LEVELS OF COMPLEXITY IN RELATIVE CLAUSES

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This paper is concerned with the description of the diversity of complex relative clauses. I take for granted the analysis proposed in the Principles and Parameters framework of generative syntax. This tool helps me explain some of the phenomena found in this type of relative clause, the most interesting of which is that although the relative pronoun belongs in a nonfinite clause, the relative clause exhibits all the syntactic features of finite relative clauses. We can therefore find grammatical clauses with deletion of the subject relative pronoun, explicit relative pronouns as arguments of nonfinite verbs, and relativisation of complements of -*ing* verbs.

Relative clauses appear as postmodifiers of a head noun. This means they have an adjective-like function with respect to the noun. They expand the noun phrase by means of right branching embedding or, more precisely, by right-adjunction to N', so that they have the same structural status as adjectives, except in that they follow, instead of precede, their determinatum. The relative clause contains a pronoun or adverb which refers back to its antecedent, the head noun, and with which it shares gender features ((non)personal). The relative pronoun may perform any function in the relative clause, or any function of some embedded constituent within the relative clause (where some principled restrictions hold). It is well known and widely accepted that the formation of relative clauses involves a process of *Wh*-movement, by which the relative pronoun or adverb is extracted from an argument position (deep structure position where it receives a theta (or semantic) role, such as agent, affected, locative, etc.) and is adjoined to the Spec of the clause's CP constituent, a nonargumental position (i.e. lacking a theta role). Therefore the relative pronoun performs in fact two functions: to serve as a pronoun proper, avoiding repetition of the head, and also as the linking word between the head and the relative clause.

In the following example, coindexation of the head, the relative pronoun and its trace is responsible for the interpretation whereby the object of the verb *forget* and *show* have the same reference. The analysis corresponds to the S-structure (structure after movement has occurred) of the sentence *I will never forget the landscape which she showed me that day*:

I   will   never   forget   the   landscape$_i$ which$_i$ (that)   she   -ed   show   t$_i$ me   that   day
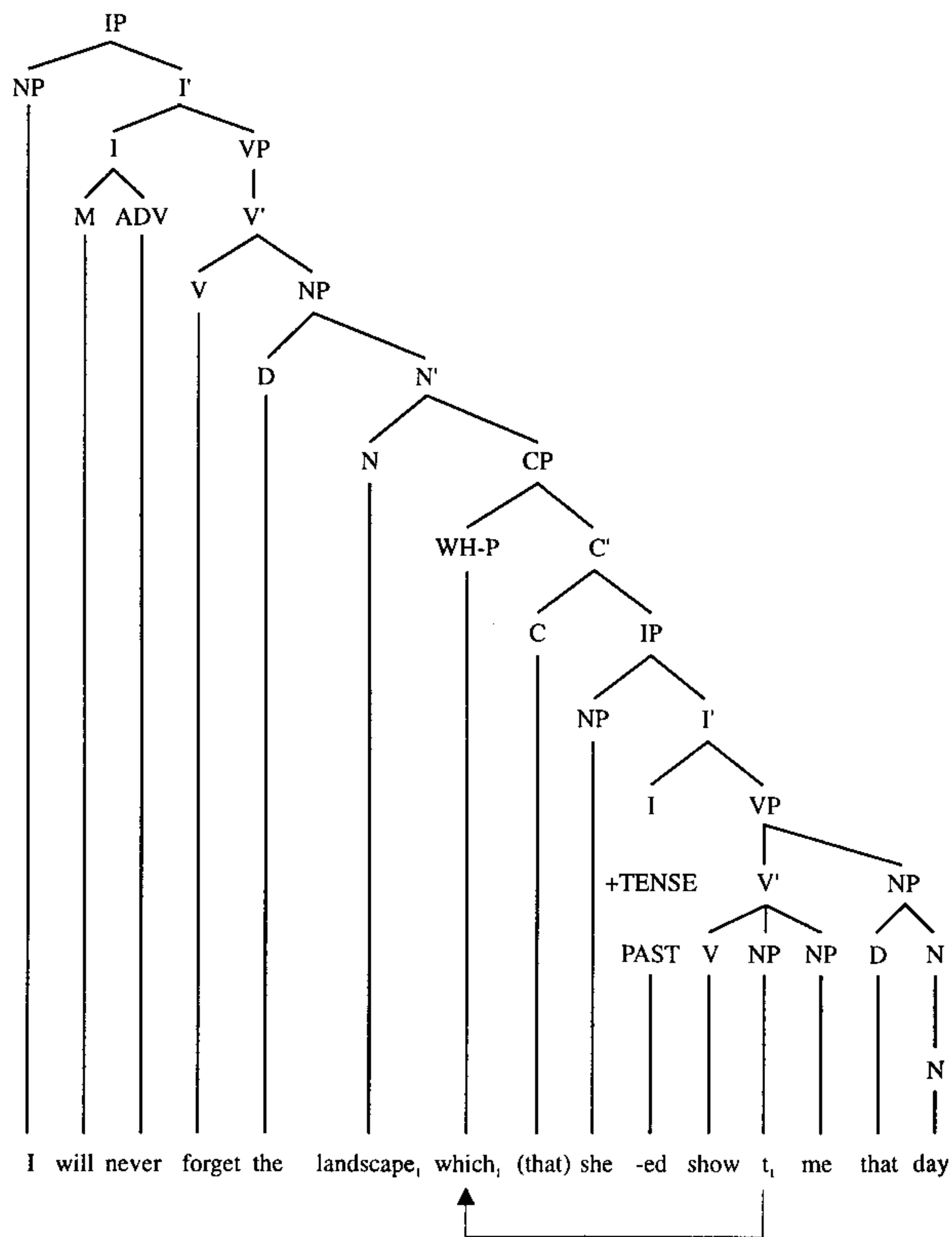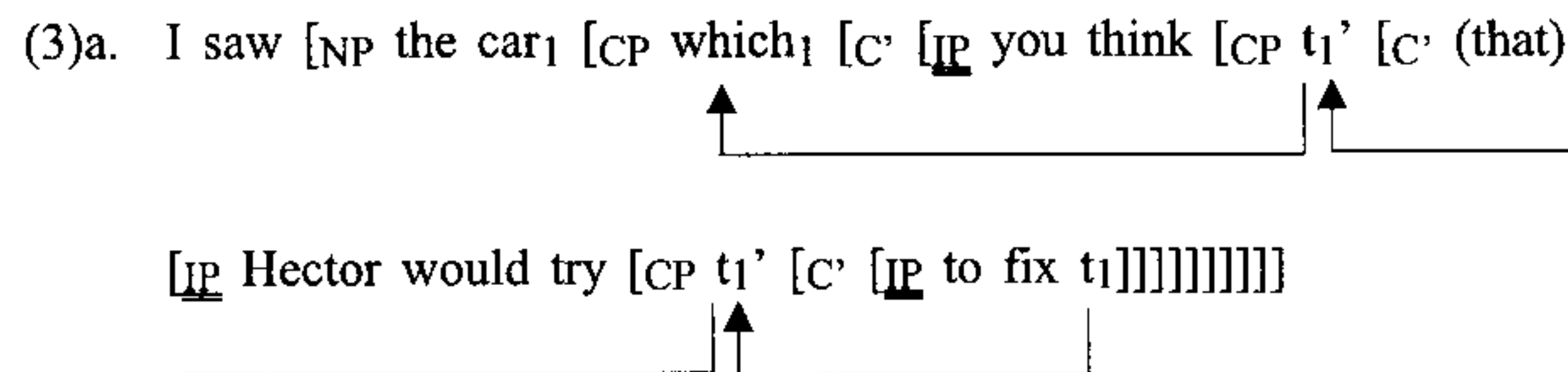
The arrow represents the effect of the movement transformation, whose effect can also be perceived by the coindexation of the relative pronoun (positioned in a nonargumental position) and its trace, which appears in the argumental deep structure location where it receives a theta role from the verb *show*. Notice also that the word *that* is considered an optional complementizer (originating under C) and not a relative pronoun.

The core case of relativisation is that in which the relative clause is simple, in the sense that the relative pronoun functions as one of its arguments, as is the case of the example whose analysis I presented *supra*. But the relative word is liable not to be an argument of the relative clause but an argument of a clause that is embedded inside the relative clause, so that extraction, in many instances, moves the *Wh*-word across a considerable number of phrases, depending on the level of complexity of the relative clause itself. The only restriction is imposed by the condition on movement referred to as "Subjacency",[1] which can be formulated in the following way:

(2)   **Subjacency**
Movement can be across at most one bounding node in a single step, where bounding nodes for English are IP and NP.

Consider the following example in which the noun *car* is postmodified by a complex relative clause:

(3)a.   I saw [NP the car$_1$ [CP which$_1$ [C' [IP you think [CP t$_1$' [C' (that)

[IP Hector would try [CP t$_1$' [C' [IP to fix t$_1$]]]]]]]]]]]

The doubly underlined IPs are crossed by the pronoun in order to land in the Spec position adjacent to the head noun *car*. The sentence is grammatical because the Subjacency Condition has not been violated. The movement has not taken place in one single step but in various steps, using the Spec position of CP as an "escape hatch" (note the intermediate traces t$_1$'). This derivation of "long" *Wh*-movement in several steps is said to be "cyclic". In the following examples cyclic movement is not possible, and subsequently the Subjacency Condition is violated. The sentences are rendered ungrammatical:[2]

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[1] This constraint on movement proposed by Chomsky (1977) is a partial unification of several earlier constraints, including those by Ross's (1967).

[2] The ungrammaticality of these two examples can be attributed to Ross's (1967) *Wh*-island and Complex NP island Conditions respectively.

(4) a. *I saw [NP the car [CP which₁ [C' [IP you wonder [CP when₂ [C'

[IP Hector will try [CP t₁' [C' [IP to fix t₁ t₂]]]]]]]]]]

b. *I saw [NP the car [CP which₁ [C' [IP you heard [NP the rumour

[CP t₁' [C' that [IP Hector would try[CP t₁'[C' [IP to fix t₁]]]]]]]]]]]

In example (4a) the Spec of the intermediate CP cannot be an escape hatch because it is occupied by the adverb *when*, and in (4b) there is no intermediate CP, but a noun phrase. Cf. the grammatical *you wonder when Hector will try to fix the car*, and *you heard the rumour that Hector would try to fix the car*. But there is a gradience in the degree of (un)grammaticality that violation of the Subjacency Condition produces, with the result that extraction from NPs that function as subjects renders worse sentences than extraction from complements of verbs (Cf. *the painter whom rumours about t surprise you has been awarded today with a national prize*).[3]

In the rest of this paper I illustrate the diversity of the complexity of relative clauses, taking into consideration the main verbs in the relative clauses, and the level of embedding of the phrases out of which the relative pronouns are extracted. The first examples correspond to sentences in which the main verb of the relative clause is a verb of intellectual state:

(5)a. *... hills Celia can still not quite believe she is sitting in the midst of.* (Leavitt, *A Place* 121)

b. *The only scenery that bores me is any that I can't imagine purchasing a part of.* (Capote 355)

c. *Digging in Turkey in the early 1870s, German archaeologist Heinrich Schliemann uncovered gold jewelry he believed was the treasure of Priam, ancient King of Troy.* (*Time* Dec. 19, 1994: 64)

d. *... all crude efforts to cut the fear firing through his blood, exploding like the tiny viral time bombs he believed were lying in wait, expertly*

e. *"Something they're not even sure happened, something they can hardly believe is real when people tell them about it."* (Leavitt, *The Lost Language* 53)

f. *"Owen's bringing home someone from work, a teacher he says needs a good home-cooked meal."* (Leavitt, *The Lost Language* 273)

Note in example (5b) that the relative pronoun crosses two bounding nodes: the NP barrier whose head is *part*, and the specifier of the clause beginning *purchasing* ... The sentence is grammatical and it demonstrates that Subjacency is a drescriptive device rather than an explanatory principle of Universal Grammar. In examples (5c-f) the relative pronoun functioning as subject has been deleted: *jewelry₁ which₁ he believed t₁ was the treasure of Priam* (cf. with simple relative clauses *he uncovered jewelry which₁ t₁ was the treasure of Priam/*he uncovered jewelry was the treasure of Priam*); *time bombs₁ which₁ he believed t₁ were lying in wait*; *something₁ which₁ they're not even sure t₁ happened*; *something₁ which₁ they can hardly believe t₁ is real*; *a teacher₁ who₁ he says t₁ needs a good home-cooked meal*. One possible explanation for the deletion may be that information about the function of the relative pronoun which moves from an embedded phrase becomes blurred, because of the large distance between the original argumental subject position and the final introductory location, so that the relative pronoun is no longer felt to be a subject. But this reasoning has the presupposition that there is a rule in English grammar that rules out sentences with deleted subject relative pronouns. There is more to it than that though, if we take into consideration that examples (5c-f) are perfectly grammatical. The impossibility of using the zero pronouns in relative clauses in general is due to the possible interpretation of the verb of the relative clause as the main verb:

(6)   *The woman Ø has come is my lawyer.

But if there is an intervening clause between the subject and predicate of the relative clause the problem disappears because the word that follows the main subject is not a verb:

(7)   *The woman you say has come is my lawyer.*

As a consequence we reach the conclusion that there is not such a rule in English that establishes that relative pronouns with subject function cannot be deleted, but rather a relative pronoun which is subject of a simple relative clause i.d.e there is nothing intrinsic in the subject function of the relative pronoun that bars deletion, and ungrammaticality is the result of a perception problem,

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[3] Extraction from the subject position violates not only Subjacency but another more precise constraint: the Empty Category Principle. Basically, this condition on traces establishes that they must by governed either by a lexical governor or otherwise by an antecedent (cf. Chomsky, 1986 b: 17).

that of interpreting the embedded verb of the relative clause as the main verb because, after deletion, it appears adjacent to the matrix subject. This also explains that deletion of a subject relative pronoun whose antecedent is not a subject renders sentences more acceptable than is (6):[4]

(8) a. *There's nothing goes with my diet.* (Capote 382)
    b. *Think of the work went into that.* (Capote 432)
    c. *He's one of those actors loves to cry.* (Capote 537)

On the other hand, we should also consider, having in mind that the examples found contain the verb *believe*, that the deletion may be caused by an "interference" from the exceptional clause construction that this verb permits. In the exceptional clause the subject exhibits many syntactic features typical of the direct object. These features, one of the most remarkable of which is the accusative morphology, are a consequence of the verb *believe* being able to govern into the clause, as in *I believe him to be a liar*. In the context we are considering, the relative pronoun would be felt as an exceptional accusative subject of an exceptional clause, which is therefore deletable. Cf. also in connection with this phenomenon, the use of the accusative pronoun *whom* instead of the subject pronoun *who* in the nominative case, which Bennet (1994: 36), with whom I do not totally agree, explains as cases of "hypercorrection":

(9) *A girl who was almost transparent in her appearance, whom you would imagine would be allergic to everything.* (Leavitt, *The Lost Language* 250)

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[4] Other types of interesting deletions can be found in relative clauses. In the following examples the preposition *at* has been omitted, though deletion of lexical items is not generally allowed because of the impossibility of recovering their meaning:

(i) "I have never been in a place I couldn't read a newspaper," (Capote 428)

(ii) The Wheat Lands Motel, a place I had often stayed during the years I worked on *In Cold Blood*. (Capote 623)

And cf. also in connection with this phenomena, the obligatory deletion of prepositions in some free relative clauses in Spanish (de la Cruz, personal communication). Deletion takes place in the following context: the main verb subcategorizes a preposition (*romper con* 'brake up with' in our example *infra*) and the relative pronoun is the object of a preposition subcategorized by the verb of the relative clause, which happens to be the same preposition (*casarse con* 'marry'); Spanish lacks preposition stranding and, as a consequence, only one of the prepositions surfaces:

(iii) Rompió con [[(*con) quien]ᵢ iba a casarse tᵢ]

'He broke up with whom he was going to marry.'

Lack of the preposition stranding strategy has a worse consequence when the prepositions do not coincide. Deletion of neither of the prepositions is possible, their content not being recoverable, and the sentence is rendered ungrammatical:

(iv) *Rompió con [[sobre quien]ᵢ iba a escribir un poema tᵢ]]

'He broke up with about whom he was going to write a poem.'

In this sentence, information about the subject function (and therefore nominative case) of the relative pronoun has been lost because of the intervening clause *you would imagine*.

The following are additional examples with intellectual verbs:

(10) a. *Hedgewar wanted to instill a sense of militant nationalism in Hindus whom he considered to be weak and passive.* (*Time* May 15, 1991: 20)
     b. *I had two or three co-workers who I suspected ate here regularly.* (Leavitt, *A Place* 88)
     c. *Mrs Parsons received me in her bedroom, a room I gather she seldom leaves.* (Capote 470)
     d. *He had relatives there who he hoped would give him money to spend at least a few weeks in Germany.* (Leavitt, *A Place* 74)

In example (10a) the accusative form of the pronoun (*whom*) is explained because it is the subject of an exceptional clause and is assigned accusative case by the verb *consider* in the same line as the nonrelative exceptional clause *he considered them to be weak and passive*.

Semantically closely related to intellectual verbs, we find expressions of the type [subject] *be sure (that)..., be convinced that...*, across which the relative pronoun moves to occupy the introductory position:

(11) a. *Mr Walmsley ... began by ... congratulating the company in advance on the "great success" he was sure they would have behind the iron curtain.* (Capote 367)
     b. *I was angry at him, in advance, for what I was sure he was going to do in the car.* (Leavitt, *A Place* 14)
     c. *... in order to help avoid the detectives she was convinced the ex-husband had set on her trail.* (Leavitt, *The Lost Language* 214)

It should be pointed out that the expression *be sure (that)* ... must be distinguished from the raising expression *be sure to ...*, in which the subject of the verb *be* is the raised subject of the infinitival clause, as in *the car was sure tl to break down*. The epistemic content of *be sure to* in this example is related to the speaker of the sentence as an indication of the illocutionary force of the utterance, and the subject is clearly not a possible "experiencer" of the predicate, because of the semantic incompatibility between an inferential expression and a nonhuman subject (a car cannot be sure of anything).

The main verb of the relative clause can also be a verb of saying:

(12) a. *The Israeli government granted the academics the $1 million they said they needed to finish their work.* (*Time*, Dec. 19, 1994: 63)

b. *Nathan had once again confirmed he could never love me the way he assured me he would someday love.* (Leavitt, *A Place* 3)

c. *There were many people he had said he could spend his life with.* (Leavitt, *A Place* 110)

d. *The other Randolph ... was the man I met in the café, a plump blond fellow who was said to be dying of leukemia.* (Capote 620)

e. *Philip held the book in his hands now ... like one of those rare and ancient Bibles the mere touch of which is said to hold curative powers.* (Leavitt, *The Lost Language* 112)

f. *... one [feeling] that had nothing to do with the ... love he claimed he could no longer abide.* (Leavitt, *The Lost Language* 166)

Raising verbs are also common as matrix verbs of relative clauses:

(13) a. *... and all he seemed to want to think about was his own boredom, his own unhappiness.* (Leavitt, *A Place* 14)

b. *... and [she] pointed to a snapshot of a cedar-shingled house which I happened to know stood no five hundred feet from the office.* (Leavitt, *A Place* 82)

c. *He had another meeting with Cocteau, a farewell encounter which the writer of these notes happened to observe.* (Capote 555)

d. *There wasn't much of a distance to travel between the Westport of his childhood and the dark places he seemed to end up in.* (Leavitt, *A Place* 73)

e. *The Cavallaros ... ended up buying a contemporary in the woods for a hundred and seventy-five, the superb kitchen of which turned out to be more persuasive than Grace-Anne's dream.* (Leavitt, *A Place* 103)

f. *... she had acknowledged their meeting, that strange, numb moment on the street which had seemed to take place on the threshold of another life.* (Leavitt, *The Lost Language* 47-48)

In these examples of raising, with the exception of (13e) and (13f), the raised argument is different from the relative pronoun, but examples (13e) and (13f) ((13e) also shows a case of pied-piping in which the relative pronoun is moved together with the complex phrase in which it is embedded (cf. *...buying a contemporary, ... whose superb kitchen turned out to be more persuasive ...*)) illustrate cases of raising of the relative pronouns themselves, i.e. the relative pronouns function as subjects of the infinitives *to be* and *to take place* respectively.

From the point of view of the type of clause from which the relative word is extracted, the verb can be finite and nonfinite. The majority of examples given *supra* has been of extraction from a finite clause complement of the

matrix verb of the relative clause. The following are some examples in which the relative pronoun is extracted out of an infinitival clause complement of a number of different verbs (*forbid, spend, insist,* etc.):

(14) a. *At last the priest and his followers went into a temple which it was forbidden us to enter.* (Capote 333)

b. *He had carved from the wood of a fig tree a round shield, which he wished to have decorated by a painter from Florence.* (Bramly 97)

c. *If Brooks included everything you would like to have shown, every nuance you're grieving over, it would last nine hours!* (Capote 627)

The infinitival clause can be an adjunct instead of a complement in the verb phrase, for example, a purpose clause:

(15) a. *Morgan had dim memories of an old grandfather, the maternal, in New York, whom he had been taken across the ocean to see, at the age of five.* (James 115)

b. *Owen and Rose are sitting across the living room from one another in the twin corduroy La-Z-Rockers they had once rented a car and drove all the way to Jersey to buy.* (Leavitt, *The Lost Language* 5)

Extraction is also frequent from a nonfinite -*ing* clause:

(16) a. *... and during 1942 I spent many afternoons there researching a book I intended writing but never did.* (Capote 702)

b. *There was a host of other people he had spent most of his time in college avoiding.* (Leavitt, *The Lost Language* 36)

c. *In a split second, the husband ... was dead ... on a day trip they had debated not making.* (Leavitt, *The Lost Language* 44)

d. *They drank coffee for which Philip insisted on paying* (Leavitt, *The.Lost Language* 188)

e. *All the records from his childhood that he was too embarrassed to admit owning were there.* (Leavitt, *The Lost Language* 278)

Notice in the examples with nonfinite verbs the interesting effect that embedding produces: the relative pronouns belong in the nonfinite clauses, but the syntactic features that the relative clauses display are those which they would exhibit if the relative pronouns were arguments of finite verbs: the use of an explicit relative pronoun, which would not be used had the main verb of the clause been nonfinite: *temple which it was forbidden us to enter* but *temple (*which) to enter*; and also consider the possibility of relativisation of a complement of an -*ing* verb, which is impossible when it is not embedded: *coffee which Philip insisted on paying*, but **coffee (which) us paying.*

The relative pronoun can be an argument of a small clause. The relative pronouns function as subjects of these constituents, which appear as complements of intellectual verbs:

(17)   a.   *With it came the desire of a sort he had never imagined possible.* (Leavitt, *The Lost Language* 48)

       b.   *A few years earlier she would have ... bought only what her mother would have thought hideous.* (Leavitt, *The Lost Language* 140)

In examples (18a) and (18b), *Wh*-movement extracts the relative pronouns out of prepositional phrases contained in nonclausal phrases (those headed by *more* and *capable*), and produces preposition stranding. Examples (5a) and (5b), repeated here for convenience as (18c) and (18d) also illustrate the same type of embedding:

(18)   a.   *And so we ended up, ... eating cold noodles with sesame sauce, which, when we had finished them, Nathan ordered more of.* (Leavitt, *A Place* 9)

       b.   *A quiet man, he ate Rose's cakes with a ferocity most people would not have thought him capable of.* (Leavitt, *The Lost Language* 5)

       c.   *... hills Celia can still not quite believe she is sitting in the midst of.* (Leavitt, *A Place* 121)

       d.   *The only scenery that bores me is any that I can't imagine purchasing a part of.* (Capote 355)

The following is a case of complexity in the relative clause due to embedding of another relative clause inside the first one:

(19)   *She looked exhilarated, like a girl dropped off from a date during which a boy she could not care less about has told her that he loves her.* (Leavitt, *A Place* 23)

But crossing of more than one clause can be due to embedding of one nonfinite clause inside another, as is illustrated by examples (13a) and (13b), (repeated here for convenience as (20a) and (20b)) in which the relative pronoun crosses three and two verbs respectively on its way to the front of the relative clause:

(20)   a.   *... and all he seemed to want to think about was his own boredom, his own unhappiness.* (Leavitt, *A Place* 14)

       b.   *... and [she] pointed to a snapshot of a cedar-shingled house which I happened to know stood no five hundred feet from the office.* (Leavitt, *A Place* 82)

And finally, I illustrate a side effect of complexity in relative clauses: the use of a pronoun in the position from which the relative pronoun is extracted, instead of a trace. This is called a "resumptive pronoun", and renders unacceptable sentences:

(21)   *?That move, which many suspect it was church inspired, will triple the price of the pills.* (*Time* May 15, 1991: 30)

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