Extraposition of restrictive relative clauses in the history of Portuguese

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5.1 Introduction

This chapter investigates a specific change that took place in the history of Portuguese involving the extraposition\(^1\) of restrictive relative clauses (RRCs). Although RRC-extraposition has been a neglected domain in the literature on Portuguese (in both the synchronic and the diachronic dimension), I will show that this phenomenon raises some challenging questions for linguistic theory in general and for the study of syntactic changes in particular.

From a theoretical point of view, there are a large number of competing analyses of extraposition in the literature. Generally speaking, the different analyses can be divided into three main groups: extraposition as right-hand adjunction (Culicover and Rochemont 1990); extraposition as VP-internal stranding (Kayne 1994); and extraposition as specifying coordination (Koster 2000; De Vries 2002). The different syntactic theories on extraposition are usually seen as competing analyses, each one trying to provide a unified account of extraposition across languages. In this chapter, I will explore the hypothesis that there is no unified account of extraposition to be offered across languages. Moreover, I will argue that, from a diachronic point of view, different syntactic analyses are necessary to explain the changes affecting RRC-extraposition at different stages of the same language. Focusing on empirical evidence from Portuguese, I will show that Contemporary European Portuguese (CEP) sharply contrasts with earlier stages of Portuguese with respect to the properties of RRC-

\(^1\) I will use the term extraposition in a pre-theoretical sense to refer to a relative clause (RC) that does not appear adjacent to the antecedent, being separated from it by material that belongs to the matrix clause, as sketched in (i):

(i) [ ... [antecedent] ... RC]  

The material that breaks the adjacency between the antecedent and the RC (henceforth, *intervening material*) will be underlined for expository purposes.
extraposition. To explain these contrasts, I will propose that extraposed RRCs in earlier stages of Portuguese differ in their structure and derivation from extraposed RRCs in CEP: the former are derived from specifying coordination (plus ellipsis) (De Vries 2002), whereas the latter are derived from stranding (Kayne 1994).

As far as the syntactic change is concerned, I will tentatively suggest that the change affecting extraposed RRCs is a by-product of another change that took place in the history of Portuguese: namely, the loss of IP-scrambling as reported by Martins (2002). Adopting Lightfoot’s (1991) insights on the relation between language change and language acquisition, I will hypothesize that, with the loss of IP-scrambling, an important trigger for the specifying coordination was lost and the learners converged on a new grammar, starting to generate extraposed RRCs with a stranding structure.

This chapter is organized as follows. Section 5.2 provides an overview of the various properties of RRC-extraposition: (i) in CEP (section 5.2.1); (ii) from a cross-linguistic perspective (section 5.2.2); and (iii) in earlier stages of Portuguese (section 5.2.3). Section 5.3 is devoted to the syntactic analysis of RRC-extraposition in CEP and in earlier stages of Portuguese. Section 5.4 shows how the change that took place in the history of Portuguese can be explained in terms of the non-unitary approach to extraposition proposed here. Finally, section 5.5 concludes the chapter.

5.2 Properties of RRC-extraposition

5.2.1 Properties of RRC-extraposition in CEP

In CEP, RRC-extraposition displays the following cluster of properties: (i) definiteness effect; (ii) restriction on extraposition from PPs; (iii) restriction on extraposition from pre-verbal positions.

5.2.1.1 Definiteness effect Extraposed RRCs can only take ‘indefinite’ noun phrases as antecedents. As illustrated in (i) and (2), RRC-extraposition is fine with indefinite antecedents but impossible with definite ones.  

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2 As for earlier stages of Portuguese, the data considered in this chapter are primarily drawn from the texts edited in Martins (2001), available on-line in the Digital Corpus of Medieval Portuguese (CIPM – Corpus Informatizado do Português Medieval), http://cipm.fcsh.unl.pt/. These data are combined with data drawn from other sources, namely (i) other texts available in CIPM; (ii) texts in the Tycho Brahe Parsed Corpus of Historical Portuguese (TYC), available in http://www.tycho.iel.unicamp.br/~tycho/corpus/en/index.html; (iii) other editions, namely Demanda do Santo Graal (ed. Piel and Nunes 1988), Livro de Linhagens (ed. Brocardo 2006), Gil Vicente: todas as obras (coord. Camões 1999), and Crónica de D. Fernando - Fernão Lopes (ed. Macchi 1975); and (iv) several data drawn from grammars and studies of the history of the Portuguese language.

3 Note that the non-extraposed order of these sentences is acceptable with a definite antecedent, as illustrated in (i):

(i) Chegou ontem o rapaz que te quer conhecer.
    arrived yesterday the boy that you:cl wants meet:INF
(1) Chegou um/*o rapaz ontem que te quer conhecer.  
arrived a *the boy yesterday that you: cl wants meet: inf 
‘A/the boy arrived yesterday that wants to meet you.’

(2) Encontrei um/ *o rapaz no cinema que perguntou por ti.  
mét1sg a *the boy at the cinema that asked for you 
‘Yesterday I met a/the boy at the cinema that asked for you.’

Moreover, the antecedent of an extraposed RRC (corresponding to the X position in (3)) can be, for example, um livro ‘a book’, três livros ‘three books’, alguns livros ‘some books’, muitos livros ‘many books’, or livros ‘books’, but not os livros ‘the books’, aqueles livros ‘those books’, or todos os livros ‘all the books’.

(3) Foi/foram publicado(s) X recentemente que vale a pena ler.  
was/were published X recently that is worth read: inf 
‘X that is/are worth reading was/were recently published.’

Notably, the noun phrases that can surface as the antecedent of an extraposed RRC can be grouped together under the class of weak noun phrases (as opposed to strong noun phrases) identified by Milsark (1974). Hence, the descriptive generalization that captures the relation between RRC-extraposition and the definiteness effect can be stated as in (4):

(4) The definiteness effect and RRC-extraposition

In CEP, RRC-extraposition can only take place from weak noun phrases.

5.2.1.2 Restriction on extraposition from PPs  Extraposed RRCs cannot take the object of a preposition as their antecedent, as illustrated in (5) and (6).

(5) *O João deu o livro a uma rapariga ontem que estava na festa.  
the J. gave the book to a girl yesterday that was at the party 
‘Yesterday João gave the book to a girl who was at the party.’

(6) *O João candidatou-se a uma câmara nesse ano que fica no distrito de Bragança.  
the J. ran.se: cl for a town.council in that year that is in the district of B. 
‘That year João ran for a position on a town council that is located in the district of Bragança.’
5.2.1.3 Restriction on extraposition from pre-verbal positions

A. Restriction on extraposition from pre-verbal subjects  Extraposed RRCs can take post-verbal subjects as their antecedent, as illustrated in (7a.) and (8a.) However, if the subject is construed pre-verbally, the sentence is out, as illustrated in (7b.) and (8b.).

(7) a. Ontem explodiu uma bomba em Israel que causou 5 mortos.
yesterday exploded a bomb in I. that caused 5 deaths
‘Yesterday a bomb that caused 5 deaths exploded in Israel.’
b. *Ontem uma bomba explodiu em Israel que causou 5 mortos.
yesterday a bomb exploded in I. that caused 5 deaths

(8) a. Telefonou um rapaz ontem que queria informações sobre a phoned a boy yesterday that wanted details about the tua casa.
your house
‘A boy phoned yesterday who wanted details about your house.’
b. *Um rapaz telefonou ontem que queria informações sobre a a boy phoned yesterday that wanted details about the tua casa
your house

B. Restriction on extraposition from other pre-verbal constituents  Extraposed RRCs can take as antecedent a preposed focus (see (9)), a wh-constituent (see (10)) and a preposed emphatic/evaluative phrase (in the sense of Raposo 1995 and Ambar 1999) (see (11)).

(9) Poucas pessoas conheço que fazem interpolação, mas todas elas produzem coisas deste tipo.
few people know:1sg that make interpolation but all they produce things of this type
‘I know few people who make interpolation, but all of them produce things like this.’

(10) Quantas pessoas apareceram que não foram convidadas?
how many people showed up that not were invited
‘How many people who were not invited showed up?’

(11) Muito whisky o João bebeu que estava fora do prazo!
a lot of whisky the J. drank that was out of the expiry date
‘João drank a lot of whisky that was expired!’
However, extraposition is incompatible with topicalization. See the contrasts in (12) and (13):

(12) a. Pessoas que não tinham bilhete, apareceram às centenas!
    people that not had ticket showed up by hundreds
    'People who did not have ticket showed up by the hundreds.'

b. *Pessoas, apareceram às centenas que não tinham bilhete!
    people showed up by hundreds that not had ticket

(13) a. Pessoas que praticam yoga, também conheço.
    people that practice yoga also know:1sg
    'I also know people who practice yoga.'

b. *Pessoas, também conheço que praticam yoga.
    people also know:1sg that practice yoga

5.2.2 Properties of RRC-extraposition from a cross-linguistic perspective

Interestingly, in a quick survey of the behavior of extraposition in different languages, we see that these restrictions do not universally apply. Some examples of languages that behave differently with respect to these restrictions are given below.

5.2.2.1 Definiteness effect Not all languages exhibit the definiteness effect found in CEP: extraposition from strong noun phrases is possible, for example, in English (see (14)), Dutch (see (15)) and German (see (16)).

(14) The woman came in yesterday that I told you about.  \(\text{\scriptsize \cite{givon2001:206}}\)

(15) Ik heb de man gezien die zijn tas verloor.
    I have the man seen who his bag lost
    'I have seen the man who lost his bag.'  \(\text{\scriptsize \cite{devries2002:65}}\)

(16) als sie endlich selbst über die Musik erzählen darf,
    when she finally herself about the music tell may
    die sie macht.
    that she makes
    '(….) when she finally is allowed to speak herself about the music that she makes.'
    \(\text{\scriptsize \cite{tubinger2007}}\)

5.2.2.2 Restriction on extraposition from PPs The restriction on extraposition from PPs does not apply equally to all languages. It is reported in the literature that extraposed RRCs can take the object of a preposition as the antecedent, for example, in English (see (17)) and Dutch (see (18)).
John is going to talk to someone tomorrow who he had a lot of faith in.

(Kayne 1994: 126)

Ik heb op een plek gelopen waar jij ook bent geweest.
I have on a spot walked where you also have been
'I have walked on a spot where you also have been.'

(De Vries 2002: 244)

5.2.2.3 Restriction on extraposition from pre-verbal positions

A. Restriction on extraposition from pre-verbal subjects Barbosa (2009) reports that the restriction against having extraposited-RRCs with pre-verbal subjects holds for CEP, Spanish, Catalan, and Italian but not for English (see (19)a) and French (see (19)b).

(19) a. A man arrived that wants to talk to you.
   b. Un homme est arrivé qui veut te parler.
   a man is arrived who wants to you:cl talk:inf

B. Restriction on extraposition from other pre-verbal constituents There is no contrast between CEP and other languages regarding RRC-extraposition from other pre-verbal constituents. Just like CEP, some Germanic languages allow for RRC-extraposition from a preposed focus (see (20)), a wh-constituent (see (21)) and an emphatic/evaluative phrase (see (22)). Moreover, they do not allow RRC-extraposition from topics (see (23)).

(20) Not even one painting did I see which would please Laura.
   (Smits 1988: 195)

(21) Who do you know that you can really trust?
   (Kiss 2003: 110)

(22) People lose their eyesight when they don’t take support of the STD’s and much more things can happen that are far worse than losing your eye sight.
   (http://genital-herpes-warts.com/genitalherpes/genitalherpes-6555.html)

(23) a. I like micro brews that are located around the Bay Area.
   b. Micro brews that are located around the Bay Area, I like.
   c. *Micro brews, I like that are located around the Bay Area.
   (Kiss 2003: 110)

4 De Vries (2002: 244) reports the possibility of extraposition from topics in Dutch. However, there is a possible terminological confusion here between the traditional notion of topicalization and the topic position in a cartographic sense (see Rizzi 1997). The claim that RRC-extraposition can take place from topics must not be understood as extraposition from an aboutness topic. Rather, it concerns the extraposition from a constituent in first position. In fact, such constituents appear to be always affected by focus in some way or another. Therefore, it may be better to speak of focalization rather than topicalization in these cases.
5.2.3 Properties of RRC-extraposition in earlier stages of Portuguese

Turning now to the history of Portuguese, we will see that CEP and earlier stages of Portuguese behave differently with respect to RRC-extraposition. The historical data from Portuguese that support this view are presented below.\(^5\)

5.2.3.1 Definiteness effect Unlike CEP, earlier periods of Portuguese allow for extraposed RRCs with strong noun phrases as antecedents,\(^6\) as illustrated in (24)–(25):

\[
\text{(24) mas aquelle dia sem falha aves que foram i todos}
\]
\[
\text{but that day without fail came that went there all}
\]
\[
\text{‘but the day everyone went there came without fail.’}
\]
\[
\text{(Piel and Nunes 1988; Demanda do Santo Graal; fifteenth century)}
\]

\[
\text{(25) As chagas erã muytas de que se uertia muyta sangue.}
\]
\[
\text{the sores were many of that se:cl shed a.lot.of blood}
\]
\[
\text{‘There were many sores from which a lot of blood was being shed.’}
\]
\[
\text{(Brocardo 2006; Livro de Linhagens do Conde D. Pedro; fourteenth century)}
\]

5.2.3.2 Restriction on extraposition from PPs Unlike CEP, earlier stages of Portuguese allow for extraposed RRCs with the object of a preposition as antecedent, as illustrated in (26)–(27):

\[
\text{(26) e logo lhj abríu de todo mão que sseu era}
\]
\[
\text{and immediatly to.him:cl opened of everything hand that his was}
\]
\[
\text{‘and immediately he gave him (= lit. opened hand of) everything that he had.’}
\]
\[
\text{(Martins 2001; Doc. Portugueses do Noroeste e da Região de Lisboa; year 1339)}
\]

\(^5\) The present research is framed within a qualitative approach (as opposed to a quantitative approach). It investigates a particular syntactic configuration, not yet properly identified in the literature on Portuguese, and explores its empirical and theoretical consequences. Hence, it does not offer a chronology of change, based on quantitative evidence. Given the lack of syntactic annotated Portuguese texts for the period between the thirteenth and the sixteenth centuries, the quantitative approach is left open for future research. Nevertheless, additional empirical evidence for the properties listed in 5.2.3.1–5.2.3.3 is provided in Cardoso (2010).

\(^6\) Brucart (1999) reports that extraposition from strong noun phrases is also possible in earlier stages of Spanish (see (i)).

\[
\text{(i) A quel decimos ser mejor médico, que mejor cura y más}
\]
\[
\text{enfermos sana.}
\]
\[
\text{que say:pl be:inf better doctor that better heals and more patients}
\]
\[
\text{‘We say that the better doctor is the one who heals (the diseases) better and cures more patients.’}
\]
\[
\text{(L. Granada, Introducción al símbolo de la fe, 1583, cited in Brucart 1999: 466)}
\]
que en aquela hora morrera en que el vira estando that in that hour died:PMQP,3SG in that he saw:PMQP be:GEN
longe dele que lhi saira a alma do corpo.
away from.him that to.him:CL fell.out:PMQP the soul of.the body
‘[and he realized that] he died in that hour in which he saw (being away from
him) that his soul fell out of his body.’
(Mattos e Silva 1989: 766; Diálogos de São Gregório; fourteenth century)

5.2.3.3 Restriction on extraposition from pre-verbal positions

A. Restriction on extraposition from pre-verbal subjects
Unlike in CEP, in
earlier stages of Portuguese, extraposed RRCs can take a subject in a pre-verbal
position as antecedent, as illustrated in (28)–(29):

(28) se Algê A eles veer que diga que llî
if someone to them come:FUT.SUBJ that says that to.him:CL
eu Alguma cousa diuía
I some thing owed
‘[And] if someone who says that I owed him something comes towards them…’
(Martins 2001; Doc. Portugueses do Noroeste e da Região de Lisboa; year 1275)

(29) que cayam. e cayades na pea que
that fall:PRES.SUBJ,3PL and fall:PRES.SUBJ,2PL in.the punishment that
filhos e netos deuê a caer. que contra béênço de
children and grandchildren must a fall:INF that against blessing of
padre uéérem
father come:FUT.SUBJ
‘[and I order] that they and you receive the punishment that the children and
grandchildren who go against their father’s blessing must receive.’
(CIPM; Os Doc. em Português da Chancelaria de Afonso III; year 1278)

B. Restriction on extraposition from other pre-verbal constituents
Earlier stages
of Portuguese pattern with CEP in allowing extraposition from a preposed focus
(see (30)), a wh-constituent (see (31)) and a preposed emphatic/evaluative phrase
(see (32)):

(30) pois d’el-rei dom Fernando nêhûua cousa teemos que
because of.the.king D. F. none thing have:1PL that
tentar até a morte d’este rei dom Pedro.
tell:INF until the death of.this king D. P.
‘(…) because we do not have anything to tell about the king Dom Fernando
until the death of the king Dom Pedro.’
(Macchi 1975; Fernão Lopes, Crónica de D. Fernando; fifteenth century)
(31) Que caso pod’esse ser em que tanto sopesais?
what case can this be in that so much think:2PL
‘What case can this be that you think so much about?’
(Camões 1999; Gil Vicente, Processo de Vasco Abul; year 1516)

(32) Muitos letrados sei eu (disse Solino) que não são moços
many lettered know I said S. that not are young:boys
‘I know many lettered men (said Solino) who are not young.’
(TYC; Francisco Rodrigues Lóbo, Côrte na Aldeia e Noites de Inverno; year 1619)

By contrast, if a topic is involved, RRC-extraposition does not seem to be possible in earlier stages of Portuguese, at least in the corpus inspected thus far.\(^7\)

C. New contexts of extraposition

Besides the contexts seen so far, there is another important source of RRC-extraposition in earlier stages of Portuguese: IP-scrambling, which consisted of the movement of various types of constituents to multiple specifier positions available in the IP domain (see Martins 2002). As expected, extraposition is also possible in these contexts. See (33):\(^8\)

(33) que llí eu Alguna cousa diuía que nó seja
that to.him:CL I some thing owed that not be:pres:subj
escripto en Esta mãda
written in this will
‘(And if there arrives someone who says) that I owed him something which
is not written in this will (. . . ).’
(Martins 2001; Doc. Portugueses do Noroeste e da Região de Lisboa; year 1275)

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\(^7\) I found only one example that could be taken as involving RRC-extraposition from topic; see (i):

(i) Esta barca onde vai agora/ que assim está apercebida?
this boat where goes now QUE this.way is equipped
(Camões 1999; Gil Vicente, Auto da Barca do Inferno; year 1517)

Note, however, that (i) may instead involve a coordinate clause, introduced by the coordinating conjunction que, meaning since, as: ‘Where does this boat goes, as it is so well equipped?’.

In this respect, it is also worth pointing out that Martins (2002) suggests that topicalization (as opposed to focalization) may not be a grammatical option in earlier stages of Portuguese.

\(^8\) Note that the scrambling of _alguma coisa_ ‘some thing’ in (33) is confirmed by the relative position of this constituent with respect to the verb and the clitic. According to Martins (2002), clitics in clauses with interpolation set the border between left-dislocated/focused constituents and scrambled constituents. Hence, in (33), because _alguma coisa_ ‘some thing’ is interpolated (i.e. occurs between the proclitic and the verb), it is necessarily a scrambled constituent.
5.3 A non-uniform account of extraposition

The main claim of this section is that extraposed RRCs in earlier stages of Portuguese differ in their structure and derivation from extraposed RRCs in CEP: the former are derived from specifying coordination (plus ellipsis) (De Vries 2002), whereas the latter are derived from stranding (Kayne 1994). Let us see how exactly this non-uniform approach to extraposition derives the contrasts under scrutiny.

5.3.1 Extraposition in CEP

5.3.1.1 The general proposal I assume, following Kayne (1994) and Bianchi (1999), that RRCs are generated by head-raising. The main idea underlying this proposal is that the head NP (the antecedent) of an RRC originates at the relativization site inside the subordinate clause and then rises to the left edge. The relative clause itself is generated as the complement of the so-called external determiner, with which the head NP associates after rising. A relative pronoun or operator is then to be analyzed as a relative determiner originally belonging to the internal head NP. See the representation in (34).

(34) \[ [\text{DP} \ D \ [\text{CP} \ [\text{DP}_{\text{rel}} \ \text{NP}[ \ D_{\text{rel}} \ \text{t}_{\text{NP}}]] \ C \ [\text{IP} \ \ldots \ \ldots \ \text{t}_{\text{DP}}]]] \]

I.e. this book which I read

I also take from Kayne (1994) the idea that RRC-extraposition is the result of VP-internal stranding. Under this approach, the antecedent is base-generated inside the RRC and undergoes leftward movement, stranding the RRC in situ, as schematically represented in (35). As will become clear in section 5.3.1.2, the movement of uma pessoa 'a person' in (35) can be explained by the syntactic representation of weak determiners as adjectives attached within the NP.

(35) Encontrei [ uma pessoa] ontem [ t\text{ij} que estava à tua procura] met:1sg a person yesterday that was at.the your search

The key assumption of my proposal is the following: extraposed RRCs in CEP always involve A’-movement of the antecedent, either via short scrambling (when the antecedent is in a post-verbal position) or via movement to the left periphery (when the antecedent is in a pre-verbal position).

As an initial step towards a more precise formulation of my proposal, let us examine in more detail how RRC-extraposition can be derived from short-scrambling. Costa (1998, 2004) reports that CEP has a scrambling rule that allows objects to move from their base-position and adjoin to the VP. He also claims that the position of the scrambled object is indicated by its position relative to monosyllabic adverbs such as bem 'well', which mark the left edge of the VP. The idea is that objects to the right of monosyllabic adverbs are in their base position, whereas
objects to the left of these adverbs are scrambled. This is illustrated in (36), taken from Costa (2004: 40).

(36)  a. O Paulo fala bem francês. [non-scrambled object]
    the P. speaks well French
    ‘Paulo speaks French well.’
  b. O Paulo fala francês bem. [scrambled object]
    the P. speaks French well
    ‘Paulo speaks well French.’

Costa also shows that objects are not the only constituents that may undergo scrambling: subjects of unaccusatives can also scramble, as illustrated in (37), taken from Costa (2004: 64). Here the adverb depressa ‘fast’ is taken as marking the left edge of the VP.

(37)  a. Chegou depressa o Paulo. [non-scrambled subject]
    arrived fast the P.
    ‘Paulo arrived fast.’
  b. Chegou o Paulo depressa. [scrambled subject]
    arrived the P. fast
    ‘Paulo arrived fast.’

My claim is that the possibility of scrambling can be extended to subjects in Spec, VP. There are three arguments in favour of this hypothesis.

Argument 1 – Distribution of adverbs

A subject base-generated in Spec,VP may also surface in a post-verbal position, to the left of the monosyllabic adverb bem ‘well’, as illustrated in (38). If we want to maintain that (i) the monosyllabic adverb bem ‘well’ marks the left-edge of VP and (ii) the post-verbal subject is VP-internal (Costa 1998, 2004), then we must conclude that the subjects of unergative verbs can also scramble.

(38)  a. Ninguém jogou nada.
    ‘No one played anything’
    played the S. well until the last ten minutes
    ‘Sporting played well until the last ten minutes.’
  c. Depois o Benfica reagiu e marcou dois golos.
    ‘Then Benfica reacted and scored two goals.’

9 Remark that CEP displays V-to-I movement, which derives the order Verb–Adverb/Object in (36).
10 To my knowledge, this issue has not been previously addressed in the literature on CEP, but similar proposals have been discussed for other languages; see Broekhuis (2007) for Dutch/German and Takano (1998) for English.
11 Note that (38b.) is also possible with the subject occurring to the right of the manner adverb bem ‘well’.
Argument 2 – Semantic effects
When indefinite noun phrases are involved, the scrambled and non-scrambled orders can be semantically distinguished. More precisely, unscrambled indefinite objects may have a cardinal reading, whereas scrambled objects necessarily have a presuppositional reading (in the sense of Diesing 1992). See, for instance, the contrast in (39). The unscrambled object in (39a.) preferably has a cardinal, non-presuppositional reading; under this interpretation, João can actually speak only one language. This contrasts with the scrambled order in (39b.); here the indefinite object can only have a presuppositional reading, which can be paraphrased as a partitive (‘one of the languages’).

(39) a. O João fala bem uma língua.  
    the J. speaks well one language  
    ‘João speaks one language well.’  

   b. O João fala uma língua bem.  
    the J. speaks one language well  
    ‘João speaks one language well (the other languages he speaks very badly).’

Importantly, the same semantic effects are found when the subject of an unergative verb is involved, as in (40).

(40) a. Dançaram bem oito concorrentes.  
    danced well eight competitors  
    ‘Eight competitors danced well.’  

   b. Dançaram oito concorrentes bem.  
    danced eight competitors well  
    ‘Eight competitors danced well; (the other competitors did not dance so well).’

This is a welcome result: if scrambling is involved in (39) and (40), we expect that the same semantic effects are obtained.12

Argument 3 – The trigger for scrambling
It has been proposed in the literature that scrambling is a movement to Spec, AgrOP driven by the requirement of accusative feature-checking (see de Hoop 1992 i.a.). Under this assumption, subject scrambling would be unexpected because the noun phrase in Spec,VP does not have an accusative feature to be checked by the complex V-Agr. Fortunately, this problem does not arise: Costa (1998, 2004) shows that scrambling is not a case-driven movement. One of the arguments he provides in favour of this idea is precisely the possibility of subject scrambling (involving the subject of unaccusatives, as in (37)).

12 For similar results concerning object and subject shift in German/Dutch see Broekhuis (2007).
Alternatively, Costa (1998, 2004) argues in favour of a prosodically/discourse-driven approach to scrambling, according to which scrambling is used to create appropriate focus configurations: namely to make the element bearing the sentence’s nuclear stress escape it (see Reinhart 1995). Under this approach, the scrambling of subjects can be treated on a par with objects: if scrambling is prosodically/discourse-driven, there is a priori no reason to preclude the scrambling of a constituent in Spec, VP.

Having made this short excursus into the properties of short-scrambling in CEP, let us turn again to extraposition. The idea that extraposition may also involve short-scrambling is supported by two different arguments:

**Argument 1 – Distribution of adverbs**
The antecedent of an extraposed-RRC may appear to the left of the monosyllabic adverb *bem* ‘well’, as illustrated in (41). This indicates that *uma candidatura* ‘one application’ has undergone short-scrambling.

(41) a. Não analisaste com atenção nenhuma candidatura.
   ‘You did not analyse any of the applications carefully.’

   b. Analisei *uma candidatura bem que foi proposta pela Universidade de Lisboa*.
   ‘I analysed one application that was submitted by the University of Lisbon well (= thoroughly); (the others I actually did not analyse very carefully).’

**Argument 2 – Semantic effects**
When the antecedent of a non-extraposed RRC is indefinite, it may have a cardinal reading. However, when extraposition is involved, the antecedent necessarily has a presuppositional reading. This is illustrated in (42): (42a) is compatible with the reading that there is only one homeless person in my neighborhood, whereas (42b) necessarily presupposes that there is more than one homeless person there.

(42) a. Há no meu bairro *um sem-abrigo que não pede dinheiro*.
   ‘In my neighborhood there is a homeless person who does not ask for money.’

   b. Há *um sem-abrigo no meu bairro que não pede dinheiro*.
   ‘There is a homeless person in my neighborhood who does not ask for money.’
Putting things together, the derivation of an extraposed RRC involving short-scrambling proceeds as follows: (i) the antecedent is generated inside the RRC; (ii) the antecedent undergoes short-scrambling and adjoins to the VP after raising. This is sketched in (43), where the antecedent is the subject of an unergative verb and the intervening element is an adverb (corresponding, for instance, to a sentence such as (8a.) above):

\[
(43) \quad [\text{IP } \text{V} \ [\text{VP } \text{S} \ [\text{VP } \text{adverb} \ [\text{VP } t \ \text{RRC } t_v ]]]]
\]

When short-scrambling is involved, only adverbs and PPs (see, for example, (7) above) can intervene between the antecedent and the extraposed RRC. These intervening elements can be either adjuncts (as in (7) above) or complements of the verb (as in (44)).

\[
(44) \quad \text{Dei um livro à Maria que foi escrito por mim.} \\
\quad \text{gave:1sg a book to.the M. that was written by me} \\
\quad \text{‘I gave Maria a book that was written by me.’}
\]

To derive these contexts, I assume that (i) adverbs and PP adjuncts that surface as intervening material are left-adjointed to the VP (Barbiers 1995) and that (ii) double complement constructions are base-generated with the order V-PP-DO and the V-DO-PP order involves the scrambling of the object over the PP (Takano 1998). This requires that on its way to the scrambled position, the antecedent crosses over adverbs and PPs (either adjuncts or complements), stranding the RRC in situ.\(^{13}\)

5.3.1.2 Deriving the properties of RRC-extraposition in CEP Let us now briefly see how the theoretical apparatus put forth in the preceding section can account for the properties of contemporary RRC-extraposition outlined in section 5.2.1:

A. Definiteness effect As already mentioned in section 5.2.1, extraposed RRCs in CEP can take weak noun phrases as their antecedent but not strong noun phrases. This property can be explained if we assume, following Bowers (1988), that strong and weak noun phrases differ in their structure: strong quantifiers are of category D, whereas weak quantifiers are adjectives and attach within NP.

Extending Bowers’ proposal to the raising analysis of relative clauses, I assume, in line with Kayne (1994) and Lee (2007), that strong determiners are located in the external determiner whereas weak determiners are within NP. This straightforwardly explains why extraposed RRCs can take only weak noun phrases as antece-

\(^{13}\) For reasons of space, I will refrain from developing this analysis further. See Cardoso (2010) for more details.
dents: weak noun phrases can be moved leftward as a constituent, whereas strong noun phrases cannot, because there is no constituent that includes the strong determiner and the noun phrase but excludes the RRC, as sketched in (45):

\[
(45) \quad [_{DP \text{ strong determiner}} [_{CP \text{ [NP weak determiner]} [N \ldots ]}]_l [_{CP [IP \ldots \ t_i \ldots ]}]]]
\]

B. Restriction on extraposition from PPs In CEP, RRC-extraposition is not allowed if the antecedent is the object of a preposition. Again, this restriction is straightforwardly derived under the standard assumption that movement only applies to constituents. As sketched in (46), the preposition and the noun phrase in Spec,CP do not form a constituent (excluding the RRC); as a result, they cannot undergo leftward movement, stranding the RRC in situ.14

\[
(46) \quad [_{PP P \ [_{CP \text{ DP [NP \ [CP \text{ [IP \ldots \ t_i \ldots ]}]}}]}]]
\]

C. Restriction on extraposition from pre-verbal positions In CEP, extraposed RRCs can take post-verbal subjects as antecedents but not pre-verbal subjects as antecedents. Additionally, extraposed RRCs can take wh-constituents, preposed foci and preposed emphatic/evaluative phrases as antecedents but not topocalized constituents. I assume that the explanation of these contrasts rests upon the semantic interpretation of the antecedent. More precisely, I claim that extraposition in CEP obeys the Interpretative Principle given in (47):

\[
(47) \quad \text{Interpretative Principle}
\]

\[
\text{The antecedent of an extraposed RRC must occur in a position non-ambiguously interpreted as non-topic (in Kuroda's (2005) sense).15}
\]

The fact that the restriction on extraposition from pre-verbal positions is semantically motivated should not come as a surprise because several authors (Duarte 1997, Martins 1994, Martins in prep.) have already observed that word order in CEP reflects both information structure and the contrast between categorical and thetic judgements (in the sense of Kuroda 1965, 2005).16

---

14 As one of the reviewers points out, the fact that \( P + NP \) do not form a constituent in (46) could be circumvented, under a Kaynian analysis, by a remnant-movement approach. In this case, it would be sufficient to move the IP to the left of the PP and then move \( P + NP \) somewhere further to the left under remnant-movement. Under this view, what would have to be blocked is the extraction of an IP out of the PP in CEP.

15 Kuroda (2005) proposes that a topic is a constituent that expresses an aboutness relation, interpreted as familiar, presupposed, and part of the common ground.

16 Based on the Brentano-Marty theory of judgements, Kuroda distinguishes two types of judgements: categorical/predicational versus thetic/descriptive. A predicational/categorical judgement is a cognitive act of attributing a predicate to a subject, whereas a thetic/descriptive judgement is grounded, in its basic form, on perception.
Restriction on extraposition from pre-verbal subjects

The Interpretative Principle in (47) derives this restriction as follows. Assuming the distinction between categorical and thetic/descriptive judgements originally proposed by Kuroda (1965), we conclude that Spec,IP is an ambiguous position in CEP; it can be filled by topic elements (i.e. the subject of predication in sentences expressing categorical judgements), but it can also be filled by non-topic elements (i.e. the subject of a sentence expressing thetic/descriptive judgements). In contrast, the specifier and adjunct positions of VP are non-ambiguous positions: they can only be filled by non-topic elements. Hence, in accordance with the Interpretative Principle in (47), when the subject is the antecedent of an extraposed RRC, it must stay in a post-verbal position to be non-ambiguously interpreted as non-topic.  

Restriction on extraposition from constituents in the left periphery

The Interpretative Principle in (47) can also explain why extraposition cannot take place from topics. Assuming a split-CP approach (see Rizzi 1997), according to which there are different functional projections especially dedicated to single discourse functions (e.g. topic and focus), the position occupied by a topic constituent is non-ambiguously interpreted as topic. Therefore, RRC-extraposition is ruled out by the Interpretative Principle in (47).

Conversely, the position occupied by the preposed foci, wh-constituents, and emphatic/evaluative phrases is non-ambiguously interpreted as non-topic; hence, the possibility of extraposition from these constituents is straightforwardly derived.

Extraposition in earlier stages of Portuguese

5.3.2 The general proposal

Building on ideas by Koster (2000), De Vries (2002) proposes that extraposition involves coordination. He argues that besides the traditional types of coordination (additive, disjunctive, and adversative), there is another type called specifying coordination that is involved, for instance, in extraposition, appositions, and parentheticals (see De Vries 2009 for a general overview). In all of these constructions, the second conjunct provides an alternative description, an example, or a property of the first conjunct.

One of the reviewers argues that generally scrambled elements are of topical nature, so if extraposition from a post-verbal subject depends on scrambling, we would expect frequent violations of (47). This idea is built under the assumption, also found in Costa (1998, 2004), that scrambling serves to remove unfocused material from the focus domain. However, in Cardoso (2010), I show that in CEP scrambling can also be used to create specific discourse effects (namely, to place the most prominent constituent in the rightmost position within the clause-internal space). In this sense, a scrambled constituent may be contained in a focus domain. This analysis receives some typological support from the so-called focus-scrambling in Dutch, which involves contrastive focus on a scrambled constituent (see Costa 2004: 69).
Assuming Munn’s (1993) and Kayne’s (1994) analysis of coordination (see also Johannessen 1998), De Vries claims that RRC-extraposition is obtained according to the scheme in (48), where the antecedent is generated within the first conjunct and the extrapoosed RRC is generated within the second conjunct of a coordinate structure.\(^{18}\)

\[(48) \text{[CoP [... antecedent ...] [Co [... RRC ...]]]}\]

Under this account, the coordinated conjuncts are of the same category. The first conjunct may range from VP to CP, depending on the position of the antecedent. The second conjunct has the same categorial status as the first conjunct; it repeats the material contained in the first conjunct, adding the extrapoosed RRC in its canonical position. Then the repeated material is phonologically deleted.\(^{19}\) This is illustrated in (49), where the antecedent of the extrapoosed RRC is a direct object; here, both conjuncts are represented as involving the AgrOP-level of projection (under the assumption that in Dutch the object moves to [spec, AgrOP], for reasons of case).\(^{20}\)

\[(49) \text{[CP Ik heb ... [CoP [AgrOP-1 de man gezien] [Co I have the man seen} \]
\text{[AgrOP-2 [DP de man die zijn tas verloor] gezien]]]}
\text{the man who his bag lost seen}]

5.3.2.2. Deriving the properties of RRC-extraposition in earlier stages of Portuguese  Let us now see how the specifying coordination (plus ellipsis) analysis can account for the properties of extrapoosition in earlier stages of Portuguese:

A Definiteness effect  In earlier stages of Portuguese, extrapoosed RRCs could take strong noun phrases as their antecedent. This property can be straightforwardly derived using the approach adopted here because there is no movement relationship between the visible antecedent and the extrapoosed RRC. As illustrated in (50), the strong noun phrase *aquelle dia* ‘that day’ in the first conjunct is a constituent: it is detached from the relative clause and base-generated in the first conjunct of the coordinate structure. In contrast, the strong noun phrase *aquelle dia* ‘that day’ in

\(^{18}\) The structure in (48) involves an abstract coordinator that is semantically specialized: it constitutes an asymmetric relationship of specification between the two conjuncts. Koster (2000) symbolically represents this relator using a colon; De Vries (2002) employs an ampersand plus a colon ‘&:’. Here, I will simply use the more general denotation Co for the coordinative head.

\(^{19}\) For more details regarding the conditions that govern the phonological deletion in the second conjunct, see De Vries (2002, 2009).

\(^{20}\) To account for the intricacies of extrapoosition in earlier stages of Portuguese, this analysis may require some minor technical adjustments. Because I cannot go into this discussion here, I will hold to De Vries’ (2002) original proposal in the analysis put forth in section 5.3.2. See Cardoso (2010) for more details.
the second conjunct is not a constituent (as there is no constituent that includes the
determiner and the noun and excludes the RRC). However, this is not a problem
because it is the DP (containing the antecedent and the RRC) that undergoes
leftward movement.

(50) [mas [CoP [IP [DP aquelle dia], sem falha aveo tj]]
but that day without fail came
[Co [IP [DP aquelle dia que forom i todos], sem falha aveo tj]]]

B. Restriction on extraposition from PPs In earlier stages of Portuguese, extraposed
RRCs could take the object of prepositions as their antecedent. The same line of
reasoning applies here: as illustrated (51), the PP de mui poucos ‘of very few’ in the
first conjunct is a constituent because it is detached from the relative clause and base-
generated in the first conjunct of the coordinate structure. In contrast, de mui poucos ‘of
very few’ in the second conjunct is not a constituent; however, this is not a problem
because it is the PP (containing the RRC) that undergoes leftward movement.

(51) [CP que [CoP [IP [PP de mui poucos]], sabemos tj]]
that of very few know:pl
[Co [IP [PP de mui poucos que bebessem vinho]], sabemos tj]]]
of very few that drink:imperf.subj wine know:pl

C. Restriction on extraposition from pre-verbal positions Unlike in CEP, extraposed
RRCs in earlier stages of Portuguese can take pre-verbal subjects as antecedents. This can
be derived by resorting to IP level coordination; see (52):

(52) [CoP [IP S V DO] Co [IP S RRC V DO]]

From a comparative perspective, the fact that CEP does not allow RRC-extraposition
from pre-verbal subjects is surprising. As shown in section 5.3.1.2, the explanation for the
pattern of ungrammaticality in CEP depends upon the Interpretative Principle in (47).
RRC-extraposition from Spec, IP is not allowed because such position is ambiguously
filled by topic and non-topic elements.

Apparently, nothing prevents RRC extraposition in earlier stages of Portuguese
from being subject to the same semantic restrictions as CEP. However, as shown
above, there is strong empirical evidence suggesting that earlier stages of Portuguese
(and other languages) allow for it.

Somewhat tentatively, I would like to suggest that CEP and earlier stages of
Portuguese may resort to different strategies to resolve the ambiguity expressed in
(47). Whereas in CEP the ambiguity associated with Spec, IP is resolved syntactically
and prosodically (through subject inversion), in earlier stages of Portuguese, it may
be resolved only prosodically. In this case, a constituent in Spec, IP can be unambiguously interpreted as non-topic if it is prosodically marked by a pitch accent.\textsuperscript{21} This may suggest that there is a language split as far as the codification of semantic information is concerned. Some languages codify the topic/non-topic status of the subject prosodically and syntactically (as may be the case of CEP), whereas other languages (and different stages of the same language) may codify it only prosodically (as seems to be the case for earlier stages of Portuguese).

5.4 The loss of extraposed RRCs generated by specifying coordination

According to the analysis outlined above, the extraposed RRCs in earlier stages of Portuguese are generated by specifying coordination (plus ellipsis), whereas the extraposed RRCs in CEP are generated by stranding. Keeping in mind Lightfoot’s (1991 i.a.) insights into the relation between language change and language acquisition, this implies that positive evidence triggering the specifying coordination structure ceased to be available to the learners. I submit that such evidence is found in the contexts of RRC-extraposition involving a strong noun phrase or the object of a preposition as antecedent. When exposed to these contexts, children in earlier stages of Portuguese knew that the antecedent was externally (and not internally) generated because no movement chain could be established between the visible antecedent and an RRC-internal position.

Capitalizing on what we know about the history of Portuguese, I would like to suggest that the relevant contexts of extraposition were attested robustly in the primary linguistic data until the sixteenth century. After this period, their frequency decreased significantly because of an independent change that took place in the history of Portuguese: the loss of IP-scrambling. Martins (2002) reports that earlier stages of Portuguese displayed medial-scrambling, which consisted of the movement of various types of constituents (DPs, PPs, APs, AdvPs) to multiple specifier positions selected by the functional head IP. I have also shown in section 5.2.3 that IP-scrambling generates contexts of extraposition, as illustrated in (33).

Based on these assumptions, I tentatively claim that with the loss of IP-scrambling after the sixteenth century there was a decrease in the frequency of extraposition contexts in general. As a result, Portuguese started displaying short-scrambling only, which consisted of the movement of noun phrases (either subjects or direct objects) to a VP-adjoined position. In this environment, the linear distance between the antecedent and the extraposed RRC decreased and, more importantly, PPs ceased to occur in a scrambled position. Given the loss of an important trigger of the specifying coordination analysis, children converged on a new grammar. As

\textsuperscript{21} Here, I assume that the kind of prosodic prominence that serves to mark focused constituents is the pitch accent (see, e.g. Avesani and Vayra 2003).
schematically represented in (53), in the new grammar, the visible antecedent is analyzed as being generated in an RRC-internal position and the RRC-extraposition as involving the rising of the antecedent (dispensing with the coordinate part of the structure).

\[
(53) \quad [S\ V\ [\text{Co}_{\text{P}}\ [\text{VP}\ \text{Obj}\ \text{adverb/PP}]\ [\text{Co}\ [\text{VP}\ \text{Obj}\ \text{RC}\ \text{adverb/PP}]])]]
\]

\[
\downarrow
[\text{S}\ V\ [\text{VP}\ \text{Obj}\ \text{adverb/PP}\ [t_{\text{obj}}\ \text{RC}]})]
\]

5.5 Final remarks

On the basis of some comparative evidence, I have shown that RRC-extraposition is subject to variation in both the synchronic and the diachronic dimension. As far as Portuguese is concerned, the empirical evidence discussed here shows that RRC-extraposition in earlier stages of Portuguese is to a large extent Germanic-like, unlike CEP.

From a theoretical point of view, I argued for a non-uniform approach to extraposition, according to which extraposition involves two different syntactic types. In this scenario, languages (and different stages in the development of the same language) may demonstrate divergence with respect to the specific type(s) they display. Ultimately, this amounts to saying that the concept of extraposition is descriptively useful (in unifying a variety of apparently related constructions), but lacks explanatory force because it does not unequivocally correspond to a construction-type.