dejstvo da
*which.ACC man.ACC you.ACC.CL bother.3SG fact that*
so odpustili t$_i$]?
*AUX.3PL fired*
('Which person does the fact that they fired bother you?')

(27) človek, za katerega$_i$ mislim t$_i$, da te
*man.NOM for which.ACC think.1SG that you.ACC.CL*
moti [dejstvo, da so ga odpustili].
*bother.3SG fact that AUX.3PL he.ACC.CL fired*
'the man of which I think that you are bothered by the fact that they fired him'

A B/C/S example with a *wh*-island from Bošković (2009) is given in (28) [original example (47)].

(28) čovjek za koga$_i$ zna t$_i$ [gdje su ga upoznali]
*man for who.ACC know.3SG where AUX.3PL he.ACC.CL met*
'the man of whom he knows where they met him'

Salzmann (2006a) discusses this particular alternative to the long distance movement construction in detail (pp. 151-276) based on German data. His conclusions agree with what has been established above: relativization proceeds from the higher embedded clause, while the pronoun in the most deeply embedded clause is not part of the relativization movement chain.

### 4.3.2 Resumption in relative clauses introduced by pronouns

As we have seen, constructions such as (16b) discussed in 4.3.1 do not involve resumption at the relativization site. However, another possible construction has been identified in the data elicited from native speakers; several of them produced sentences involving resumption in long relatives introduced by a pronoun, as in example (29).

(29) Poznam človeka, **katerega** mislim, da
*know.1SG man.ACC which.ACC think.1SG that*
**ga** iščejo.
*he.ACC.CL search.3PL*
'I know the man who I think they are looking for.'

Such resumption, however, has properties that sets it apart from other occurrences of resumption in Slavic relative clauses discussed in previous chapters. I have shown that the presence or absence of resumption in those cases is governed by morphosyntactic requirements that are absolute in nature. In contrast, resumption illustrated in (29), occurring in pronoun relative clauses, is optional. Furthermore, such constructions are deemed ungrammatical in Standard Slovene. They are not geographically limited, i.e. their availability is not dependent on the dialect, but are rather a property of the spoken language in general. In addition, resumption is not accepted by the speakers in short distance RCs introduced by a pronoun, as exemplified by (30).

(30) Avto, **katerega** so **(*ga)** kupili lani,
*car.NOM which.ACC AUX.3PL he.ACC.CL bought last-year*
se je pokvaril.
*REFL AUX.3SG broke*
'The car they bought last year broke down.'

It seems that only when the distance between the pronoun and the relativization site gets longer, as in example (29) with an additional

embedding above, speakers produce and accept examples with resumption as well.

Examples of this particular type of resumption can be found in other languages as well, also those that do not otherwise employ resumption. Such data has been documented in Dutch dialects (cf. example (31)) by the *Syntactische Atlas van de Nederlandse Dialecten* (SAND) project (Barbiers et al. 2005), as reported by Boef (2008, pp. 79f).

(31) Dat is de man die ik denk dat **hij** het [Roswinkel Dutch]
*that is the man that I think that he the*
verhaal verteld het.
*story told has*
'That is the man who I think told the story.'

Interestingly, such long distance resumption appears even in English outside island contexts (Erteschik-Shir 1992, p. 89 [original example (4)]), as illustrated in (32).

(32) This is the girl that Peter said that John thinks that yesterday his mother had given some cakes to **her**.

Dickey (1996) shows that resumption in this type of examples becomes more acceptable relative to gaps after two levels of embedding. Asudeh (2011, 2012) in his classification dubs resumptive pronouns such as the one in (32) *complexity* resumptives, which in turn are a subtype of *processor* resumptives – a group that also includes the intrusive pronouns from Sells (1984), which can improve ungrammaticalities arising from violations of island (or ECP) restrictions (cf. section 4.2.1).[48]

[48] Asudeh in his work (2012, cf. also 2004), couched in the framework of Lexical Functional Grammar (LFG), considers the resumption we find in English to be an extra-grammatical device that helps processing under certain conditions. The approach aims to explain the low acceptability of resumptive pronoun use, which on the other hand nevertheless improves certain constructions and is frequently used,

Based on (a) the non-obligatory nature of such resumption, (b) the fact that it more readily appears in spoken varieties, and (c) the fact that is sensitive to the length of the dependency, I conclude that resumption in Slavic RCs introduced by a relative pronoun (which involves the pronunciation of a pronoun at the foot of the relative pronoun movement chain) is driven by processing considerations and facilitates the formation of the long distance relative dependency by marking the *wh*-extraction site explicitly by overt material.

### 4.3.3 Predictions and survey methodology

Such a characterization of this separate type of resumption makes testable predictions. Namely, the acceptability of resumption used in pronoun relative clauses should increase with the number of embedded clauses intervening between the relative pronoun and the relativization site. At the same time, acceptability patterns should differ from those for complementizer RCs, where resumption driven by morphosyntax is obligatory and not sensitive to dependency length.

I conducted an acceptability survey wherein participants provided acceptability judgements of different relative constructions. Answers obtained from previous interviews with informants and sporadic examples quoted in the literature from Polish and Bosnian/Serbian/Croatian pointed to the existence of the same pronoun RC resumption pattern in those languages as well, which is why they were included in the survey, alongside Slovene.

14 speakers of Slovene, 27 of Polish, and 35 of B/C/S were tested, for a total of 76 participants. 19 of them were male, and 57 female. Their age was in the range from 19 to 65, with a median of 27. Since there was no reason to expect differences with regard to age or gender, these factors were not looked into further when analysing the responses.

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particularly in speech (for other works following the same line of reasoning, see Kroch (1981), Prince (1990), Erteschik-Shir (1992), a.o.).

The stimuli consisted of example sentences in audio format recorded by native speakers;[49] as I was primarily testing a property found in the spoken varieties of these languages, this was a more natural choice than presenting examples in written form. The sentences were all accusative direct object relative clauses varying along the following dimensions: (a) the use of the relative element (pronoun vs. complementizer), (b) the presence/absence of resumption, and (c) the length of the dependency (three levels). This gave 12 test configurations, as schematically shown below:

i) Short distance relative clause
   … RC head [ki … gap/resumption]
   … RC head [kateri … gap/resumption]
ii) Single additional embedding
   … RC head [ki … [$_{CP}$ … gap/resumption]]
   … RC head [kateri … [$_{CP}$ … gap/resumption]]
iii) Double additional embedding
   … RC head [ki … [$_{CP}$ … [$_{CP}$ … gap/resumption]]]
   … RC head [kateri … [$_{CP}$ … [$_{CP}$ … gap/resumption]]]

Online software was used to conduct the testing itself.[50] The examples were presented to the participants for evaluation one by one, in random order. Each of the 76 speakers provided acceptability judgements on a seven-point scale (labelled from 'completely unacceptable' to 'completely acceptable') for each of the 12 configurations, resulting in a total of 912 data points.

Here follow the 12 tested configurations for Slovene (variants with and without resumption are represented by brackets). For the other two languages structurally equivalent close translations of these sentences were used.

[49] I would like to thank Marta Ruda and Marko Simonović for their invaluable contributions.
[50] *Create Language Experiments Online* (CLEO), developed internally at the UiL-OTS institute in Utrecht by Eduard Kleerekoper.

(33) a. Srečal sem žensko, ki sem (jo)
*met AUX.1SG woman.ACC C AUX.1SG she.ACC.CL*
spoznal na zabavi.
*acquainted at party*

b. Srečal sem žensko, katero sem (jo)
*met AUX.1SG woman.ACC which.ACC AUX.1SG she.ACC.CL*
spoznal na zabavi.
*acquainted at party*
Both: 'I met the woman who I got to know at a party.'

(34) a. Srečal sem žensko, ki mislim, da sem
*met AUX.1SG woman.ACC C think.1SG that AUX.1SG*
(jo) spoznal na zabavi.
*she.ACC.CL acquiainted at party*

b. Srečal sem žensko, katero mislim, da sem
*met AUX.1SG woman.ACC which.ACC think.1SG that AUX.1SG*
(jo) spoznal na zabavi.
*she.ACC.CL acquiainted at party*
Both: 'I met the woman who I think I got to know at a party.'

(35) a. Srečal sem žensko, ki dobro vem, da
*met AUX.1SG woman.ACC C well know.1SG that*
Jure misli, da sem (jo) spoznal na zabavi.
*J. think.3SG that AUX.1SG she.ACC.CL acqiuainted at party*

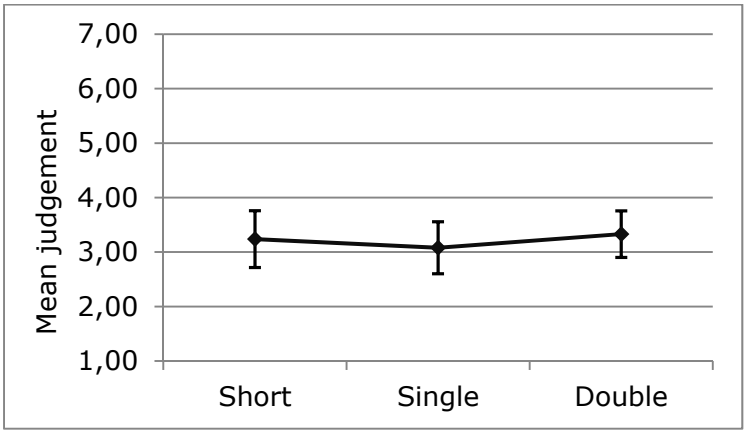
b. Srečal sem žensko, katero dobro vem, da
*met AUX.1SG woman.ACC which.ACC well know.1SG that*
Jure misli, da sem (jo) spoznal na zabavi.
*J. think.3SG that AUX.1SG she.ACC.CL acqiuainted at party*
Both: 'I met the woman who I know full well that Jure thinks that I got to know at a party.'

### 4.3.4 Survey results

One-way ANOVA was used to test for acceptability differences between the three lengths of the dependency in each of the possible constructions, i.e. complementizer and pronoun RCs, with and without resumption. You can find the complete statistical data in the appendix to this chapter.[51]

First, let us look at the results for complementizer relative clauses without resumption, which are considered ungrammatical. The means for the three different lengths of the dependency are depicted in Figure 4.2 (to repeat, higher judgement score means higher acceptability). In this graph, as well as all the following ones, the 95% confidence interval of each mean acceptability score is indicated by bars. Acceptability remains consistently low and does not differ significantly at $p < .05$ across the three lengths, $F(2, 225) = .28$, $p = .756$.

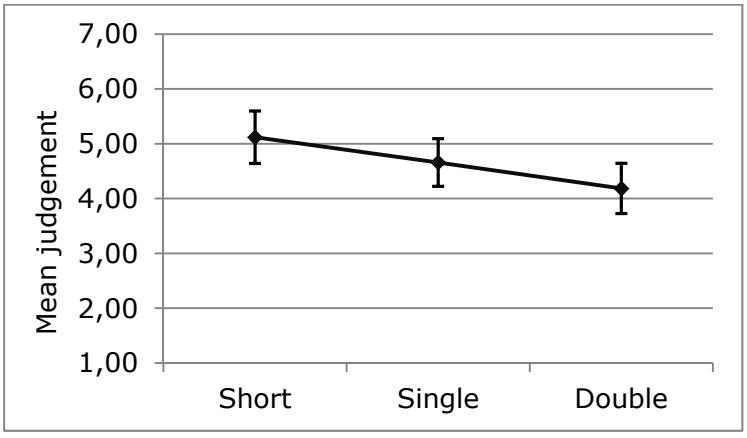
Figure 4.2 Complementizer RC with gaps mean acceptability scores




[51] I hereby thank Anne-France Pinget, Mattis van den Bergh, and Laura Boeschoten for their practical and theoretical guidance to statistical analysis. All errors are my own.

The acceptability of complementizer RCs with resumption deteriorates slightly with length (see Figure 4.3). One-way ANOVA detects significant differences across the three dependency lengths, $F$ (2, 225) = 4.14, $p$ = .017.

Figure 4.3 Complementizer RC with resumption mean acceptability scores



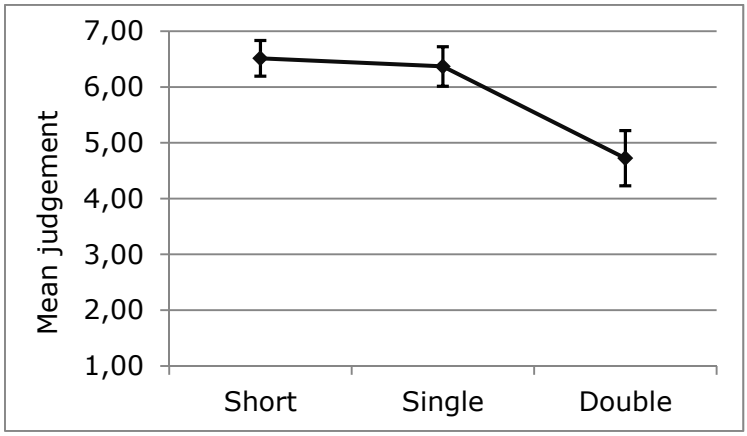

Tukey post-hoc comparisons show that while there are no significant differences between short distance RCs ($M$ = 5.12, 95% CI [4.46, 5.60]) and RCs with a single embedding ($M$ = 4.66, 95% CI [4.22, 5.09]), $p$ = .334, and neither between single embedding and double embedding ones ($M$ = 4.18, 95% CI [3.73, 4.64]), $p$ = .313, short distance RCs differ from RCs with double embedding at $p$ = .012.[52]

Relative clauses introduced by a pronoun without resumption offer a similar picture (see Figure 4.4). The acceptability of the otherwise grammatical construction drops significantly as the distance between the pronoun and the relativization site increases, $F$ (2, 225) = 24.85, $p$ < .001. Tukey post-hoc

[52] You will notice that for these first two relative constructions, i.e. the ones introduced by a complementizer, the mean scores do not fall close to the extremes of the scale (low for the ungrammatical construction without resumption, and high for the other). This may be an effect of the speakers not being confident in their judgements because complementizer relatives in both Polish and B/C/S (though not in Slovene) are prescriptively frowned upon (cf. also section 2.1). In Slovene, all but one speaker judged short complementizer RCs with resumption as completely acceptable, while the average for short RCs without resumption was as low as 1.21.

comparisons reveal that short distance RCs ($M$ = 6.51, 95% CI [6.19, 6.83]) and single embedding ones ($M$ = 6.37, 95% CI [6.01, 6.72]) do not differ, $p$ = .865, while RCs with double embedding ($M$ = 4.72, 95% CI [4.23, 5.22]) is different from both at $p < .001$.

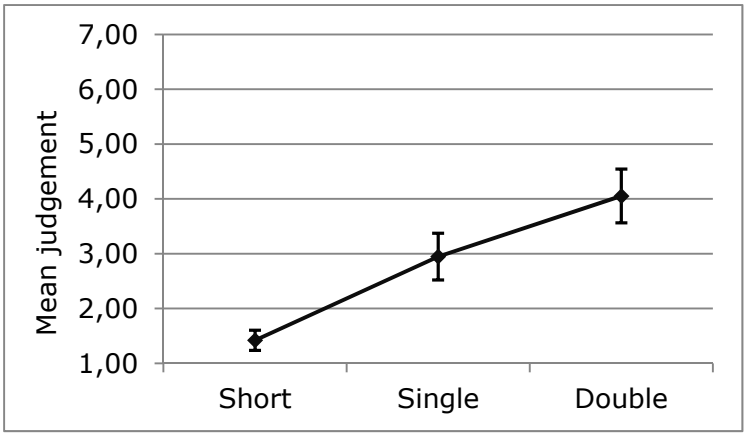
Figure 4.4 Pronoun RC with gaps mean acceptability scores




What the second and the third constructions (complementizer RCs with resumption and pronoun RCs without resumption, i.e. the common pattern referred to in the beginning) have in common, then, is that while they are grammatical, their acceptability drops as the dependency length increases. This is not surprising, as respondents generally have difficulties when faced with long, complex examples, which they tend to downgrade even when they are grammatical.

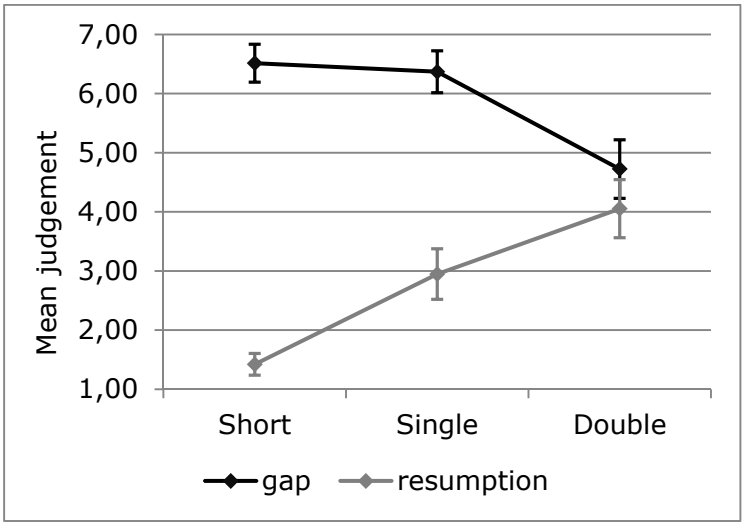
Lastly, we come to the construction that we are most interested in – relative clauses introduced by a pronoun that involve resumption. The results are graphically presented in Figure 4.5. One-way ANOVA shows significant differences in acceptability across the three length conditions, $F$ (2, 225) = 45.51, $p < .001$. Tukey post-hoc comparisons between pairs of means (Short: $M$ = 1.42, 95% CI [1.24, 1.60]; Single: $M$ = 2.95, 95% CI [2.53, 3.37]; Double: $M$ = 4.05, 95% CI [3.56, 4.45]) reveal that all of the differences are significant at $p < .001$.

Figure 4.5 Pronoun RC with resumption mean acceptability scores




This increase of acceptability contrasts with the results for other constructions in two crucial ways. Firstly, complementizer RCs without resumption do not improve with increased length at all, whereas pronoun RCs with resumption do. Secondly, the grammatical complementizer RCs with resumption and pronoun RCs with gaps are actually assigned lower acceptability scores as the test examples get longer (see Figure 4.4, and the comparison in Figure 4.6), just the opposite of what we see illustrated above.

Figure 4.6 Comparison of pronoun RC means with and without resumption



For ease of comparison, both series of means concerning relative clauses introduced by pronouns are shown in Figure 4.6 plotted on a single graph. By way of confirmation, two-way ANOVA shows that the interaction between RC type (with or without resumption) and dependency length is indeed significant, $F$ (2, 450) = 63.79, $p < .001$.

Such behaviour of pronoun RCs with resumption follows the predictions and confirms the claims from section 4.3.1, as the construction is sensitive to the length of the relative dependency in a way other constructions are not.

## 4.4 Complementizer and Pronoun RCs in Use

In addition to the resumption type discussed in the previous section, there is another area where processing plays a role in the domain of relative clauses. Thus far we have discussed the syntactic properties of the complementizer and the pronoun RC constructions, compared them, and analysed them. We have not been concerned with the question of how the choice between the two alternatives is made in actual language use, but treated them on a par. In fact, both alternatives received one and the same underlying syntactic analysis in Chapter 2. However, when it comes to language use, processing-based preferences can be observed as to the use of one or the other alternative in particular constructions, depending on the position that is relativized. Characterizing these preferences is the purpose of this section.

### 4.4.1 A corpus study and the factor of complexity

In several Slavic languages, the biggest factor influencing the choice between complementizer and pronoun relative clauses is a prescriptive one. In Polish, B/C/S, and also Russian, relative clauses introduced by a pronoun are part of the standard language, while RCs introduced by a complementizer are marked as substandard and colloquial. In Slovene, on the other hand, both alternatives are considered standard (cf. Toporišič

(2000) or Greenberg (2006) for reference grammars), with no global register differences between them. Slovene thus provides an ideal opportunity to test actual language use with regard to this choice.

Both alternatives are always available, i.e. they can be generated as a possible output of syntax and the subsequent externalization. Regardless of what position is relativized, we can construct a relative clause introduced either by a complementizer or a pronoun. Witness that below in examples (36) through (40).

(36) **Subject RCs**

a. Vzemi ključe, **ki** ležijo na mizi.
*take.IMP.SG keys.MASC C lie on table*

b. Vzemi ključe, **kateri** ležijo na mizi.
*take.IMP.SG keys.MASC which.MASC.NOM lie.3PL on table*
Both: 'Take the keys that are lying on the table.'

(37) **Direct Object RCs**

a. Slika, **ki** si **jo** občudoval, ni na prodaj.
*painting.FEM C AUX.2SG she.ACC.CL admired is-not on sale*

b. Slika, **katero** si občudoval, ni na prodaj.
*painting.FEM which.FEM.ACC AUX.2SG admired is-not on sale*
Both: 'The painting you admired is not for sale.'

(38) **Indirect Object RCs**

a. Človek, **ki** si **mu** dal denar, je nevaren.
*man.MASC C AUX.2SG he.DAT.CL gave money is dangerous*

b. Človek, **kateremu** si dal denar, je nevaren.
*man.MASC which.MASC.DAT AUX.2SG gave money is dangerous*
Both: 'The man you gave money to is dangerous.'

(39) **Prepositional RCs**

a. Poznam človeka, **ki** govoriš **z** **njim**.
*know.1SG man.MASC C talk.2SG with he.INSTR*

b. Poznam človeka, **s** **katerim** govoriš
*know.1SG man.MASC with which.INSTR talk.2SG*
Both: 'I know the man you are talking with.'

(40) **Possessive RCs**

a. Ženska, **ki** je včasih **njen** sin z nami igral tenis,
*woman.FEM C AUX.3SG once her son with us played tennis*
je prišla na obisk.
*AUX.3SG came on visit*

b. Ženska, **katere** sin je včasih z nami igral tenis,
*woman.FEM whose son AUX.3SG once with us played tennis*
je prišla na obisk.
*AUX.3SG came on visit*
Both: 'The woman whose son used to play tennis with us came for a visit.'

While there exist observations and intuitions on what type of RC is more common in what configuration,[53] to my knowledge no text corpus research has previously been done to establish the frequencies of the alternatives in an empirical manner. This was therefore the next logical step to take. The corpus used for the purpose was *Beseda*, compiled by the Institute of the Slovenian Language at the Research Centre of the Slovenian Academy of Sciences and Arts.[54] It contains over three million words and consists of literary texts, both original works and translations. While the texts are divided into sentences, they are not tagged at all beyond that level. Since I was limited to simple string searches, most of the work concerning the categorisation of relative clauses had to be done manually.[55]

[53] See Dictionary of Standard Slovene (SSKJ 1994), the entries on *ki* and *kateri*.
[54] Available online at: http://bos.zrc-sazu.si/main_si_l2.html.
[55] There exist other Slovene corpora (*FidaPlus* and *GigaFida*) which are larger and contain a stylistically more diverse range of sources. Due to the same kind of

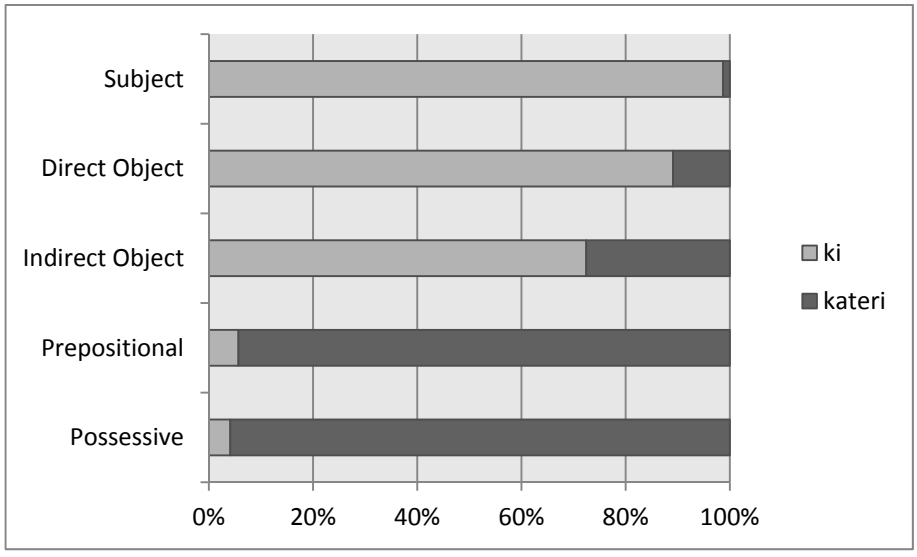
All the occurrences of relative clauses in the corpus were counted and categorised with regard to the position relativized and the relative element used (pronoun or complementizer). The results are listed in the table below.

Table 4.2 Absolute numbers and percentages of RC tokens in the corpus

| | *kateri* | *ki* | *total* | *% kateri* | *% ki* |
|---|---|---|---|---|---|
| Subject | 241 | 17943 | 18184 | 1% | 99% |
| Direct Object | 560 | 4582 | 5142 | 11% | 89% |
| Indirect Object | 197 | 518 | 715 | 28% | 72% |
| Prepositional | 3568 | 214 | 3782 | 94% | 6% |
| Possessive | 538 | 23 | 561 | 96% | 4% |

The ratios of each alternative construction depending on the relativized position are represented visually in Figure 4.7 for a clearer overview.

Figure 4.7 Ratios of *ki* and *kateri* RCs in the corpus per relativized position




restricted functionality they display as far as tagging and search limitations are concerned, however, the smaller *Beseda* corpus I used was better suited to my purposes. Most importantly, the way results are displayed in that corpus allowed me to copy them into a spreadsheet where I could sort and analyse them further, and the size of the corpus made the task feasible.

The ordering of positions from those that are more commonly relativized with a complementizer to those that prefer relativization by the pronoun construction reflects a known hierarchy, a version of which is given in (41). Keenan & Comrie (1977) refer to it as accessibility hierarchy, while Lehmann's version (1984, via De Vries 2002, pp. 33f) uses the term syntactic function hierarchy. Hawkins (2004, cf. also 2014) subsumes it under a more general class of complexity hierarchies.

(41) S >> DO >> IO >> OBL >> GEN[56]

This hierarchy has been proposed as a typological generalization primarily concerned with what positions are available for relativization in a language. If a given position is available then all less complex positions (higher on the hierarchy) are available as well. Keenan & Comrie argued that the hierarchy is correlated with the processing ease of relativizing the different positions, and with corpus frequencies in English, where several positions are available for relativization. Similarly, Hawkins (2004, p. 186) predicts and observes that if the optional use of a resumptive pronoun is grammatical in a given position on the hierarchy, then it will be grammatical in all more complex available positions (lower on the hierarchy) as well.

In Slovene, all positions are available and resumption is obligatory (not just allowed) in all complementizer relative clauses (except for subject RCs, which also fits Hawkins' observation), yet we can nevertheless observe a reflex of the hierarchy in (41) in the language. It surfaces when we compare the use of the two RC constructions, as established above. It seems to be the case that the hierarchy correlates with the explicitness of the element introducing the relative clause, which is a tendency observed by Lehmann (1984, via De Vries 2002, pp. 32 and 163f): the more complex the relativized position is, the more explicit is the relativizer used. Relative pronouns are more explicit than complementizers, and have two functions, namely attribution (i.e. identification of the relative clause head obtained by

[56] OBL = oblique, in the sense of prepositional object position, GEN = genitive, in the sense of possessor position within a possessive nominal phrase

φ-feature agreement on the relative pronoun) and gap construction (i.e. identification of the gap within the RC by means of case morphology). Relative complementizers on the other hand simply indicate subordination.

Hawkins (2004, pp. 150 and 184f) uses an array of measures to formally establish the relative complexity of alternative RC constructions. These involve the length of a number of syntactic domains (within which a given grammatical relation/dependency is established) – the shorter the domains, the less tasking they are to process, and vice versa:

> The larger the separation between a filler and its subcategorizor or gap, and the more properties that must be processed in the domain linking filler and gap, the less minimal will be the relevant processing domains /.../ Corpus frequencies and processing ease under experimental conditions should decline as domains become longer …
>
> Hawkins (2004, p. 35)

This preference for shorter domains is dubbed the Minimize Domains principle in Hawkins' (2004, 2014) framework.

Inspecting the domains used by Hawkins, we can establish that there are three of them that are relevant when zero relative clauses (i.e. RCs with a completely silent CP domain) are not a possibility, as is the case in Slovene. The length of all of them is measured in the number of words they encompass. They are listed below:

i) *Phrasal combination domain (PCD)*
   - establishing that the structure is a relative clause
   - measured from the head noun to the relativizer or another element that identifies the structure as a RC

ii) *V lexical co-occurrence or V lexical domain (LD)*
– the domain within which the relative clause predicate finds its arguments
– measured as the length of the minimal domain encompassing V and all its arguments, including the relative pronoun, head noun, or the resumptive element, whichever is closest

iii) *Filler-gap domain (FGD)*
– identifying the relativization site, also called the head-pronoun domain (HPD)
– measured from the head noun to the relative pronoun, the verb (in the case of gaps), or the resumptive element

To arrive at the final measure of complexity, a global comparison is made in terms of total domain differentials. In other words, the length of all the domains is added up to establish which construction has the lowest total (and by how much) compared to the alternative ones. The lower the relative value, the higher the preference for the construction to be used is, in accordance with the Minimize Domains principle.

In the case of Slovene, the first measure can be disregarded, as both the relative pronoun and the complementizer (which is only used in relative clauses and thus suffices to identify them as such) immediately follow the head noun. There is therefore no difference between the two constructions with regard to PCD. The remaining two domain length measures do apply, and the values obtained based on the prototypical Slovene examples from (36-40) are given in Table 4.3.

Table 4.3 Complexity measures applied to Slovene constructions[57]

| | Subject RC | | | Direct Object RC | | | Indirect Object RC | | |
|---|---|---|---|---|---|---|---|---|---|
| measure | LD | FG | **T** | LD | FG | **T** | LD | FG | **T** |
| C | 3 | 3 | **6** | 3 | 4 | **7** | 4 | 4 | **8** |
| P | 2 | 2 | **4** | 3 | 2 | **5** | 4 | 2 | **6** |

| | Prepositional RC | | | Possessive RC | | |
|---|---|---|---|---|---|---|
| measure | LD | FG | **T** | LD | FG | **T** |
| C | 3 | 5 | **8** | 6 | 6 | **12** |
| P | 3 | 3 | **6** | 8 | 3 | **11** |

These results suggest that the pronoun strategy is consistently easier to process, i.e. more transparent of the two in the sense of Lehmann (1984) discussed above, as with each relativized position the total domain length is shorter in pronoun relative clauses. At the same time, regardless of the strategy, the measured complexity increases from subject relative clauses through object RCs to prepositional and possessive RCs, reflecting the complexity hierarchy in (41) above.

However, the attempt to fully capture the results of the corpus study solely by invoking domain length measures fails. The prediction Minimize Domains makes for Slovene, based on the results in Table 4.3, is an across-the-board slight preference for the pronoun strategy, which certainly does not reflect the findings. Based on the corpus study results, the preference for the pronoun strategy increases with complexity, but the total domain differential stays the same for all positions (the relative size of the difference between the two strategies even diminishes with the overall complexity of the position). Furthermore, the complementizer strategy is actually attested to be the preferred option in subject and object RCs, but it never wins over the pronoun one when the domain measures are considered. In accordance with the central hypothesis of Hawkins' framework (2004,

[57] LD = lexical domain length, FG = filler-gap domain length, T = total domain length (LD + FG), C = complementizer relative clause, P = pronoun relative clause

p. 3), given in (42), subject and object relative clauses introduced by complementizers should be at least slightly preferred in terms of a lower processing load over the pronoun alternative in order for the actual frequency distribution illustrated in Figure 4.7 to arise through conventionalization (cf. also Hawkins 2014, pp. 73-89).

(42) *Performance-Grammar Correspondence Hypothesis (PGCH)*
Grammars have conventionalized syntactic structures in proportion to their degree of preference in performance, as evidenced by patterns of selection in corpora and by ease of processing psycholinguistic experiments.

There are however two other core efficiency principles proposed by Hawkins (2004, 2014) besides Minimize Domains, namely Minimize Forms and Maximize Online Processing. The former states that the human language processor prefers to minimize the formal complexity of each linguistic form, while the latter states that the processor prefers to maximize the set of properties that are assignable to each item as that item is processed. The interplay between the efficiency principles, especially their relative weight when they oppose each other, remains somewhat obscure, and the details of their interaction await further specification, according to Hawkins (2014, pp. 201-219).

Slovene relative clause data suggests that when less complex positions are relativized (i.e. when the domain lengths are small enough), Minimize Form gives an edge to the complementizer alternative – under the assumption that the combination of a complementizer and a resumptive clitic is more minimal than a relative pronoun. As the domains become longer, speakers increasingly resort to the RC construction introduced by a relative pronoun, which shortens the dependency domains and at the same time identifies the gap within the relative clause early thanks to the overt pronoun morphology – the RC head is thus assigned the grammatical role it has in the relative clause early, in accordance with the Maximize Online Processing principle.

There is a large decrease in the complementizer RC frequency as we move down the complexity hierarchy from object relative clauses to prepositional and possessive RCs, which favour the pronoun alternative (see Figure 4.7). What the last two have in common is that the resumptive element involved is a full pronoun (within a prepositional or a possessive phrase), whereas the different object relative clauses contain resumptive clitics. Examples (38a) and (40a) are here repeated as (43) and (44) for the sake of convenience:

(43) Človek, **ki** si **mu** dal denar, je nevaren.
*man.MASC C AUX.2SG he.DAT.CL gave money is dangerous*
'The man you gave money to is dangerous.'

(44) Ženska, **ki** je včasih **njen** sin z nami igral
*woman.FEM C AUX.3SG once her son with us played*
tenis, je prišla na obisk.
*tennis AUX.3SG came on visit*
'The woman whose son used to play tennis with us came for a visit.'

The effect of these facts is two-fold. Firstly, in an object RC like (43) the resumptive clitic that identifies the gap always surfaces as part of the second-position clitic cluster, potentially immediately following the complementizer (depending on the presence of other clitics). The proximity of the gap-identifying clitic to the beginning of the relative clause results in a lower processing load than in possessive or prepositional RCs. There the resumptive elements appear at the relativization site itself, further away from the beginning of the RC signalled by the relative complementizer *ki*, as in (44). In addition, any intervening material, such as adverbs, lengthen the dependency even more, while nothing can intervene between the complementizer and the clitic cluster in the second position in examples such as (43). Secondly, with the resumptive element being a full pronoun, the Minimize Forms principle ostensibly does not favour this construction over the pronoun RC alternative. This helps to account for the clear preference for the use of the pronoun alternative with prepositional and possessive relative clauses.

### 4.4.2 Additional factors

There are some further factors governing the choice between the complementizer and the pronoun relative constructions that can influence speakers to go against the grain of the complexity hierarchy preferences just presented. More specifically, the pronoun *kateri* may be preferred in certain cases, even if the relativized position is one that prevalently patterns with the use of the complementizer alternative (namely, subject and object RCs, see Figure 4.7 above).

#### 4.4.2.1 Disambiguation

One such factor is ambiguity avoidance. As the complementizer *ki* is the less explicit relative element of the two, its use may result in ambiguities in certain situations and contexts. Let us look at a couple of such examples.

In (45), attribution (i.e. identification of the RC head, otherwise obtained by φ-feature agreement on the relative pronoun) is not overtly expressed, so the noun the relative clause is related to is ambiguous. The head noun in (45) can be interpreted to be either *sestra* 'sister' or *prijatelj* 'friend' (much like in the equally ambiguous English counterpart of the Slovene sentence):

(45) sestra mojega prijatelja, ki je zdaj v Kopru
*sister.FEM.NOM my.GEN friend.MASC.GEN C is now in Koper*
'the sister of my friend who is now in Koper'

The use of the pronoun construction disambiguates the interpretation, as demonstrated by (45') and (45"), since the relative pronouns carry agreement morphology that is only compatible with one of the nouns.

(45') sestra mojega prijatelja, kateri
*sister.FEM.NOM my.MASC.GEN friend.MASC.GEN which.MASC.NOM*
je zdaj v Kopru[58]
*is now in Koper*
'the sister of my friend who is now in Koper' (RC head = friend)

(45") sestra mojega prijatelja, katera
*sister.FEM.NOM my.MASC.GEN friend.MASC.GEN which.FEM.NOM*
je zdaj v Kopru
*is now in Koper*
'the sister of my friend who is now in Koper' (RC head = sister)

Another function of the relative pronoun is gap construction (i.e. identification of the gap within the RC by means of case morphology). In (46) where the complementizer is used instead, the sentence is ambiguous between a subject and an object relative clause reading because the gap construction is not explicit. In the subject interpretation, *mu* 'him' is a regular clitic pronoun referring to any salient male person in the discourse. In the (indirect) object interpretation, *mu* 'him' is a resumptive pronoun and as such necessarily bound by the relative head.

(46) To je tisti, ki mu je vse zaupal.
*this is that-one C he.DAT.CL AUX.3SG everything trusted*
'This is the one who trusted him with everything.' (subject RC)
or: 'This is the one whom he trusted with everything.' (object RC)

Again, the use of the alternative construction with the pronoun serves to disambiguate the interpretation. Thus, (46') only has the subject relative clause reading and (46") only the (indirect) object relative clause reading.

(46') To je tisti, kateri mu je vse zaupal.
*this is that-one which.NOM he.DAT.CL AUX.3SG everything trusted*
'This is the one who trusted him with everything.'

[58] Examples adapted from the Dictionary of Standard Slovene (SSKJ 1994), the entry on *kateri*.

(46") To je tisti, kateremu je vse zaupal.
*this is that-one which.DAT AUX.3SG everything trusted*
'This is the one whom he trusted with everything.'

4.4.2.2 Hypercorrection

Although it has been established in the literature on Slovene that *ki* and *kateri* are diachronically derived from different sources (see Cazinkić (2001, p. 56) and Chapter 2 for further details), speakers nevertheless often perceive the former to be a reduced form of the latter. Even early grammars of Slovene up until the early 20th century, claimed the same (cf. Cazinkić (2001) for a complete review).

The belief that the pronoun *kateri* is a more proper, full form of the complementizer *ki* often leads to a type of hypercorrection when unskilled speakers of other Slovene varieties find themselves in formal situations where they are expected to use the standard language. They can be observed using *kateri* even in configurations where *ki* is the preferred option. This is of course a sociolinguistic issue concerning varieties in contact – standard versus colloquial. The distribution of complementizer and pronoun RCs in the speakers' native colloquial or dialectal varieties, inasmuch as I have been able to establish, follows the standard pattern described in 4.4.1.

## 4.5 Interim Summary

The chapter has presented an overview of resumption typology as it emerges from the literature. The properties of resumption in Slavic relative clauses – the key ones being full grammaticality, island sensitivity, and parasitic gap licensing (see Chapter 2) – lead us to conclude that this resumption belongs to the movement type, previously identified in Swedish (cf. Zaenen, Engdahl & Maling 1981) and Kru languages (cf. Koopman 1982) where resumptive pronouns behave as spell-outs of traces or copies.

In addition, I have identified another type of resumption in Slavic languages, which appears in long distance pronoun relative clauses. In contrast with the obligatory nature of the morphosyntactically conditioned resumption type discussed in previous chapters, this one is optional, appears foremost in spoken language, and is sensitive to the length of the relative dependency. A broad survey has confirmed that the acceptability of resumption in pronoun RCs increases significantly with the distance between the pronoun and the relativization site, while at the same time acceptability patterns also differ from those for complementizer RCs with obligatory resumption. Based on the findings, I conclude that this other resumption type arises to facilitate the processing of the long-distance dependency.

Processing considerations also play a role when it comes to the choice between the two available alternative RC constructions, i.e. complementizer and pronoun relatives, in language use. With the help of a corpus study of Slovene, a pattern of preference has been established: complementizer RCs are preferred with subject, direct object, and indirect object relativization, while prepositional and possessive RCs are much more common with pronouns. Relativized positions sorted by the decreasing frequency of the complementizer strategy correspond to Keenan & Comrie's (1977) accessibility hierarchy. I have applied the complexity measures from Hawkins (2004) that quantify the relative processing strain associated with each relativized position to Slovene examples. The results show that Hawkins' approach can derive the hierarchy and in part suggest an answer as to why the relative pronoun as the more explicit element in the sense of Lehmann (1984) is preferred over the complementizer when relativizing more complex positions lower on the hierarchy. A notable additional factor governing the choice between the RC strategies is ambiguity avoidance – pronoun RCs can be used instead of potentially ambiguous complementizer RCs even when less complex positions are relativized.

# Appendix: Statistical Analysis Data

These are the full results pertaining to the acceptability survey, section 4.3.4.

## a) complementizer + gap

**Descriptives**

Judgement

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound | | |
| Short | 76 | 3,24 | 2,280 | ,261 | 2,72 | 3,76 | 1 | 7 |
| Single | 76 | 3,08 | 2,083 | ,239 | 2,60 | 3,56 | 1 | 7 |
| Double | 76 | 3,33 | 1,872 | ,215 | 2,90 | 3,76 | 1 | 7 |
| Total | 228 | 3,21 | 2,078 | ,138 | 2,94 | 3,49 | 1 | 7 |

**ANOVA**

Judgement

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 2,430 | 2 | 1,215 | ,279 | ,756 |
| Within Groups | 978,039 | 225 | 4,347 | | |
| Total | 980,469 | 227 | | | |

**Multiple Comparisons**

Dependent Variable: Judgement

Tukey HSD

| (I) Length | (J) Length | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| Short | Single | ,158 | ,338 | ,887 | -,64 | ,96 |
| | Double | -,092 | ,338 | ,960 | -,89 | ,71 |
| Single | Short | -,158 | ,338 | ,887 | -,96 | ,64 |
| | Double | -,250 | ,338 | ,740 | -1,05 | ,55 |
| Double | Short | ,092 | ,338 | ,960 | -,71 | ,89 |
| | Single | ,250 | ,338 | ,740 | -,55 | 1,05 |

## b) complementizer + resumption

**Descriptives**

Judgement

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound | | |
| Short | 76 | 5,12 | 2,091 | ,240 | 4,64 | 5,60 | 1 | 7 |
| Single | 76 | 4,66 | 1,908 | ,219 | 4,22 | 5,09 | 1 | 7 |
| Double | 76 | 4,18 | 2,005 | ,230 | 3,73 | 4,64 | 1 | 7 |
| Total | 228 | 4,65 | 2,030 | ,134 | 4,39 | 4,92 | 1 | 7 |

**ANOVA**

Judgement

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 33,167 | 2 | 16,583 | 4,135 | ,017 |
| Within Groups | 902,461 | 225 | 4,011 | | |
| Total | 935,627 | 227 | | | |

**Multiple Comparisons**

Dependent Variable: Judgement

Tukey HSD

| (I) Length | (J) Length | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| Short | Single | ,461 | ,325 | ,334 | -,31 | 1,23 |
| | Double | ,934* | ,325 | ,012 | ,17 | 1,70 |
| Single | Short | -,461 | ,325 | ,334 | -1,23 | ,31 |
| | Double | ,474 | ,325 | ,313 | -,29 | 1,24 |
| Double | Short | -,934* | ,325 | ,012 | -1,70 | -,17 |
| | Single | -,474 | ,325 | ,313 | -1,24 | ,29 |

*. The mean difference is significant at the 0.05 level.

## c) pronoun + gap

**Descriptives**

Judgement

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound | | |
| Short | 76 | 6,51 | 1,400 | ,161 | 6,19 | 6,83 | 1 | 7 |
| Single | 76 | 6,37 | 1,548 | ,178 | 6,01 | 6,72 | 1 | 7 |
| Double | 76 | 4,72 | 2,170 | ,249 | 4,23 | 5,22 | 1 | 7 |
| Total | 228 | 5,87 | 1,912 | ,127 | 5,62 | 6,12 | 1 | 7 |

**ANOVA**

Judgement

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 150,184 | 2 | 75,092 | 24,851 | ,000 |
| Within Groups | 679,868 | 225 | 3,022 | | |
| Total | 830,053 | 227 | | | |

**Multiple Comparisons**

Dependent Variable: Judgement

Tukey HSD

| (I) Length | (J) Length | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| Short | Single | ,145 | ,282 | ,865 | -,52 | ,81 |
| | Double | 1,789* | ,282 | ,000 | 1,12 | 2,45 |
| Single | Short | -,145 | ,282 | ,865 | -,81 | ,52 |
| | Double | 1,645* | ,282 | ,000 | ,98 | 2,31 |
| Double | Short | -1,789* | ,282 | ,000 | -2,45 | -1,12 |
| | Single | -1,645* | ,282 | ,000 | -2,31 | -,98 |

*. The mean difference is significant at the 0.05 level.

## d) pronoun + resumption

**Descriptives**

Judgement

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound | | |
| Short | 76 | 1,42 | ,804 | ,092 | 1,24 | 1,60 | 1 | 4 |
| Single | 76 | 2,95 | 1,868 | ,214 | 2,52 | 3,37 | 1 | 7 |
| Double | 76 | 4,05 | 2,147 | ,246 | 3,56 | 4,54 | 1 | 7 |
| Total | 228 | 2,81 | 2,015 | ,133 | 2,54 | 3,07 | 1 | 7 |

**ANOVA**

Judgement

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 265,404 | 2 | 132,702 | 45,508 | ,000 |
| Within Groups | 656,105 | 225 | 2,916 | | |
| Total | 921,509 | 227 | | | |

**Multiple Comparisons**

Dependent Variable: Judgement

Tukey HSD

| (I) Length | (J) Length | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| Short | Single | -1,526* | ,277 | ,000 | -2,18 | -,87 |
| | Double | -2,632* | ,277 | ,000 | -3,29 | -1,98 |
| Single | Short | 1,526* | ,277 | ,000 | ,87 | 2,18 |
| | Double | -1,105* | ,277 | ,000 | -1,76 | -,45 |
| Double | Short | 2,632* | ,277 | ,000 | 1,98 | 3,29 |
| | Single | 1,105* | ,277 | ,000 | ,45 | 1,76 |

*. The mean difference is significant at the 0.05 level.

Chapter 5

# Conclusion

## 5.1 Summary

The aim of the dissertation has been to provide a principled account of resumption patterns in Slavic relative clauses, identifying the mechanisms that give rise to resumption and establishing what the analysed empirical data can tell us about the syntactic structure and derivation of relative clauses. Slovene, Polish, and Bosnian/Croatian/Serbian data formed the core of the empirical basis of this research.

The two widespread relativization strategies we find in Slavic RCs are sketched in (1). Relative clauses introduced by a relative pronoun (morphologically marked for φ-features and case) contain a gap at the relativization site, while relative clauses introduced by an invariable complementizer involve resumption.

(1) a. [$_{\text{matrix clause}}$ ... RC head [$_{\text{relative clause}}$ pronoun ... gap ]]
b. [$_{\text{matrix clause}}$ ... RC head [$_{\text{relative clause}}$ C ... resumption ]]

The two constructions display common syntactic properties, despite superficial differences. I have shown that both pronoun and complementizer relatives are sensitive to those syntactic islands that are strong enough to block *wh*-movement. In addition, relativization with resumption is able to license parasitic gaps, suggesting that resumptive pronouns in such RCs behave like movement traces.

I have proposed that (1a) and (1b) share one and the same syntactic derivation, involving relative pronoun movement to the RC left periphery. The difference between the two constructions arises at PF, where a choice is made whether to spell out either the pronoun or the complementizer, as not

both elements can be overt at the same time. Resumption is viewed as a reflex of a recoverability condition stating that an element can be left unpronounced only if those of its features that are associated with an overt morphological exponent can be recovered from a syntactically related position. When the relative pronoun remains silent, the recoverability of its case feature is ensured by a partial spell-out of a pronoun copy inside the RC. This recoverability condition does not apply only in relative clauses; it is a general principle operating at the PF interface level, and we can observe its effect in a number of different contexts, from pro-drop to nominal ellipsis.

The two spell-out options giving rise to the relative clauses in (2a-b) are summarized in the tables below.

(2) a. To je človek, katerega iščejo. [Slovene]
*this is man.NOM which.ACC search.3PL*
b. To je človek, ki ga iščejo.
*this is man.NOM C he.ACC.CL search.3PL*
Both: 'This is the man they are looking for.'

Table 5.1 The spell-out of pronoun RCs

| *Position* | *RC head* | *Pronoun* | *C* | *RC internal* |
|---|---|---|---|---|
| *Features* | [φ, NOM] | [Op, φ, ACC]$_i$ | ~~[+rel]~~ | ~~[Op, φ, ACC]~~$_i$ |
| *Realization* | **človek** | **katerega** | – | – |

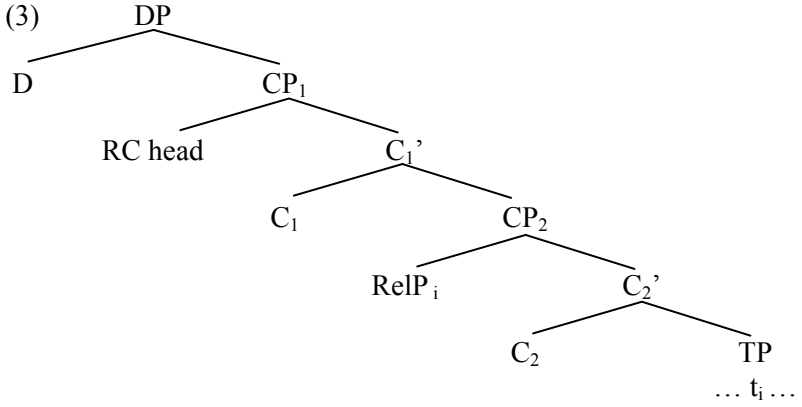
Table 5.2 The spell-out of complementizer RCs

| *Position* | *RC head* | *Pronoun* | *C* | *RC internal* |
|---|---|---|---|---|
| *Features* | [φ, NOM] | ~~[Op, φ, ACC]~~$_i$ | [+rel] | [~~Op,~~ φ, ACC]$_i$ |
| *Realization* | **človek** | – | **ki** | **ga** |

Nominative subject RCs do not involve resumption, which follows from the proposed approach if we assume that the nominative case is encoded in syntax as the absence of case features (cf. Marantz 1991, Neeleman & Weerman 1999, a.o.) and there are therefore no features to be recovered.

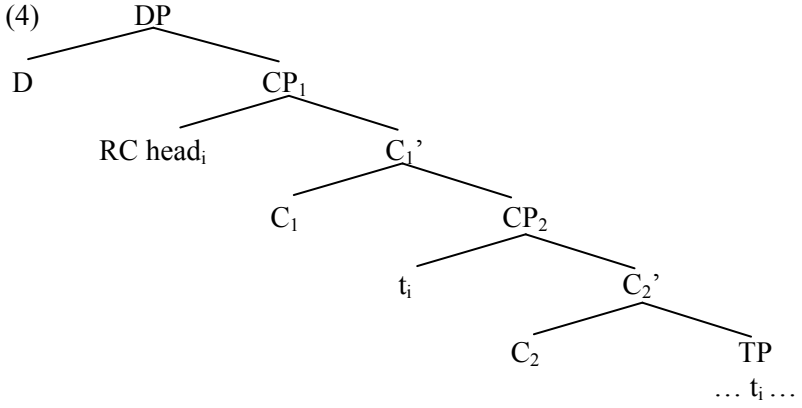
I have adopted a structure of relative clauses as complements to an external D head, with the RC head located within the relative clause in the highest specifier of a split CP. The derivation itself can proceed in one of two ways. The first one involves base-generating the RC head in the highest Spec,CP position, while the dependency is created by moving a relative pronoun to a lower Spec,CP, as illustrated in (3). This derivation underlies the examples in (2a-b) discussed above.

(3)




The alternative derivation employs RC head raising from the relativized position to the highest Spec,CP, as illustrated in (4).

(4)




The availability of two different derivations explains the variation in complementizer RCs exemplified by (5a-b), where resumption seems to be

optional. I have argued that while they appear superficially similar, the two examples are derived each in its own way.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| (5) | a. | Ovo je | auto | **što** | sam | **ga** | kupio. | [B/C/S] |
| | | *this is* | *car.NOM* | *C* | *AUX.1SG* | *he.ACC.CL* | *bought* | |
| | b. | Ovo je | auto | **što** | sam | kupio. | | |
| | | *this is* | *car.NOM* | *C* | *AUX.1SG* | *bought* | | |
| | | Both: 'This is the car that I bought.' | | | | | | |

The derivation of (5a) proceeds in the manner of (3), involving pronoun movement. The pronoun remains silent, which triggers resumption. Example (5b), on the other hand, is derived by RC head raising as in (4). Since no relative pronoun is part of the derivation, the RC in (5b) contains no resumption. Another difference between the two derivations is that only the raising derivation features a representation of the RC head at the relativization site, predicting the presence of reconstruction effects in examples such as (5b) but not in examples such as (5a) or in pronoun RCs, which is borne out.

The type of construction in (5b) is only available under two necessary conditions. Firstly, the case morphology of the RC head must match both the case assigned by the matrix predicate as well as the case assigned at the relativization site. Secondly, the case assigned at the relativization site must not be inherent. I have shown how these conditions follow from the details of the adopted raising analysis, which involves the incorporation of an internal determiner (as part of the RC head) into the external D (cf. Bianchi 2000). The analysis, interacting with the specific morphosyntactic properties of Bulgarian and Russian, extends to explain RC data from those languages as well.

There exists another type or resumption in Slavic languages that should be kept apart from the one triggered by requirements on case recoverability. It appears in long distance relative clauses introduced by a pronoun, as exemplified in (6).

(6) Poznam človeka, **katerega** mislim,
*know.1SG man.ACC which.ACC think.1SG*
da **ga** iščejo.
*that he.ACC.CL search.3PL*
'I know the man who I think they are looking for.'

Such resumption is non-obligatory, it more readily appears in spoken language, and is sensitive to the length of the dependency. Based on these properties, I have concluded that this type of resumption is driven by processing considerations, facilitating the formation of the long distance *wh*-dependency by marking the relativization site explicitly by overt material. The prediction that the acceptability of such resumption should therefore increase with the number of embedded clauses intervening between the relative pronoun and the relativization site (and differ from the acceptability patterns of the morphosyntactic resumption type, which is obligatory and not sensitive to dependency length) has been confirmed by a survey involving speakers of Slovene, Polish, and B/C/S.

Another area where processing considerations also play a role is the choice between complementizer and pronoun relatives in language use. With the help of a corpus study of Slovene I have shown that complementizer RCs are preferred with subject, direct object, and indirect object relativization (decreasingly in that order), while prepositional and possessive RCs are much more common with pronouns. This frequency hierarchy can be derived by applying the complexity measures from Hawkins (2004) that quantify the relative processing strain associated with each relativized position to Slovene examples. Hawkins' approach in part also suggests an answer as to why the relative pronoun as the more explicit element in the sense of Lehmann (1984) is preferred over the complementizer when relativizing more complex positions lower on the hierarchy. A notable additional factor governing the choice between the RC strategies is ambiguity avoidance – pronoun RCs can be used instead of potentially ambiguous complementizer RCs even when less complex positions are relativized.

## 5.2 Contribution Highlights

Combining the original findings of this dissertation with an endeavour to connect the dots of disparate and partial empirical observations in the literature has resulted in a coherent account of the complex resumption patterns in Slavic relative clauses. When we consider the four possible relative clause configurations varying in the choice of the relative element and the presence or absence of resumption (presented in the table below), we see that all of them are actually attested in Slavic languages. Such a situation may give an initial impression of arbitrariness in the use of resumption and contribute to certain inaccurate characterizations of the constructions in the literature.

Table 5.3 The four configuration options

| | | **Resumption** | |
|---|---|---|---|
| | | *Yes* | *No* |
| **Element** | *Complementizer* | [1] C + resumption | [2] C + gap |
| | *Pronoun* | [3] Pronoun + resumption | [4] Pronoun + gap |

I have teased apart the properties of the different constructions, established under which conditions they are available, and provided a derivation analysis for each of them. The most common constructions [1] and [4] both involve movement (as demonstrated by island sensitivity and parasitic gap licensing) and share the same syntax despite apparent differences. On the other hand, the construction in [2] is not related to [1] – which would suggest that resumption may in certain cases be optional – but is rather derived in a different way that also explains the restrictions on the availability of the constructions. Finally, resumption in [3] has properties different from that in [1], and I have demonstrated the necessity of maintaining a distinction between the different types. While resumption in [1] is driven by morphosyntactic recoverability, the one in [3] is the result of processing constraints, rather than grammatical ones.

In terms of typology, resumption in Slavic relative clauses with an invariant complementizer represents a new example of a rather rare type of resumption as spell-out of traces/copies, previously identified only in Swedish (cf. Engdahl 1985) and in West African Kru languages (cf. Koopman 1982, 1984). Languages where the resumption configuration instead consists of a base-generated operator binding a pronoun merged at the dependency site exhibit resumption in the entire range of unbounded dependency constructions, not just in relative clauses. Two examples of resumption in constituent questions in Lebanese Arabic and Irish from McCloskey (2005) are provided below.

(7) ʒayya rəʒʒeel χabbartu-**u** ʒenno … [Lebanese Arabic]
*which man told.2-him that*
'Which man did you tell that …?'

(8) Céacu fear ar labhair tú **leis**? [Irish]
*which-of-two man that spoke you with-him*
'Which man did you talk to?'

In Slavic languages, in contrast, resumption does not appear in such contexts. The analysis I advocate, according to which Slavic resumption is derived differently, accounts for this otherwise puzzling fact: constituent questions all contain a fully spelled out *wh*-phrase, with no unpronounced features requiring resumption to ensure recoverability.

## 5.3 Avenues for Future Research

Slovene free relative clauses (FRC) with morphologically marked relative pronouns (see section 2.3.2, where they are briefly touched upon) provide an interesting topic of investigation. There are open questions concerning the extent of FRC variation within Slavic languages, the feature specification and distribution of pronouns used in FRC, the similarities and differences with light-headed RCs (cf. Citko 2001, 2004), and others. Examining the

available diachronic data on relative pronouns from a generative perspective may prove a helpful additional source of information as well.

Furthermore, the case matching requirement, which plays a significant role in the theoretical and empirical discussion in Chapter 3, is also a prominent feature of free relative clauses, as first discussed by Grimshaw (1977).[59] Examples from Van Riemsdijk (2005) illustrate that for German. In (9) [original example (20c)] the matrix predicate assigns accusative case, while the relativized position within the RC is assigned nominative. Due to the mismatch between the two cases, neither the nominative nor the accusative form of the pronoun *wer* 'who' can be used, and the construction of a FRC is not possible. Example (10) [original example (49)], on the other hand, shows that morphological matching alone is enough to allow relativization. Again, the matrix verb in assigns accusative case, while the RC-internal case is nominative. Because the pronoun *was* 'what' is syncretic between the nominative and the accusative forms, a free relative construction such as in (10) is available.

(9) *Ich nehme wer/wen einen guten Eindruck macht.
*I take who.NOM/who.ACC a good impression makes*
('I take who makes a good impression.')

(10) Ich esse was im Kühlschrank liegt.
*I eat what.NOM/ACC in fridge lies*
'I eat what is in the fridge.'

It is an open empirical question to what extent the case matching requirement in free relative clauses is parallel (or even identical) to that in Slavic complementizer RCs without resumption discussed in the dissertation, and the answer to it may very well trigger a theoretical question as well, namely what consequences this parallelism has for the analysis of the derivation of FRCs.

[59] In addition, case matching restrictions likewise play a role in the construction of across-the-board (ATB) dependencies (cf. Franks 1995).

In the domain of (relative) complementizers, their feature specification and distribution within the complementizer systems across Slavic languages is another point of interest, tying in with the prolific discussion of the relationship between relative and factive clauses in the syntactic literature (cf. section 2.3.3). Important work in that area as far as B/C/S is concerned, though not addressing other Slavic languages, has recently been done by Arsenijević (2009, 2014).

In order to extend the empirical and typological coverage concerning the approach to resumption in relative clauses I argue for, some languages beyond Slavic that are less often discussed in the literature – relative to Celtic and Semitic languages – should be looked into as well. Research done on relative clauses in Swiss varieties of German (Salzmann 2006b, Van Riemsdijk 2008, and Salzmann & Georgi 2014) is of interest in that respect, while resumption in Greek has also been the subject of analysis and comparison to resumption in Hebrew (cf. Alexopoulou 2006). It remains to be explored how data from these (and other) languages may be viewed in light of the research presented in this dissertation and integrated into the overall picture.

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# Samenvatting in het Nederlands

Het doel van dit proefschrift is om een gefundeerde analyse te geven van resumptiepatronen in Slavische betrekkelijke bijzinnen, ofwel *relatiefzinnen*, de mechanismes te identificeren die leiden tot resumptie en vast te stellen wat de geanalyseerde empirische data ons kunnen vertellen over de syntactische structuur en de derivatie van relatiefzinnen. Sloveense, Poolse en Bosnische/Kroatische/Servische (B/K/S) data vormen de kern van de empirische basis voor dit onderzoek.

Er zijn twee veelvoorkomende strategieën om relatiefzinnen (in het vervolg aangeduid als RCs, afgeleid van de Engelse term *relative clause*) te vormen in het Slavisch. Deze zijn schematisch weergegeven in (1). RCs die geïntroduceerd worden door een betrekkelijk voornaamwoord, ofwel een *relatiefpronomen* (morfologisch gemarkeerd voor geslachts-, getals- en persoonskenmerken (φ-*features*) en naamval), hebben een gat op de oorspronkelijke plaats van het gerelativiseerde element, de *extractieplaats*. RCs die daarentegen geïntroduceerd worden door een onveranderlijk voegwoord (*complementizer*, C), vertonen resumptie, wat inhoudt dat er een pronominaal element is in plaats van een gat op de extractieplaats.

(1) a. [$_{\text{hoofdzin}}$ ... RC-hoofd [$_{\text{relatiefzin}}$ pronomen ... gat ]]
b. [$_{\text{hoofdzin}}$ ... RC-hoofd [$_{\text{relatiefzin}}$ C ... resumptie ]]

Deze twee constructies hebben, ondanks een aantal oppervlakkige verschillen, gemeenschappelijke syntactische eigenschappen. Ik heb laten zien dat zowel RCs met een pronomen, als die met een voegwoord, gevoelig zijn voor syntactische eilanden die sterk genoeg zijn om vraagwoordverplaatsing te blokkeren. Daarnaast heb ik aangetoond dat relativisatie met resumptie in staat is om parasitaire gaten te licenseren. Dit suggereert dat resumptieve pronomina zich in zulke RCs gedragen als verplaatsingssporen.

Mijn voorstel is dat (1a) en (1b) dezelfde derivatie hebben, waarbij het relatiefpronomen naar de linkerperiferie van de RC verplaatst. Het verschil tussen de twee constructies ontstaat op *Phonological Form* (PF), waar de keuze wordt gemaakt om óf het relatiefpronomen óf het voegwoord uit te spellen (fonologisch te realiseren), aangezien beide elementen niet tegelijkertijd kunnen voorkomen. Resumptie wordt gezien als een effect van een *recoverability condition*, die zegt dat een element alleen fonologisch ongerealiseerd kan blijven als zijn *features* die geassocieerd zijn met een overte morfologische vertegenwoordiger, ook aanwezig zijn in een syntactisch gerelateerde positie. Wanneer het relatiefpronomen onuitgesproken blijft, wordt het herstel van het naamvalskenmerk van het pronomen gegarandeerd door een gedeeltelijke uitspelling van een kopie van het pronomen binnen de RC. Deze *recoverability condition* is niet alleen van toepassing op RCs; het is een algemeen principe dat van kracht is op de PF-*interface*. Het effect van deze conditie is waarneembaar in een aantal verschillende contexten, van pro-drop tot nominale ellipsis. De twee uitspellingsopties die leiden tot de RCs in (2a-b), zijn samengevat in de tabellen hieronder.

(2) a. To je človek, katerega iščejo. [Sloveens]
*deze is man.NOM die.ACC zoeken.3PL*
b. To je človek, ki ga iščejo.
*deze is man.NOM C hij.ACC.CL zoeken.3PL*
Beide: ‘Dit is de man die ze zoeken.’

Tabel 1 De uitspelling van RCs met een pronomen

| *Positie* | *RC-hoofd* | *Pronomen* | *C* | *RC-intern* |
|---|---|---|---|---|
| *Kenmerken* | [φ, NOM] | [Op, φ, ACC]$_i$ | ~~[+rel]~~ | ~~[Op, φ, ACC]~~$_i$ |
| *Realisatie* | **človek** | **katerega** | – | – |

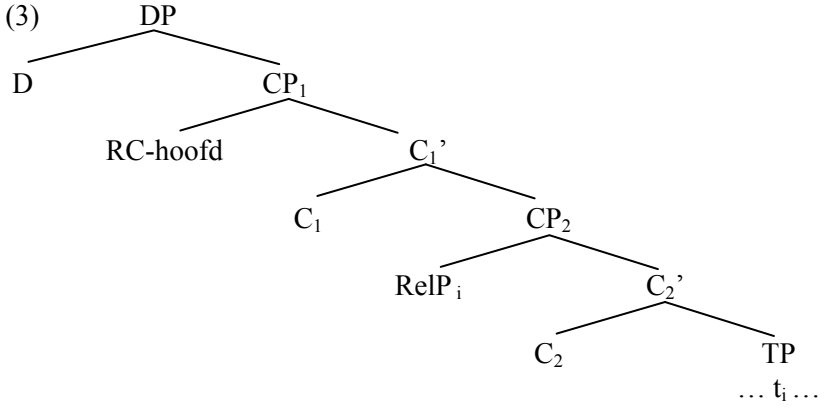
Tabel 2 De uitspelling van RCs met een voegwoord

| *Positie* | *RC-hoofd* | *Pronomen* | *C* | *RC-intern* |
|---|---|---|---|---|
| *Kenmerken* | [φ, NOM] | ~~[Op, φ, ACC]~~$_i$ | [+rel] | [~~Op,~~ φ, ACC]$_i$ |
| *Realisatie* | **človek** | – | **ki** | **ga** |

Nominatieve subject-RCs kennen geen resumptie. Dit volgt uit het huidige voorstel als we aannemen dat de nominatief in de syntaxis wordt gecodeerd als de afwezigheid van naamvalskenmerken (zie o.a. Marantz 1991, Neeleman & Weerman 1999), waardoor er geen kenmerken zijn die hersteld moeten worden.

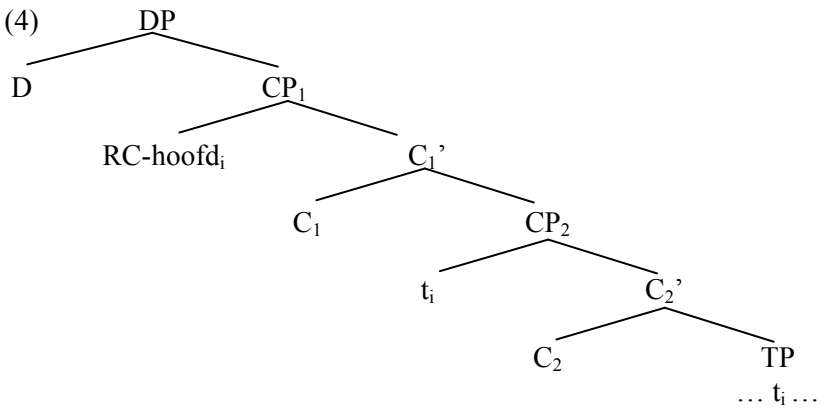
Ik neem aan dat de structuur van RCs er als volgt uitziet. De RC is een complement van een extern D-hoofd, met het RC-hoofd in de RC in de hoogste specificeerderpositie van een opgesplitste CP (Spec,CP). De derivatie kan op een van de volgende twee manieren plaatsvinden. De eerste manier is geïllustreerd in (3). Hier is het RC-hoofd basis-gegenereerd in de specificeerderpositie van de hoogste Spec,CP, waarbij een afhankelijkheid wordt gecreëerd door een relatiefpronomen naar een lagere Spec,CP te verplaatsen. De voorbeelden in (2a-b), die hierboven zijn besproken, zijn afgeleid door middel van deze derivatie.

(3)




In de alternatieve derivatie verplaatst het RC-hoofd van de extractieplaats naar de hoogste Spec,CP, zoals in (4).

(4)




De beschikbaarheid van twee verschillende derivaties verklaart de variatie in RCs met een voegwoord, waar resumptie optioneel lijkt te zijn. Dit is geïllustreerd in (5a-b). Ik heb laten zien dat deze constructies oppervlakkig gezien vergelijkbaar zijn, maar dat ze op verschillende manieren worden afgeleid.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| (5) | a. | Ovo je | auto | **što** | sam | **ga** | kupio. | [B/K/S] |
| | | *dit* | *is* | *auto.NOM* | *C* | *AUX.1SG* | *hij.ACC.CL* | *gekocht* |
| | b. | Ovo je | auto | **što** | sam | kupio. | | |
| | | *dit* | *is* | *auto.NOM* | *C* | *AUX.1SG* | *gekocht* | |
| | | Beide: 'Dit is de auto die ik heb gekocht.' | | | | | | |

De afleiding van (5a) is gelijk aan die in (3), waarin het pronomen is verplaatst. Het pronomen blijft onuitgespeld, met resumptie als gevolg. Voorbeeld (5b), aan de andere kant, is afgeleid door middel van verplaatsing van het RC-hoofd, zoals in (4). Omdat er in deze derivatie geen relatiefpronomen is, is er geen resumptie in de RC in (5b). Een ander verschil tussen de twee derivaties is dat alleen de derivatie in (4) een representatie van het RC-hoofd heeft op de extractieplaats. Deze configuratie voorspelt dat er reconstructie-effecten zijn in voorbeelden zoals (5b), maar niet in voorbeelden zoals (5a) of in RCs met een pronomen. Deze voorspelling komt uit.

Het type constructie dat geïllustreerd is in (5b), komt slechts voor onder twee noodzakelijke voorwaarden. Ten eerste moet de naamvalsuitgang van het RC-hoofd overeenkomen met zowel de naamval toegekend door het werkwoord in de hoofdzin als de naamval toegekend op de extractieplaats. Ten tweede mag de naamval op de extractieplaats niet een inherente naamval zijn. Ik laat zien hoe deze condities voortkomen uit de details van de analyse die ik heb aangenomen in (4). In deze analyse incorporeert een interne determineerder (als onderdeel van het RC-hoofd) in de externe D (zie Bianchi 2000). Deze analyse, die interacteert met de specifieke morfosyntactische eigenschappen van het Bulgaars en het Russisch, kan de RC-data in deze talen verklaren.

Er bestaat een ander type resumptie in Slavische talen, dat los moet worden gezien van het type dat voortkomt uit de eisen van naamvalherstel. Dit type komt voor in lange-afstandsrelatiefzinnen, ofwel *lange relatiefzinnen*, die geïntroduceerd worden door een pronomen, zoals geïllustreerd in (6).

(6) Poznam človeka, **katerega** mislim,
*kennen.1SG man.ACC die.ACC denken.1SG*
da **ga** iščejo.
*dat hij.ACC.CL zoeken.3PL*
'Ik ken de man die ik denk dat ze zoeken.'

Dit type resumptie is niet verplicht. Het komt veel voor in gesproken taal en is gevoelig voor de lengte van de RC-afhankelijkheid. Op basis van deze eigenschappen heb ik geconcludeerd dat dit type resumptie gedreven wordt door taalverwerkingscondities. De resumptie faciliteert het vormen van de lange-afstandsafhankelijkheid door de extractieplaats expliciet te markeren door die uit te spellen. Deze analyse voorspelt dat de acceptabiliteit van dit type resumptie groter wordt naarmate het aantal ingebedde zinnen dat tussen het relatiefpronomen en de extractieplaats staat, groter is. De analyse voorspelt ook dat niet-verplichte resumptie andere acceptabiliteitspatronen laat zien dan morfosyntactische resumptie, die verplicht en niet gevoelig voor de lengte van de afhankelijkheid is. Deze voorspellingen worden

bevestigd door de resultaten van een vragenlijst die ik heb afgenomen onder sprekers van het Sloveens, Pools en B/K/S.

Taalverwerking speelt ook een rol bij het maken van een keuze tussen RCs met een voegwoord en RCs met een pronomen in taalgebruik. Aan de hand van een corpusstudie van het Sloveens heb ik laten zien dat RCs met een voegwoord bij voorkeur gebruikt worden als het subject, het direct object en het indirect object gerelativiseerd wordt (afnemend in die volgorde), terwijl gerelativiseerde voorzetselgroepen en bezittelijke woordgroepen veel meer voorkomen met pronomina. Deze frequentiehiërarchie kan worden afgeleid door de *complexity measures* van Hawkins (2004) toe te passen op de Sloveense voorbeelden. Deze *measures* kwantificeren de relatieve verwerkingsbelasting die geassocieerd wordt met elke gerelativiseerde positie. De benadering van Hawkins kan mogelijk ook een gedeeltelijk antwoord geven op de vraag waarom het relatiefpronomen, een explicieter element in de termen van Lehmann (1984), geprefereerd wordt over het voegwoord, wanneer complexere posities lager in de hiërarchie gerelativiseerd worden. Een belangrijke extra factor die de keuze tussen de RC-strategieën bepaalt, is het vermijden van ambiguïteiten: pronominale RCs kunnen gebruikt worden in plaats van mogelijk ambigue voegwoord-RCs, zelfs als minder complexe posities gerelativiseerd worden.

Door de nieuwe bevindingen van dit proefschrift te combineren met een poging om de losse en onvolledige empirische observaties uit de literatuur aan elkaar te koppelen, is een coherente beschrijving ontstaan van de complexe resumptiepatronen in Slavische RCs. Als we de vier mogelijke RC-configuraties in acht nemen, variërend in de keuze van het relatieve element en de aan- of afwezigheid van resumptie (gepresenteerd in de tabel hieronder), zien we dat ze allemaal voorkomen in de Slavische talen. Deze situatie kan op het eerste gezicht de indruk geven dat het gebruik van resumptie willekeurig is, en het kan hebben geleid tot bepaalde inaccurate typeringen van de constructies in de literatuur.

Tabel 3 De vier mogelijke RC-configuraties

| | | **Resumptie** | |
|---|---|---|---|
| | | *Ja* | *Nee* |
| **Element** | *Voegwoord* | [1] C + resumptie | [2] C + gat |
| | *Pronomen* | [3] Pronomen + resumptie | [4] Pronomen + gat |

Ik heb de verschillende eigenschappen van de vier constructies geïdentificeerd, vastgesteld onder welke condities ze voorkomen en een derivationele analyse gegeven voor elk van deze constructies. De meest gangbare constructies [1] en [4] brengen beide verplaatsing met zich mee (zoals wordt gedemonstreerd door eilandgevoeligheid en het licenseren van parasitaire gaten) en delen dezelfde syntactische structuur, ondanks ogenschijnlijke verschillen. Constructie [2] is echter niet gerelateerd aan constructie [1] – wat zou suggereren dat resumptie in bepaalde gevallen optioneel kan zijn – maar is juist afgeleid op een andere manier, die ook de beperkingen op het voorkomen van de constructies verklaart. Resumptie in constructie [3], ten slotte, heeft andere eigenschappen dan constructie [1], en ik heb laten zien dat het noodzakelijk is om beide typen van elkaar te onderscheiden. Terwijl resumptie in constructie [1] gedreven wordt door morfosyntactisch herstel, is resumptie in constructie [3] het resultaat van beperkingen op de verwerking van de constructie en niet van grammaticale restricties.

In typologische termen vormt resumptie in Slavische RCs met een onveranderlijk voegwoord een nieuw voorbeeld van een nogal zeldzaam resumptietype, met uitspelling van sporen/kopieën. Dit type resumptie is tot nu toe enkel geïdentificeerd in het Zweeds (zie Engdahl 1985) en in West-Afrikaanse Kru-talen (zie Koopman 1982, 1984). Talen waarin de resumptieconfiguratie in plaats daarvan bestaat uit een basis-gegenereerde *operator* die een pronomen in de afhankelijkheidspositie bindt, vertonen niet alleen resumptie in RCs, maar in de gehele verzameling van onbegrensde afhankelijkheidsconstructies. Twee voorbeelden van resumptie in

vraagwoordvragen in het Libanees Arabisch en Iers van McCloskey (2005) staan hieronder.

(7) ʒayya rəʒʒeel χabbartu-**u** ʒenno … [Libanees Arabisch]
*welke man vertelde.2-hem dat*
'Welke man vertelde jou dat …?'

(8) Céacu fear ar labhair tú **leis**? [Iers]
*welke-van-twee man dat sprak jij met-hem*
'Met welke man heb je gesproken?'

In tegenstelling tot deze talen is er geen resumptie in dergelijke contexten in Slavische talen. Ik verdedig een analyse waarin Slavische resumptie op een andere manier wordt afgeleid dan in het Libanees Arabisch en Iers. Deze analyse verklaart het feit dat er in Slavische talen alleen resumptie optreedt in RCs, wat anders raadselachtig zou blijven: constituentvragen bevatten allemaal een volledig uitgespelde vraagwoordgroep, die geen onuitgesproken *features* bevat die resumptie nodig hebben om herstel te garanderen.

## Curriculum Vitae

Marko Hladnik was born in 1983, in Ljubljana, Slovenia. He grew up in the town of Idrija where he finished high school. In 2007, upon graduating from a five-year programme in English language and literature at the University of Ljubljana, he was accepted to the Research Masters programme in Linguistics at Utrecht University. He graduated *cum laude* in 2010. In the same year, he was awarded a grant from the Netherlands Organisation for Scientific Research (NWO) for PhD projects in the humanities, and started working as a PhD researcher at the Utrecht Institute for Linguistics OTS. During this period, he spent a semester as a visiting scholar at the University of Connecticut. This dissertation is the ultimate result of his PhD research.