Specificity in (Czech) relative clauses

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0 Introduction[1]

In this paper I argue for a full DP representation of the head of a relative clause (RC) within the RC itself and provide an analysis of Czech relative clauses which is compatible with the recent raising or matching approaches. The empirical phenomena to be investigated are scopal ambiguities, specificity and definiteness effects.

The recent literature on relative clauses has converged on the point that there has to be a full representation of the NP-head within the relative clause.[2] The reason for this is that some elements may appear in the NP-head which are licensed only in the RC-internal position ("reconstruction effects"). Observations of this kind go back to Vergnaud (1974) and involve idiom interpretation, anaphor binding, and variable binding, illustrated respectively in (1):

(1) a. The headway that we made __ during the last week is striking
    b. The picture of himself$_1$ that Peter$_1$ likes __ most is in the living room
    c. The articles about himself$_1$ that every politician$_1$ hates __ are very funny

In (1a) the head *headway* must be interpreted in the complement position of the RC-internal verb *made* in order to yield the correct idiom interpretation. In (1b) the anaphor *himself*, contained in the head, must be locally bound by the RC-internal subject *Peter*. In (1c) the quantifier *every politician* must take scope over the variable *himself*.

Two analyses have been proposed in order to account for the data in (1). The *raising* (or *promotion*) *analysis* involves the movement of the NP-head from its RC-internal argument position to the left periphery of the relative CP, which is taken to be the head position. The CP is selected by an external D which renders the whole relative clause a nominal. The head and the foot of the relative dependency are thus in a transformational relation and all reconstruction phenomena are straightforwardly explained; see e.g. Kayne (1994), Bianchi (1999), de Vries (2002), Bhatt (2002).

In the *matching analysis* the head and the foot are not in a movement relation. A full copy of the NP-head is generated in the RC-internal argument position and *wh*-moves to the left periphery of the relative CP. The CP is then adjoined to an external NP-head, which is identical to the RC-internal NP; see e.g. Sauerland (2003), Salzmann (2006).

For the purposes of this paper the distinction between raising and matching is not crucial. I explore an idea common for both these analyses. I argue that not only the NP-head but also the D (definiteness/specificity) features are needed inside the relative clause (contra Bianchi (1999), but with Heim (1987), and Bianchi (2004)). The presence of these features follows from observations of syntactic and semantic behavior but may also be visible in the morphological form of the relative operator.

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[1] A background research for this paper can be found in my MA thesis (Šimík 2006) which was submitted at the Palacky University Olomouc. Previous versions of this paper were discussed in April 2006 at the syntactic colloquium in Leipzig and in September 2006 in the syntax-semantics circle in Groningen. I am grateful for comments especially to these people: Petr Biskup, Fabian Heck, and Gereon Müller (Leipzig); Jan Koster, Mark de Vries, and Jan-Wouter Zwart (Groningen). I also thank the attentive audience at the Poznan Linguistic Meeting.

[2] The RC-internal position of the head will be referred to as "the foot of the relative dependency" or "the target of relativization".

The paper is organized as follows. Section 1 provides some background on scope ambiguities and specificity and shows that resumptive pronouns force a specific reading of the head of the RC. Section 2 introduces four types of Czech relative clauses and discusses their morphological, syntactic, as well as semantic properties. Section 3 deals with the analysis of the four types of Czech relatives. Section 5 presents some English data and suggests a redefinition of the specificity effects in terms of definiteness effects. Section 6 concludes the paper.

1 Scope ambiguities and specificity of the RC-head

1.1 Basic facts

It is a well-known observation that the interaction of two quantifiers within one clause lead to semantic ambiguities (2a). An analogous effect can be observed in *wh*-questions containing a quantifier (2b).

(2) a. Every doctor examined a patient
b. Who did every doctor examine?

(2a) can be interpreted in two different ways: [i] for every doctor there is a patient that the doctor examined; [ii] there is a patient such that every doctor examined him. (2b) displays an analogous ambiguity: [i] for every doctor there is a human x that the doctor examined; [ii] there is a human x such that every doctor examined him. Note that in both readings of (2b) we are asking about the identity of a human/humans (x) but while in [i] x may vary with every doctor, in [ii] there is a presupposition that there is one and the same x for every doctor. Importantly, the same ambiguity is observed in restrictive relative clauses:

(3) the patient that every doctor examined

The phrase in (3) potentially exhibits the same ambiguity as (2a): either it denotes a variable which gets bound by the quantifier *every doctor* (reading [i]) or it denotes a specific individual who was examined by every doctor (reading [ii]). The following examples show the instantiations of the two respective readings:

(4) a. The patient that every doctor$_1$ examined is his$_1$ brother
b. I am looking for the patient that every doctor examined

The ambiguities in (2) and (3) are standardly explained by the assignment of two different phrase structures to one phonological string. In reading [i] the quantifier *every doctor* has scope over (c-commands) the variable *patient/who*. In reading [ii] the individual-denoting *patient/who* takes scope over the quantifier *every doctor*. Because these structures do not always match the phonological ordering, a covert structure (logical form, LF) is postulated. When (2a) has reading [ii], we postulate a covert (invisible) movement of *a patient* out of the scope of the quantifier *every doctor*. On the other hand, when *who* in (2b) has reading [i], we need to postulate LF reconstruction to the base position where *who* gets c-commanded by *every doctor*. Let us call [i] the narrow scope reading and [ii] the wide scope reading.

Importantly, the narrow scope reading of a DP corresponds to its non-specificity and the wide scope reading corresponds to its specificity.[3]

1.2 Resumptive pronouns force specific reading of the head

In the previous subsection we established the notion of narrow/wide scope or (non)specificity of a DP and showed its significance for semantic interpretation. It has been claimed at various places in the literature (e.g. Doron (1982), Sharvit (1999), Boeckx (2003), Bianchi (2004)) that when the RC-head is realized by a resumptive pronoun within the relative clause, the head must be interpreted as specific (having wide scope with respect to scopal elements within the RC). The following example illustrates the property of resumptive pronouns as opposed to gaps (Czech equivalents to the examples of Sharvit (1999)):[4]

(5) a. Ta žena$_1$, co __$_1$ každý muž$_2$ pozval, mu$_2$ poděkovala
b. Ta žena$_1$, co ji$_1$ každý muž$_2$ pozval, mu$_2$ poděkovala
the woman CD her every man invited him thanked
'The woman that every man invited thanked him'

For the RC with a gap (5a) there are two possible readings, corresponding to the narrow and wide scope of the RC-head *žena* 'woman' with respect to the quantifier *každý muž* 'every man': [i] for every man there is a woman that the man invited and that thanked him; [ii] there is a woman that every man invited and that thanked him. For the RC with a resumptive pronoun (5b), however, only the reading [ii] is available.
So far, we have only seen examples where the interaction of two quantifiers played a crucial role, which could make us believe that specificity is reducible to scopal properties. However, the distinction specific vs. non-specific is in principle independent of the quantifier interaction since there are intrinsically non-specific DPs (e.g. predicates, amounts). It can be shown that resumptive pronouns cannot stand for intrinsic non-specifics either:[5]

(6) a. *Je Honza opravdu takový vůl$_1$, co ho za něj$_1$ mají?
is John really such idiot CD him for him have-3PL
'Is John really such an idiot that they take him for?'
b. Potřebovali bychom zbytek života, abychom vypili to šampaňské$_1$,
need AUX-COND-1PL rest life COMP-1PL drink the champagne
co jsme (#ho)$_1$ včera vylili
CD AUX-PAST-WE it yesterday spilled
'We would need the rest of our life to drink the champagne we spilled yesterday'
c. Vojna a mír je ta nejlepší kniha$_1$, co jsem (*ji)$_1$ kdy četl
War and peace is the best book CD AUX-PAST-1SG it ever read
'War and Peace is the best book I've ever read'

The example (6a) shows that a resumptive pronoun cannot be used when a (non-referential/non-specific) predicate NP is relativized (no gap equivalent cannot be used since

[3] Note that there seems to be something superfluous: in an ideal case we should either get rid of the scope or the specificity feature. See example (6) below and section 4 for a tentative discussion.
[4] In this paper I am going to use the following glossing conventions: CD (complementizer domain) quite generally refers to an element introducing a relative clause (i.e. irrespective of the nature of the element); gaps are sometimes positioned in the place of a resumptive pronoun, however, purely for purposes of exposition; resumptive pronouns (and gaps) are glossed as regular English pronouns
[5] Analogous and more elaborate Swiss German data can be found in Salzmann (2006: section 4.6). Swiss German shows a more complicated pattern than Czech because it can make use of R-pronouns (apart from gaps and standard resumptive pronouns), which can arguably represent non-specifics.

the target of relativization is prepositional). (6b) with a resumptive pronoun is interpretable only under the pragmatically highly implausible situation in which the drinkers would have to drink the exact same champagne that they spilled the day before. Crucially, under the plausible reading where drinking the *amount* of the spilled champagne would take long, the sentence is ungrammatical (whereas its counterpart with a gap is fully grammatical). In (6c) the relative clause forms a comparison-class for the superlative *nejlepší* 'best'. In such structures the relativized DP is arguably non-specific (I read some (non-specific) books and War and Peace was the best one; see section 4 for more discussion of superlatives and their RC-comparison classes). Again, the resumptive pronoun cannot refer to the non-specific DP *kniha* 'book'; only a gap licenses the required reading. In what follows I will be using the superlative examples for two reasons: neat minimal pairs can be formed and the intuitions seem to be uncontroversial.

In the raising and matching approaches, the resumptive pronoun is usually taken to be a phonological realization of the foot of an A'-movement dependency. Salzmann (2006) stipulates (without formalization) a condition that resumptives can appear only in "specific chains". Bianchi (2004) presents a more elaborate analysis based on a split CP where specific/non-specific readings of the NP-head are coded by its different landing sites within a complex CP-domain.

The Czech data presented in the following section show that not only resumptive pronouns but also some relative pronouns force the specific reading of the head. In section 3, a unified analysis of resumptive and relative pronouns is proposed.

2 Four types of Czech relative clauses

In this section I will present four types of relative clauses which display an interesting pattern. Since Czech relative clauses are not widely known the first subsection contains a brief description.

2.1 A description of Czech relative clauses

Relativization in Czech involves four basic strategies, which can be categorized along two criteria: [i] the target of relativization (the foot of the relative dependency) is either realized by a gap or by a resumptive pronoun; [ii] the relative clause is introduced either by an invariant relative complementizer or a case-marked relative pronoun (where in turn the relative pronoun is either of an adjectival or a personal-pronominal nature). The following examples illustrate the four types:

(7) a. To okno, ***které*** ti chlapci rozbili [ADJ-GAP]
b. To okno, ***jež*** ti chlapci rozbili [PRON-GAP]
c. To okno, ***co*** ti chlapci rozbili [CO-GAP]
d. To okno, ***co*** ***ho*** ti chlapci rozbili [CO-RES]
the window CD it the boys broke
'The window that the boys broke'

For the ease of exposition, I will refer to the types in (7) by abbreviations which are composed of the two criteria above. The first part expresses the way of introducing the relative clause: ADJ refers to the adjectival relative pronoun; PRON refers to the personal-pronominal relative pronoun; CO refers to the invariant complementizer. The part following the hyphen expresses the gap vs. resumptive pronoun distinction.

2.1.1 ADJ-GAP relatives

ADJ-GAP relatives represent the most unmarked type of relative clauses in Czech. They are not stylistically marked and can be used in most situational and grammatical contexts. They are compatible with both a restrictive and an appositive reading; however, they are limited to headed relatives and marginally to free relatives (they cannot be used in what Citko (2004) calls light-headed relatives).
In the comp-domain of this type of RC there is an adjectival *wh*-word *který*, which is also used in questions and as such can be translated as 'which'. The adjectival nature of the *wh*-word follows from its regular adjectival declension (falling into the "hard-adjectives" paradigm). It agrees for all the φ-features (gender, number, animateness[6]) of the noun it modifies. In the case of relative clauses it agrees with the head, thus mediating the head-foot coreference. Furthermore, it is case-marked and thus expresses the RC-internal function of the head of the RC.
AJD-GAP relatives display island restrictions, which suggests the presence of *wh*-movement. They obligatorily leave a gap in the foot position.

2.1.2 PRON-GAP relatives

Unlike ADJ-GAP, PRON-GAP relatives are used mainly in writing; they belong to a formal register.[7] Like ADJ-GAP relatives, they can be used both restrictively and appositively. What appears in the comp domain is a specialized relative element *jenž*, restricted to the context of relative constructions. This relative element is a pronominal element fully specified for the Czech φ-features, agreeing with the head. Importantly, with the exception of all nominatives, the relative pronoun is directly derived from a respective non-clitic (strong) personal pronoun, simply by adding a suffix *-ž* (perhaps a reduced complementizer *že*).[8]
In the following table I provide the full paradigm for Masculine Animates, Masculine Inanimates, Feminine, and Neuter.

(8) The declension paradigm of the relative pronoun *jenž*

	MAsg	**MIsg**	**Fsg**	**Nsg**	**Xpl**
NOM	jenž	jenž	jež	jež	jež (MA: již)
ACC	jehož	jejž	již	jež	jež
GEN	jehož	jehož	jíž	jejž	jichž
DAT	jemuž	jemuž	jíž	jemuž	jimž
LOC	(o)němž	němž	níž	němž	nichž
INST	jímž	jímž	jíž	jímž	jimiž

[6] There are two groups of masculine nouns in Czech: animates and inanimates. The feature is a formal one and is reflected in masculine declension paradigms. The rough semantic correlation of this formal feature is the follwing: any moving living organism bigger than a virus is animate ('virus' is inanimate but 'ant' is animate).
[7] This is probably not entirely true. According to my intuition, the stylistic markedness is most significant with nominatives and perhaps non-prepositional accusatives and datives. Prepositional cases seem to be marginally acceptable in colloquial register as well.
[8] All the *je-* forms overviewed in the table (8) (without the comp-suffix *-ž*) used to have the function of demonstrative pronouns in Old Czech. Nowadays, all of them are used in the function of strong personal pronouns, except for nominative forms, which have been replaced by *on/ona/ono/oni/ony/ona* (originating as Old Czech demonstratives). As for the relative pronouns, the full *je-* paradigm is used nowadays, however, the relevant nominative forms need to be learned by most Czech speakers at schools, which shows that they are not "internalized", or somehow not part of the system. Viewed from the opposite perspective, the relative pronouns are apparently directly derived from (or can be assimilated to) the personal pronouns, the only clash being observed in the nominative, which has a special form.

All the relative pronouns, analogously to the personal ones, are subject to a general phonological/morphological rule—when the pronoun is headed by a preposition, the form of the initial consonant changes from [j] to [ň]. In table (8) it can be seen in the locative case, since it is purely prepositional in Czech but it affects any personal/relative pronoun of this type with preposition.
The morphological affinity obliges us to analyze these relative pronouns in the same way as the respective personal pronouns with a minimal difference—being a relative, which is reflected in morphology by the suffix *-ž*.
Like in ADJ-GAP relatives, there is operator movement sensitive to island restrictions, and the foot position must be a gap.

2.1.3 CO-GAP relatives[9]

CO-GAP relatives mostly appear in the colloquial register and informal writing, and are used almost exclusively restrictively. In the comp-domain, there is an invariable relative complementizer *co*, whose case-marked variant is used in questions as (non-modifying) 'what'. Note that *co* is not a regular (declarative) complementizer in Czech, which is *že*. Unlike all the other types, CO-GAP relatives display a very limited distribution as for the sentence function/case of the foot position. They can only be used if the target of relativization is a subject or a direct object, or in terms of case, a nominative or a (non-prepositional) accusative. See the following examples:

(9) a. Ten barman, co nám přinesl ten drink [nominative foot]
the bartender CD us brought the drink
'The bartender that brought us the drink'

b. Ten drink, co jsme vypili na ex [accusative foot]
the drink CD AUX-PAST-1PL drank IDIOM
'The drink that we knocked back'

c. *Ten zákazník, co jsme se smáli [dative foot]
the customer CD AUX-PAST-1PL REFL laughed
'The customer that we laughed at'

Also this kind of relatives displays operator-movement properties.

2.1.4 CO-RES relatives

CO-RES relatives seem to have the identical stylistic markedness as CO-GAP relatives. They are introduced by the invariable complementizer *co*. Unlike in CO-GAP, the φ-features of the head are recoverable through a resumptive pronoun. The resumptive pronoun in Czech takes the form of a clitic (short) personal pronoun and also syntactically behaves as such (e.g. they show clitic-movement to the Wackernagel position). When the resumptive is headed by a preposition it takes over the form of a strong personal pronoun (there are no prepositional clitics in Czech). In case the target of relativization is a subject, it is realized by a phonetically null *pro*, which we take to be equivalent to a clitic; observe the following examples:

(10) a. Ty problémy, co nás *pro*/*ony trápily
the problems CD us they bothered
'The problems that bothered us'

[9] For a corpus-based research of CO-GAP and CO-RES relatives, see Čech & Šimík (2005).

b. Ty problémy, co Petr říkal to, že nás *pro*/??ony trápily
the problems CD Petr said it COMP us they bothered
'The problems that Peter said that they bothered us'
c. Ty problémy, co jsme je řešili
the problems CD AUX-PAST-1PL them solved
'The problems that we were solving'
d. Ty problémy, co jsme o nich mluvily
the problems CD AUX-PAST-1PL about them spoke
'The problems that we spoke about'

The example (10a) shows that the phonetically null *pro* is an obligatory realization of the foot position in case it is nominative, even if the target of relativization appears in an island, as in (10b).[10] (10c) shows that a direct object position can be realized by a resumptive pronoun (i.e., direct object resumptives are not reserved for islands). (10d) shows relativization of a prepositional position.
Importantly, CO-RES relatives do not show the standard diagnostics for movement—a foot realized by a resumptive pronoun is licensed in all kinds of islands.
Note that the CO-RES relativization of a subject position as in (10a) is superficially indistinguishable from CO-GAP relativization. In section 1.2 we saw that there is a substantial semantic difference between resumptives and gaps: on the one hand, resumptives force the specific reading of the head and cannot stand for non-specific (non-referential) DPs; on the other hand, gaps are not licensed in islands. Therefore, it is possible to construct an example with conflicting requirements where the target of relativization appears in an island (forcing the CO-RES relative) but the head will require a non-specific reading (forcing CO-GAP relative). If the two are underlyingly different, then such a sentence will be ungrammatical since there is no way to resolve these contrasting requirements. Observe the following example:

(11) ? To je ten nejstarší muž, co Petr říkal (*to), že kdy na světě žil
it is the oldest man CD Petr said it COMP ever in world lived
'It is the oldest man that Peter said that has ever lived in the world'

The example in (11) bears out our expectation. When the complement clause is an island, then there must be a phonetically empty resumptive *pro* and the comparison-class reading of the relative clause (requiring a non-specific foot) cannot be licensed. On the other hand, when the complement clause is transparent for movement and thus contains a gap, the result is (marginally) acceptable.[11]
I conclude that there is a substantial difference between CO-GAP and CO-RES relative clauses in Czech.

2.2 (Non-)specificity in Czech relative clauses

In the previous subsection we described the basic properties of four types of Czech relative clauses. In section 1 we saw some restrictions on the non-specific reading of the RC-head, depending on the presence of a resumptive pronoun. In this section we will see that similar effects can be observed in some GAP relatives.

[10] The reason for the islandhood of the complement clause is that it is introduced by an optional focus particle *to* 'it', which arguably nominalizes the clause.
[11] The reliability of the test is put into doubt by the fact that the sentence is not fully acceptable even if there is no island. Nevertheless, according to my intuition there is a contrast.

Recall that a relative clause may function as a comparison-class for a superlative only if the target of relativization is non-specific. The following examples show that not all the given types of Czech relatives can have the comparison-class reading:

(12) a. Vojna a mír je ta nejlepší kniha, kterou kdy četl [ADJ-GAP]
b. *Vojna a mír je ta nejlepší kniha, jíž kdy četl [PRON-GAP]
c. Vojna a mír je ta nejlepší kniha, co kdy četl [CO-GAP]
d. *Vojna a mír je ta nejlepší kniha, co ji kdy četl [CO-RES]
War and peace is the best book COMP it ever read
'War and Peace is the best book I've ever read'

Note that not only the RC containing a resumptive pronoun (12d) is ungrammatical; the same holds for the RC with the personal-pronominal relative pronoun and a gap in the argument position (12b). This pattern shows that the division between resumptives and gaps, established in section 1.2, cannot be entirely correct. However, if we draw the line between personal pronouns and everything else, the data seem to match our expectations.[12] Let us explore this suggestion in a more detailed analysis in the next section.

3 Analysis

3.1 Preliminaries

My analysis follows quite standard assumptions about the syntax and semantics of arguments (nominal projections). I depart from the proposals of Stjepanovic (1998) and Zlatic (1997), who claim that Slavic nominal arguments are bare NPs; I take them to be NPs headed by a functional projection D (with Progovac (1998) and Veselovská (1995)). The D head is the host for definiteness/specificity features and is thus independently needed for semantic interpretation. I further argue that although there are no overt determiners in Czech (and most other Slavic languages) the head may be realized as a personal pronoun if it heads an empty (or deleted) NP. Such a flexible way of phonological realization of terminal nodes is promoted by Halle and Marantz (1994) within their framework of Distributed Morphology, which I adopt here as a background theory of lexicon and morphology. I also adopt the assumption of Veselovská (1995) that Czech determiner-like APs are generated in the specifiers of corresponding functional heads.

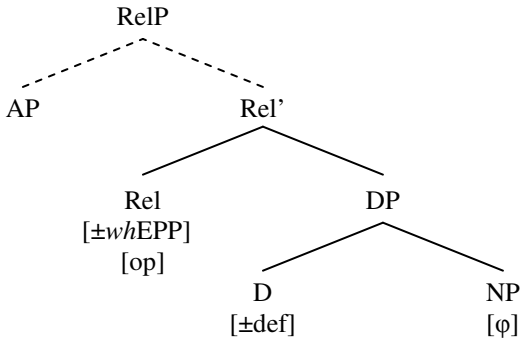
3.2 Core proposal

As I mentioned in the introduction, my analysis is compatible with both the raising and the matching analysis of relative clauses. The crucial point that I adopt from them is that the foot of the relative dependency is represented in syntax as a full nominal phrase. This NP is usually taken to be selected by an operator or relative determiner.
In this section I propose a more fine-grained structure of the functional layers of this foot NP. In particular, I claim that it starts as a DP, which encodes all standard DP properties, i.e. specificity and/or definiteness. It is further selected by a relative-operator head Rel—an

[12] It should be noted that not all speakers of Czech regard (12b) as ungrammatical. As I already suggested above, the PRON-GAP relative is problematic because it is used mainly in formal register and the nominative forms are not transparently derived from personal pronouns. Some people, indeed, have problems forming the correct relative pronouns of this type, suggesting that the derivation *personal pronoun → relative pronoun* does not really take place in their minds. Thus, I expect a correlation between the knowledge of the relative pronoun paradigm and the presence of the specificity effects in (12b).

extended nominal projection, which retains the properties of the DP and adds the operator feature. Furthermore, Rel allows its specifier to be filled by a corresponding AP, which agrees for the φ-features of the NP. Since nominal specifier positions do not always need to be realized in Czech, some variability is expected. Observe the graph below:

(13) The foot of the relative dependency



I propose that there are two possible feature compositions of Rel (both variants contain an operator feature which triggers the movement to SpecCP): [+*wh*EPP] requires the filling of a specifier with the appropriate AP; [–*wh*EPP] does not.[13]
The D head contains a definiteness feature which may have two possible values. This is a simplification which deliberately abstracts from the definiteness vs. specificity distinction for the purposes of syntax.[14]
An obvious question is what happens with the NP (recall that it is the NP which is coreferent with the head in the matching analysis and is the actual head in the raising analysis). For the purposes of the analysis proposed here it is only necessary to ensure that it is not phonologically realized in the complement position of D (as in (13)). This can be done basically in two ways. Within the raising analysis the NP moves out to a higher position in the tree (e.g. to SpecDP in De Vries (2002) or to the specifier of some CP projection, as in Zwart (2000)). The matching analysis needs to assume that the NP is deleted for the purposes of PF interpretation (cf. Salzmann (2006)).
To sum up, we end up with two functional heads, D and Rel, each of which has one of two possible feature settings: a desirable case of binary parameterization. The following chart lists the four possible combinations:

(14) a. D [–definite]; Rel [–*wh*EPP]
b. D [–definite]; Rel [+*wh*EPP]
c. D [+definite]; Rel [–*wh*EPP]
d. D [+definite]; Rel [+*wh*EPP]

All there is left to be specified is the lexical/morphological realization of the heads and phrases. Suppose that a definite D is realized as a personal pronoun and an indefinite D is phonologically null. The AP in SpecRel is realized as a *wh*-adjectival *který*.
The following subsection deals with the way the feature setting in (14) is morphologically realized. Section 3.2.2 discusses the analysis of resumptive pronouns. Section 3.2.3 deals with

[13] The EPP feature simply means that a head wants its specifier to be filled; the *wh*-attribute specifies which kind of category can satisfy the EPP (a kind of selection).
[14] I believe that a binary distinction is sufficient in syntax and should account for the basic phenomena that are arguably of syntactic nature, e.g. definiteness effects or extraction from a DP. It also accounts for the morphological realization of D; see the discussion below.

the distribution of the relative complementizer *co*. The last subsection explains the semantic restrictions illustrated in section 2.2.

3.2.1 The morphology of the foot

The morphological properties of the four types of relatives follow from [i] the definiteness property of D; [ii] the value of the [*wh*EPP] feature:

(14a) [–def] [–*wh*EPP] is the representation of the foot in CO-GAP relatives;
(14b) [–def] [+*wh*EPP] is the representation of the foot in ADJ-GAP relatives;
(14c) [+def] [–*wh*EPP] is the representation of the foot in PRON-GAP relatives;
(14d) [+def] [+*wh*EPP] is the representation of the foot in ADJ-GAP relatives.

Note that the first three cases (14a–c) are unproblematic. The distribution of the adjectival *wh*-word *který* as well as the presence/absence of a personal pronoun neatly correspond to the proposed syntactic structure.[15] The only problem arises in (14d), about which I claim that it is an underlying representation of ADJ-GAP relatives. Since (14b) is claimed to represent ADJ-GAP relatives as well, we predict a semantic ambiguity, corresponding to the [±def] distinction. In section 3.2.4, we will see that this prediction is actually correct. At this point it has to be explained why there is no personal pronoun in (14d) as a result of the [+def] feature, i.e. why there is nothing like *který on* 'which he'. I provide here what I believe to be a fairly plausible explanation:
There is a general rule in Czech (but probably in more languages) prohibiting the modification of a pronoun by an adjectival:

(15) a. *Zmatený on k nám přišel na návštěvu
confused he to us came for visit
lit. 'Confused he came to our place for a visit'
b. *Potkali jsme kamarádského jeho
met AUX-PAST-1PL friendly him
lit. 'We met friendly him'

It may be argued that this is a grammatical constraint and therefore such a structure is entirely impossible to derive. However, there is also some evidence showing that this cannot be the case. Consider the following examples:

(16) a. On k nám přišel na návštěvu zmatený
he to us came for visit confused
'He came to visit us confused'
b. Potkali jsme ho kamarádského
met AUX-PAST-1PL him friendly
'We met him {friendly}/{while he was being friendly}'

On the assumption that the relation between the pronoun and adjective in (16) is set up through some kind of local relation (presumably by merge), the data suggest that the constraint on the configuration [Adj Pronoun] is rather of a postsyntactic nature. Therefore, presupposing some kind of morphological filter, the functional domain in (14d) is spelled out

[15] I leave a detailed morphological analysis aside mainly for reasons of space. In the case of PRON-GAP relatives it has to be explained why the relative pronoun has the *-ž* suffix and perhaps also why it is obligatorily realized by a strong pronoun (and not e.g. by a clitic). I provide some tentative explanations in Šimík (2006: section 3.4.3).

only as *který* and not as *který on/jenž*. Note once more that this leads to the homophony of (14b) and (14d), but the underlying (semantic) ambiguity is preserved (see 3.2.4).

3.2.2 Resumptive pronouns

Resumptive pronouns do not fit the proposed pattern at first sight. So far, it only follows that they are realizations of a [+def] D because they are personal pronouns (clitics). In Šimík (2006) I proposed that resumptives correspond to a deficient foot of the relative dependency (see (13)); in particular, they miss the Rel projection. This explains the lack of island restrictions since Rel is the locus of the operator feature, which causes the movement to SpecCP. However, Salzmann (2006) shows that there is reconstruction for anaphor/variable binding in Standard German and Swiss German even with resumptive pronouns.[16] Reconstruction effects have always been explained in terms of movement and Salzmann sticks to this explanation, too. I cannot provide definitive answers to these issues here. However, I would like to suggest the following tentative proposal.
Suppose that there is some degree of optionality as to the placement of the Rel head within the extended NP projection. This allows us to get the following hierarchy: D > Rel > NP. Note that the D head is excluded from the RelP. If movement takes place then D must stay in-situ (supposing there is no pied-piping). This is in fact similar to Boeckx (2003), who analyzes resumption as D-stranding.

3.2.3 The relative complementizer *co*

The distribution of the relative complementizer *co* does not seem to follow from anything that I have explicitly proposed so far. Note that it appears in two RC-types: CO-GAP and CO-RES. With respect to the features discussed in this section, there is no means of delimiting the CO relatives in opposition to all the other types, which suggests that the distribution of the complementizer is governed by independent factors. The simplest pre-theoretical explanation is that *co* appears when there is no overt operator in the CP domain. In this sense it can be analyzed in terms of the elsewhere principle: when there is nothing to realize the feature [op] in the CP domain, then *co* is inserted as a default case. Since *co* is arguably the most underspecified *wh*-word in Czech (as a question word it does not express any φ-features and it can only stand for inanimate DPs in structural case) this assumption is fairly plausible.

3.2.4 The specificity effects explained

In section 2.2 we saw that not only resumptive pronouns but one type of relative pronouns forces a specific reading on the head of the RC. I repeat the relevant example for convenience:

(17)	a.	Vojna a mír	je	ta	nejlepší	kniha,	kterou	kdy	četl	[ADJ-GAP]
	b.	*Vojna a mír	je	ta	nejlepší	kniha,	již	kdy	četl	[PRON-GAP]
	c.	Vojna a mír	je	ta	nejlepší	kniha,	co	kdy	četl	[CO-GAP]
	d.	*Vojna a mír	je	ta	nejlepší	kniha,	co ji	kdy	četl	[CO-RES]
		War and peace	is	the	best	book	COMP it	ever	read	
		'War and Peace is the best book I've ever read'								

The contrast in (17) is explained on exactly the same grounds as the morphological properties discussed above—a definite D is morphologically realized as a personal pronoun—a

[16] Reconstruction for anaphor/variable binding is unfortunately not easy to test in Czech, arguably for independent reasons.

resumptive clitic in (17d) or a relative pronoun in (17b)—and at the same time yields the specific interpretation. The correlations between morphological and semantic properties are thus explained in the most favorable way: they are derived from the common syntactic structure in a straightforward and non-stipulative way.
In section 3.2.1 we saw that the system predicts two readings of the ADJ-GAP relative. The following example bears out this prediction:

(18) a. Ta nejlepší Kunderova kniha, kterou včera koupila, už je vyprodaná
b. Ta nejlepší Kunderova kniha, co včera koupila, už je vyprodaná
c. Ta nejlepší Kunderova kniha, co ji včera koupila, už je vyprodaná
the best Kundera's book COMP it yesterday buy already is sold out
'The best book of Kundera that she bought yesterday is already sold out'

The superlative in (18) is potentially ambiguous with respect to its comparison-class: [i] if the comparison-class is expressed by the possessive *Kunderova* 'Kundera's', then (18) means that the best book of Kundera, which she bought yesterday, is already sold out; [ii] if the comparison-class is expressed by the relative clause, the meaning is as follows: she bought several Kundera's book yesterday and the best one of them is already sold out. Importantly, (18c), which contains a resumptive pronoun, is licit only in the [i] reading—as we saw in (17), the CO-RES type does not license the RC comparison-class reading. On the other hand, for the CO-GAP relative in (18b) the [ii] reading is strongly preferred. Crucially, (18a) is ambiguous between both readings, corresponding to the syntactic ambiguity suggested in section 3.2.1: when *kterou* 'which' realizes [+def] D then the comparison-class reading is barred, as in (18c); when it realizes [–def] D then the comparison-class reading is licit, as in (18b).

4 A redefinition in terms of definiteness effects?

In this section I would like to suggest that the observed specificity/scopal effects are reducible to a kind of definiteness effects.
Salzmann (2006) suggest that specificity (in relative clauses) is a property imposed on chains. In Bianchi (2004) definiteness/specificity properties seem to be coded twice—once in the operator D selecting the NP-head and for the second time through the landing site in the complex CP layer (definites are higher than indefinites). I claim that the effects are reducible to the feature composition of D and the appropriate semantic interpretation of this D.
In the first section I introduced the distinction specific vs. non-specific in the terms of scope. Then we saw (ex. (6)) that there are non-specifics which do not require a scopal relation. Both the "scopal" and "non-scopal" non-specifics seem to behave the same from the point of view of relative clauses. Some authors, e.g. Carlson (1977) and Lee (2001), claim that there are some restrictions on *wh*-relatives in English which are analogous to those observed above for Czech. Namely, *wh*-relatives do not allow for narrow scope. My suggestion for the reanalysis of scope into the definiteness/specificity features in D implies that *wh*-relatives should be exempt from relativizing positions that are sensitive to definiteness effects or positions that require non-specific reading (irrespective of scope). The following examples bear out these expectations:

(19) a. *The cards which there were on the table have been lost
b. *The best movie which I have ever seen
c. *Is Peter really such an idiot who they take him for?

The example (19a) shows that *wh*-relatives cannot be used for relativizing the subject of existential constructions. (19b) shows that *wh*-relatives cannot have a comparison-class reading. Finally, (19c) shows that *wh*-relatives are not licit in the relativization of predicates. The ungrammaticality of the examples in (19) can hardly be related to some construction-specific properties of relative clauses, as seems to follow from Bianchi (2004), who suggests that the restrictions are derived via a movement to a layer of CP, because similar effects are observed with simple declarative clauses as well:

(20) a. *There are the cards on the table
b. *They take Peter for the idiot (with the meaning 'They take Peter for an idiot')

In fact, there is some evidence in the literature that superlative DPs are indefinite. At least they behave as indefinite with respect to three standard definiteness tests (examples from Sharvit and Stateva (2002:490)):

(21) Wh-*movement possible only from indefinite DPs*
a. Who did you take a picture of *t*?
b. *Who did you take the picture of *t*?
c. Who did you take the best picture of *t*?

(22) *Insensitivity to the definiteness effects in there-constructions*
a. There was a tall student in this class
b. *There was the tall student in this class
c. There was the tallest student in this class LAST YEAR[17]

(23) *Only indefinites support a relational* have*-reading*
a. John has a tall sister
b. *John has the tall sister
c. John has the tallest sister

The examples above show once again that the effects observed in relative clauses (in (19b) in particular) are derivative from more general properties and not some RC specific ones. In my terms, *wh*-relatives contain a D with [+def] feature. I believe this accounts for both the data within and without the domain of relative clauses.

5 Conclusion

In this article I argued that the foot of the relative dependency, whether analyzed in terms of raising or matching, must be represented as a full DP in syntax. Furthermore, this DP displays standard definiteness/specificity properties. This is arguably the null hypothesis of both the raising and the matching analysis. The Czech data, presented in section 2, provide morphological and syntactic evidence for this claim—there are specificity effects irrespective of the presence of a resumptive pronoun but dependent on the presence of a personal pronoun (whether resumptive or relative). Analyzing the foot of relative dependency as a RelP, headed by an operator head Rel, has two positive outcomes: the "normality" of the foot DP is left intact and the Czech adjectival relative pronoun is analyzed in a most natural way—as an AP in the specifier of a corresponding functional projection (Rel in this case). Section 4 proposes

[17] The capitalized constituent makes the required comparative reading of the superlative more readily available; see the references above.

a reduction of the specificity (scopal) effects, introduced in section 1, to standard definiteness effects which are dependent only on the feature composition of D and not scope or movement. This proposal is supported by the fact that the specificity/definiteness effects in relative clauses are not unique to RC constructions but can be observed also in non-relative clauses and thus are derivative from some more general properties.

REFERENCES

Bhatt, Rajesh. 2002. "The raising analysis of relative clauses: Evidence from adjectival modification." *Natural Language Semantics* 10. 43–90.

Bianchi, Valentina. 1999. *Consequences of antisymmetry: Headed relative clauses.* New York: Mouton de Gruyter.

Bianchi, Valentina. 2004. "Resumptive relatives and LF chains." In Rizzi, L. (ed.). *The structure of CP and IP: The cartography of syntactic structures, Volume 2*. 76–114. Oxford: Oxford University Press.

Boeckx, Cedric. 2003. *Islands and chains: Resumption as stranding.* Philadelphia, PA: John Benjamins Publishing Company.

Carlson, Greg N. 1977. "Amount Relatives." *Language* 53. 520–542.

Čech, Radek and Radek Šimík. 2006. "Distribuce plných a prázdných akuzativních resumptiv: korpusová analýza." Awadová, Linda et al. (eds.). *Sborník ze setkání bohemistů Cikháj 2005.* 19–24. Brno.

Citko, Barbara. 2004. "On headed, headless, and light-headed relatives." *Natural Language & Linguistic Theory* 22. 95–126.

Doron, Edit. 1982. "On the syntax and semantics of resumptive pronouns." *Texas Linguistic Forum* 19. 1–48.

Halle, Morris and Alec Marantz. 1994. "Some key features of distributed morphology." *MIT Working Papers in Linguistics* 21. 275–288.

Heim, Irene. 1987. "Where does the definiteness restriction apply? Evidence from the definiteness of variables." In Reuland, E. and A. T. Meulen (eds.). *The representation of (in)definiteness*. 21–42. Cambridge, MA: The MIT Press.

Kayne, Richard S. 1994. *The antisymmetry of syntax.* Cambridge, MA: The MIT Press.

Lee, Felicia. 2001. "Relative clauses without wh-movement." *North-eastern linguisitc society* 31. 321–332.

Progovac, Liljana. 1998. "Determiner phrase in a language without determiners." *Journal of Linguistics* 34. 165–179.

Salzmann, Martin. 2006. *Resumptive prolepsis: A study in indirect A′-dependencies.* Utrecht: LOT.

Sauerland, Uli. 2003. "Unpronounced heads in relative clauses." *The interfaces: Deriving and interpreting omitted structures*. 205–226. Amsterdam/Philadelphia: John Benjamins.

Sharvit, Yael. 1999. "Resumptive pronouns in relative clauses." *Natural Language & Linguistic Theory* 17. 587–612.

Sharvit, Yael and Penka Stateva. 2002. "Superlative expressions, context, and focus." *Linguistics and Philosophy* 25. 453–504.

Šimík, Radek. 2006. *The morphosyntax of the foot of the relative dependency.* MA Thesis, Palacky University Olomouc.

Stjepanovic, Sandra. 1998. "Extraction of adjuncts out of NPs." Paper presented at the *Comparative Slavic Morphosyntax Workshop*, Indiana University.

Vergnaud, J. R. 1974. *French relative clauses.* Cambridge, MA: The MIT Press.

Veselovská, Ludmila. 1995. *Phrasal movement and X^0 morphology: Word order parallels in Czech and English nominal and verbal projections.* PhD Dissertation, Palacky University Olomouc.

Vries, Mark de. 2002. *The syntax of relativization.* Utrecht: LOT.

Zlatic, Larisa. 1997. *The structure of the Serbian noun phrase.* PhD Dissertation, University of Texas, Austin.

Zwart, Jan Wouter. 2000. "A head raising analysis of restrictive relative clauses in Dutch." In Alexiadou, A., P. Law, A. Meinunger, and C. Wilder (eds.). *The syntax of relative clauses*. 349–385. Amsterdam: John Benjamins Publishing Company.