

4

Appositive relativization

4.1 Introduction

In the literature on the syntax of ARCs, considerable attention has been given to the idea that ARCs do not constitute a unified type of construction (Cinque 1982, 2008 and Smits 1988, among others). These analyses contrast with the traditional view, according to which the different ARCs found in all languages can be derived from the same syntactic structure.

In this chapter, I go against the traditional view and claim that there is no unified account of ARCs across languages. This claim is supported by the comparative study of ARCs introduced by the complex relative pronoun *o qual* ‘the which’ (lit.) (henceforth *o qual*-ARCs) in CEP and earlier stages of Portuguese, considering also evidence from other languages. The investigation of this micro-variation leads to the conclusion that the syntactic properties of *o qual*-ARCs have changed over time and that this fact can only be explained by a non-unified approach to the phenomenon.

That this conclusion can be reached in the diachronic dimension is particularly telling in view of the highly constrained nature of this variation. In fact, it is found within the same language (Portuguese), in the same construction (ARC), introduced by the same relativizer (*o qual*), which makes it possible to control important variables that may interfere with the results obtained in other studies (involving, for instance, the comparison of languages quite distant historically and typologically).

With this background in mind, the present chapter has descriptive and explanatory goals. From a descriptive point of view, it aims to: (1) establish clear syntactic properties to distinguish *o qual*-ARCs in CEP from *o qual*-ARCs in earlier stages of Portuguese; and (2) correlate the variation documented in the diachronic dimension with the one found in the cross-linguistic dimension.

From an explanatory (or theoretical) point of view, it aims both to argue for a dual approach to *o qual*-ARCs, according to which *o qual*-ARCs in CEP involve the head raising analysis (see Kayne 1994; Bianchi 1999), whereas *o qual*-ARCs in earlier stages of Portuguese involve the specifying coordination analysis (see De Vries 2006b), and to demonstrate that the dual approach to ARCs provides a good basis

for understanding the variation found within a language and across languages, both in the synchronic and diachronic dimensions.

The chapter is organized as follows. Section 4.2 provides background information on unitary and non-unitary approaches to ARCs. Section 4.3 gives an overview of the properties of *o qual*-ARCs similar in CEP and in earlier stages of Portuguese, while §4.4 sets out the syntactic properties that differentiate the two constructions. In order to explain the contrasting properties identified, §4.5 outlines the dual approach proposed for *o qual*-ARCs, and §§4.5.1–9 demonstrate how this proposal accounts for the contrasts found between CEP and earlier stages of Portuguese. Finally, §4.6 offers some comparative remarks on the diachronic and synchronic variation found in the syntax of *o qual*-ARCs. Section 4.7 summarizes.

4.2 Unitary analyses vs. non-unitary analyses

ARCs are traditionally regarded as a unitary type of construction.¹ Under this view, the properties of ARCs found in all languages can be derived from the same syntactic structure. There are, however, early indications in the literature that one universal analysis of appositives across and within languages is untenable. In §§4.2.1–4, I summarize the most relevant aspects of the non-unitary approaches put forward by Cinque (1982, 2008), Smits (1988), and Bianchi (1999), focusing on the evidence provided for a non-unitary approach to ARCs.

4.2.1 Cinque (1982)

Cinque claims that a single syntactic structure cannot account for the properties of ARCs found in Italian. In particular, he is concerned with the contrast between ARCs introduced by *che/cui* (lit. ‘that/who’) and by *il quale* (lit. ‘the which’). According to Cinque, these two types exhibit contrasting properties, and, consequently, must involve two different structures. Among the syntactic properties that differentiate them, Cinque (1982) highlights the contrasts on the relativized positions and pied-piping.

As for the relativized positions, Cinque shows that when either a subject or an object is relativized, a *wh*-pronoun appears in *il quale*-ARCs but not in *che/cui*-ARCs. In the latter, only the form *che* is found, which is identical to the ordinary complementizer of subordinate clauses. Examples (518)–(519) illustrate this restriction: the a examples involve subject relativization, whereas the b examples involve direct-object relativization.

¹ For an overview of existing analyses of ARCs see §1.3.2.5.

- (518) a. Giorgio, *che/*cui* ti vuole, è là.
G. that/who you.CL wants is there
'Giorgio, who wants you, is there.'
- b. Giorgio, *che/*cui* stimi, l'ha fatto.
G. that/who esteem.2SG it.CL.has done
'Giorgio, who you esteem, has done it.' (Cinque 1982: 249; glosses mine)
- (519) a. Giorgio, *il quale* ti vuole, è là.
G. the which you.CL wants is there
'Giorgio, who wants you, is there.'
- b. Giorgio, {*il quale*} stimi, l'ha fatto.
G. the which esteem.2SG it.CL.has done
'Giorgio, who you esteem, has done it.' (Cinque 1982: 249; glosses mine)

As for pied-piping, Cinque notes that in *che/cui*-ARCs, no pied-piping is allowed except for that of PPs, whereas in *il quale*-ARCs, pied-piping of different phrasal categories is available. Examples (520)–(521) illustrate the relevant contrast: a examples display pied-piping of DP; b examples display pied-piping of complex PP; and c examples involve pied-piping of an infinitival clause.

- (520) a. *Giorgio, *la figlia di cui* fuma, è contrario.
G. the daughter of whom smokes is against
'Giorgio, whose daughter smokes, is against it.'
- b. *Giorgio, *alla figlia di cui* hai scritto, è in collera.
G. to.the daughter of whom have.2SG written is in anger
'Giorgio, to whose daughter you have written, is angry.'
- c. *Giorgio, *fuggire da cui* non osava, è morto.
G. flee from.whom not dared is dead
'Giorgio, flee from whom he did not dare, has died.' (Cinque 1982: 248–9; glosses mine)
- (521) a. Giorgio, *la figlia del qual* fuma, è contrario.
b. Giorgio, *alla figlia del quale* hai scritto, è in collera.
c. Giorgio, *fuggire dal quale* non osava, è morto. (Cinque 1982: 249; glosses mine)

On the basis of these empirical contrasts, Cinque hypothesizes that in Italian, there are two separate paradigms of ARCs, one belonging to the “core” grammar of Italian and other being peripheral to it. Under Cinque’s proposal, the core grammar of Italian employs the structure [_{NP} NP \bar{S}] for RRCs and ARCs introduced by *che/cui*. In addition, a more peripheral option is available for *il quale*-appositives, in which the relative is a juxtaposed clause (with the structure

NP..., \bar{S} ,...).² Because *il quale*-appositives are felt to be slightly more formal in style than *che/cui*-appositives, Cinque (1982) argues that stylistic markedness can be interpreted as a manifestation of the use of a more peripheral structure allowed by the grammar.

In this view, Cinque explains the restrictions on the relativized positions using principle of “obligatory deletion of (relative) wh-phrases in COMP up to recoverability” (1982: 251). In formal terms, a wh-phrase can be deleted (1) if it is non-distinct from the head and (2) if it is c-commanded by the head.

In subject or object *che/cui*-appositives, the wh-phrase is deleted (and the complementizer is expanded to *che*) because the wh-phrase (1) is non-distinct from the head and (2) is c-commanded by the head (in the configuration [_{NP} NP \bar{S}]). In contrast, in subject and object *il quale*-appositives the wh-phrase is not deleted because it is not c-commanded by the head; recall that the relative clause is juxtaposed (in the configuration NP..., \bar{S} ,...) and, consequently, is syntactically invisible for c-command relations.

In turn, the restrictions on pied-piping follow from the (non)-anaphoric nature of the wh-pronoun. On the basis of an ambiguous lexical characterization of some wh-pronouns, Cinque claims that all relative pronouns belong to the inventory of lexical (bound) anaphors of language, but only a few can be further used as non-anaphoric elements. This is the case for *il quale* but, crucially, is not the case for *cui*.

Anaphoric pronouns can enter the structure [_{NP} NP \bar{S}] because in this configuration, they are c-commanded by the head (as required by principle A of the Binding Theory). They cannot, however, enter the juxtaposed structure (NP... \bar{S} ,...) because in this case, the c-command requirement is not satisfied. Non-anaphoric pronouns behave differently in this respect: they can enter the juxtaposed structure simply because they are not limited by principle A of the Binding Theory.

Assuming that S and NP are the only governing categories, the restrictions found in *che/cui*-appositives can be represented as in (522) (the minimal governing categories of *che/cui* are boxed for emphasis).

(522)

- a. ... [_{NP} NP_i [_S [_{COMP} [_{PP} P [_{NP_i} wh]]] –WH] S]] ... (*pied-piping of PP*).
 - b. ... [_{NP} NP_i [_S [_{COMP} [_{NP} \bar{N} [_{PP} P [_{NP_i} wh]]]]] –WH] S]] ... (*pied-piping of an NP*)
 - c. ... [_{NP} NP_i [_S [_{COMP} [_S ... [_{NP_i} wh]]] –WH] S]] ... (*pied-piping of a clause*)
- (Cinque 1982: 255)

² Note that, under the terms proposed in §1.3.2.5A, the structures [_{NP} NP \bar{S}] and NP..., \bar{S} ..., qualify, respectively, as a constituency analysis and an orphanage analysis.

Pied-piping of PPs is allowed because the *wh*-anaphor is bound within its minimal governing category (the emphasized NP in (522)). In turn, pied-piping of NPs and clauses is not allowed because the *wh*-anaphor is free in its minimal governing category (the emphasized NP in (522b) and S in (522c)), in violation of principle A of the Binding Theory.

The unconstrained availability of pied-piping observed in *il quale*-appositives is explained by the non-anaphoric nature of *il quale* pronouns. Unlimited by principle A of the Binding Theory, *il quale* pronouns can refer back to their antecedent independently of the category of the pied-piped constituent. The relation between non-anaphoric *il quale* pronouns and the antecedent can be analogized to the relation between a demonstrative pronoun and its antecedent, the nature of the relation being one of discourse grammar rather than one of sentence grammar.

From a cross-linguistic perspective, Cinque suggests that the non-unitary approach proposed for Italian does not universally hold. For instance, whereas French and Italian display two structures for ARCs, English only displays the juxtaposed structure (NP... \bar{S} ,...) This explains some of the differences between English and Italian/French ARCs, namely, that only *wh*-pronouns are allowed to introduce ARCs in English (*Mary, who/*that/ *Ø you met yesterday*) and the possibility of generalized pied-piping.

The topic of cross-linguistic variation resumes in the section dedicated to Cinque's (2008) paper (see also §1.3.2.5B(d)).

4.2.2 Smits (1988)

Smits claims that a single syntactic analysis cannot account for the heterogeneous types of ARC found within a language and across languages. Alternatively, two different analyses are proposed: a constituency analysis (more precisely, an adjunction analysis) and an orphanage analysis, in which the antecedent and the ARC are two completely independent parts of the sentence containing them (see (523)).

(523) [_{XP} antecedent]...[ARC]

Two arguments are provided for the existence of the structure in (523). One is that ARCs may have split antecedents,³ as illustrated in (524).

(524) A man entered the room and a woman went out, who were quite similar.
(Demirdache 1991: 166)

³ The term *split antecedent* is used for an antecedent that consists of more than one non-conjoined noun phrases as in *John suggested to Mary that they should leave*; here, *they* takes as an antecedent the split antecedent *John* and *Mary*.

A constituency analysis is untenable because it would require the derivation of (524) to start with ARCs adjoined to each noun phrase, with one of the appositives deleted later. The problem is that such an analysis would not explain the presence of a plural verb form (*were*) found in the alleged visible ARC. An orphanage analysis, in contrast, can successfully derive ARCs with split antecedents. In this case, there is no direct structural link between the antecedent and the relative clause; therefore, nothing prevents the appositive from taking non-conjoined noun phrases as antecedent.

A second argument in favor of an orphanage approach concerns the existence of *pseudo-relatives* (see (525), from French) and *apparent extraposed ARCs* (see (526), from Dutch).

(525) Marie est là, qui pleure comme une Madeleine.
 M. is there who cries like a M.
 ‘Marie is there, and she is crying her heart out.’ (Smits 1988: 181)

(526) Ik wilde mijn zuster opzoeken, die echter niet thuis was.
 I wanted my sister visit who however not at.home was
 ‘I wanted to visit my sister, who wasn’t at home, however.’ (Smits 1988: 185)

Pseudo-relative clauses look like extraposed relatives; however, they are interpretationally different because they express an event in progress (whereby the apparent antecedent—*Marie* in (525)—participates). Apparent extraposed ARCs also look like extraposed relatives, but they have a specific type of meaning (such as continuative, resultative, or contrastive). Therefore, instead of referring to a noun phrase, they modify the whole state of affairs that is expressed in the preceding clause. For instance, the pseudo-relative clause A in (526) expresses the result of the action described in the main clause with the meaning “but the action described in the predicate was in vain” (Smits 1988: 186).

Given the interpretation associated with pseudo-relatives and apparently extraposed ARCs, Smits considers that they are closer to adverbial clauses than to true relative clauses, and, consequently, should be analyzed as involving the orphanage structure in (523). Note that, under this hypothesis, neither of the structures is limited by locality constraints and may freely occur in the rightmost position of the sentence.

4.2.3 Bianchi (1999)

The limitations of unitary approaches are also addressed in Bianchi (1999: 151 ff.), at least to some extent, by suggesting that not all types of ARC can be derived from the same syntactic structure (in this case, the raising analysis).

One serious problem Bianchi faces concerns the analysis of ARCs with non-nominal antecedents, as in (527). The raising analysis cannot derive such examples because the antecedent has to be selected by the relative determiner D_{rel} within the relative clause; thus, it has to be a nominal projection.

- (527) a. Mary is courageous, which I will never be.
b. John is in the garden, which is where I should be.
c. Mary has resigned, which John hasn't.
d. John was late, which was unfortunate. (Bianchi 1999: 151)

Another property Bianchi identifies as problematic for the raising analysis of appositives concerns the so-called *relatif de liaison* or *connecting relative*. These terms refer to relative pronouns that apparently introduce a main clause. Such an impression is given by the fact that they are separated from the antecedent by a full stop or other heavy punctuation (e.g. a colon or a semicolon), as in (528), from Latin.

- (528) id oppidum Lentulus Spinther X cohortibus tenebat; qui
this town L. S. with.ten cohorts held who
Caesaris adventu cognito profugit ex oppido
of.Caesar arrival known fled from town
'Lentulus Spinther held this town with ten cohorts; who, when he was
informed of the arrival of Caesar, left the town.' (1st c. BC, from Ramat
2005: 123)

According to Bianchi (1999: 152), this construction cannot be derived from the raising analysis because the head would be separated from the relative clause by a sentence boundary.

Even while recognizing these problems, Bianchi (1999) holds to a unitary approach to ARCs. To solve this paradox, she argues that sentences such as (527) and (528) may not be relative constructions at all; the relative pronoun can be taken as an anaphoric pronoun and the purported appositive may be either coordinated to the main clause or parenthetical.

4.2.4 Cinque (2008)

Cinque again takes up the non-unitary approach put forth in his 1982 paper, adding more empirical evidence and proposing a theoretical apparatus that reflects the recent developments in syntactic theory.

Assuming a cross-linguistic perspective, Cinque (2008) claims that there are two different types of ARC: the *integrated* and the *non-integrated* constructions (which roughly correspond to a constituency analysis and an orphanage analysis, respectively). Some languages display both constructions (e.g. Italian and

TABLE 4.1 Properties distinguishing *che/cui*-appositives from *il quale*-appositives

	<i>che/cui</i> - appositives	<i>il quale</i> -appositives
Subjects and objects represented by a wh-pronoun	–	+
Generalized pied-piping	–	+
Non-declarative illocutionary force	–	+
Non-adjacency	–	+
Split antecedents	–	+
Retention of the “internal” head	–	+
Non-identity of the “external” and “internal” heads	–	+
Non-nominal antecedents	–	+
Relative clause preposing	–	+
Parasitic gaps	+	–
Temporal DPs as antecedent	+	–
wh-pronoun coordinated with another DP	–	+

French), while others display only one. In the latter case, two options are available: some languages have only the integrated type (e.g. northern Italian dialects and, possibly, Chinese), whereas others have exclusively the non-integrated type (e.g. English and Romanian).⁴

In Italian, *il quale*-appositives belong to the non-integrated type, whereas *che/cui*-appositives belong to the integrated type.⁵ Evidence for this distinction comes from a number of syntactic properties that differentiate *che/cui*-appositives from *il quale*-appositives.⁶ These properties are summarized in Table 4.1; here a plus means ‘possible’ and a minus means ‘impossible’.⁷

From a cross-linguistic perspective, Cinque (2008) demonstrates that the behavior of ARCs with respect to the properties listed in Table 4.1 follows from the type of ARCs available in each language. Consider, for instance, the case of English, a language that displays only the non-integrated type. ARCs

⁴ Additionally there are some languages that apparently lack ARC clauses. As Cinque (2007) notes, these languages have to resort to coordination (e.g. Gungbe and Bunun) or to the apposition of generic nouns (such as *person*) followed by an RRC (e.g. Mixtecan).

⁵ In Cinque (1982 and 2008), it is assumed that there are two different types of ARC. However, Cinque (2008) does not retain the idea (suggested in Cinque 1982) that the two constructions have different “statuses” in the grammar of Italian, one belonging to the core grammar and the other being peripheral to it. In Cinque (2008) it is simply assumed that these constructions may coexist in the same language.

⁶ Some of these properties are discussed in Cinque (1982), but in less detail.

⁷ There is, however, one exception. In the first property listed in Table 4.1 (subjects and objects represented by a wh-pronoun), a minus means ‘no’ and a plus means ‘yes’.

in English pattern with Italian *il quale*-appositives in that they: (1) obligatorily retain *wh*-pronouns when the subject or the object is relativized (*Mary, who/*that/*Ø you met yesterday*); (2) allow pied-piping of phrases other than PPs (*Mary, to hire whom would be a great opportunity*); (3) may have non-declarative illocutionary force (*Your father, by whom will we ever be forgiven for what we have done?, would never have behaved like that*); (4) may have an additional internal head (*John was almost at the end of his financial resources, which fact led him to look for a cheaper house*).

Conversely, in northern Italian dialects, which only display the integrated type, ARCs pattern with Italian *che/cui*-appositives; as a result, they behave like Italian *che/cui*-appositives as far as the properties in Table 4.1 are concerned.

As for the syntax of ARCs, Cinque (2008) argues that the integrated type involves a syntactic structure similar to RRCs. Following the ideas put forth in his recent work (2003, 2009), Cinque claims that relative clauses are generally merged in a pre-nominal position and that the post-nominal order found in languages such as English and Portuguese is ultimately derived from the leftward movement of the head past the relative clause,⁸ as represented in (529).

- (529) a. [IP_{rel} [DP Dem [Num [A NP]]]] (merge of C₀ and attraction of IP) →
 b. IP_{relj} C₀ [t_j [DP Dem [Num [A NP]]]]
 (merge of C₁ and attraction of the *wh*-pronoun/‘internal Head’) →
 c. wh_{i-} [C₁ [TP_{rel} t_i]_j C₀ [t_j [DP Dem [Num [A NP]]]]
 (merge of C₂ and attraction of the ‘external Head’) →
 d. [DP Dem [Num [A NP]]]_k C₂ wh_{i-} [C₁ [TP_{rel} t_i]_j C₀ t_j [t_k]]
 quei dieci bei gattini che io amo
 ‘those ten nice kittens, which I love’ (Cinque 2008: 116–17)

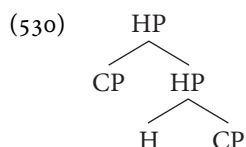
Note that, first, the relative IP is merged above the determiner/demonstrative;⁹ this yields the order in (529a), with the relative clause in a pre-nominal position. The

⁸ Cinque (2003, 2009) aims to derive the different types of relative clause found in the languages of the world (post-nominal, pre-nominal, internally headed, headless, correlative) from the same structure. Specifically, he proposes that pre-nominal relatives (found in “rigid” OV languages) reflect the structure of Merge, and that post-nominal (and the other types of) relative are derived from this basic structure.

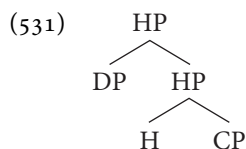
⁹ RRCs differ from ARCs in this respect: in RRCs the relative IP is merged in the specifier above the specifiers that host attributive adjectives and numerals and below the projection that hosts determiners and demonstratives; in ARCs, the relative IP is merged in the specifier of a nominal projection dominating DP (to be outside of the scope of the determiner or demonstrative).

procedure for deriving the post-nominal order is complex, as it involves a *matching* and a *raising* variant. The basic idea is that after IP raising to a higher licensing position, the complementizer C_1 is merged and attracts the *wh*-pronoun/internal head. Then, there are two possible ways for the derivation to proceed. Under the matching variant, the complementizer C_2 is merged, which attracts the external head, and the internal head is deleted. Under the raising variant, the external head is not raised but rather deleted in situ under identity with the raised internal head.

As for the non-integrated type, Cinque (2008) proposes a more tentative approach. Extending Kayne’s LCA to Discourse Grammar, the author derives linear precedence in a discourse from asymmetric *c*-command. Technically, a linearly preceding main sentence occupies the specifier of an (empty) head, which, in turn, takes the following main sentence as its complement, as in (530).



However, discourse fragments do not always involve concatenation at the CP level. A DP may precede a CP, as in: *A pink shirt? I will never wear any such thing in my life!* (Cinque 2008: 118). Hence, a representation like (531) is also available.



According to Cinque, similar structures are involved in non-integrated ARCs. In this case, the complement position hosts the relative clause and the specifier hosts the relevant discourse unit containing the antecedent. If non-integrated ARCs take an antecedent across the discourse, the specifier hosts the preceding sentence (or discourse fragment), as in (530). If there is adjacency between a nominal antecedent and the relative clause, the specifier position hosts a DP, as in (531).

4.3 Properties of *o qual*-appositive relatives

In this section, I provide background information on the relative pronoun *o qual* (§4.3.1) and offer an overview of the properties of *o qual*-ARCs in CEP (§4.3.2) and earlier stages of Portuguese (§4.3.3).

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4.3.1 The relative pronoun *o qual*

The relative pronoun *o qual* (and its counterparts in other Romance languages: Italian *il quale*, Engadine *il quèl*, French *lequel*, Catalan *el qual*, Spanish *el cual*, Romanian *care*) is etymologically derived from the Latin form *QUĀLIS* (Posner 1996: 306, among others).

In Latin, *quālis* was used as a *wh*-element in interrogative clauses (see (532)) and exclamatives (see (533)). It could also occur in correlative structures of the type *quālis... talis* (see (534)).

(532) *qualis ista philosophia est?*
what this philosophy is
'What kind of philosophy is this?' (1st c. BC, from Ernout and Thomas 1972: 156; glosses and translation mine)

(533) *hei mihi, qualis erat!*
oh my what was.3SG
'Oh my! How sad he looked!' (1st c. BC, from Ernout and Thomas 1972: 156; glosses and translation mine)

(534) *qualis pater, talis filius*
like father like son
'Like father, like son.' (Stone 2005: 198)

However, there is no evidence for the use of *quālis* as a relative pronoun in Classical Latin, nor in Vulgar Latin (Middleton 2000: 121–2). For this reason, there is a debate in the literature regarding the emergence of this relative pronoun. The basic question is whether it is a Romance innovation, or the result of a process that started in Latin. For further details about this debate, see Kunstmann (1991), Middleton (2000), and Ramat (2005).

4.3.2 Contemporary European Portuguese

In CEP, the form *qual*, derived from *quālis*, can still be used in interrogatives (535), exclamatives (536),¹⁰ comparatives (537), and as a member of correlative connectives (538).

(535) a. *Quais livros compraste?*
what books bought.2SG
'What books did you buy?' (Brito, Duarte, and Matos 2003: 464)

¹⁰ The sentence in (536) expresses metalinguistic negation, a phenomenon that occurs in English sentences such as *Like hell Al and Hilary are married; Al and Hilary are married my eye* (Drozd 2001: 55).

- b. Quais compraste?
what bought.2SG
'Which ones did you buy?' (Brito, Duarte, and Matos 2003: 464)
- c. Qual deles tinha coragem para começar?
which of.them had courage to start.INF
'Which of them had the courage to start?' (Cunha and Cintra 1997: 355)
- (536) Quais feitios, qual vida!
what tempers what life
'Tempers life, my eye!' (Cunha and Cintra 1997: 356)
- (537) Nadava qual peixe.
swam.3SG like fish
'He swam like a fish.' (Cuesta and Luz 1971/1980: 507)
- (538) Este chapéu é tal qual o meu.
this hat is just like the mine
'This hat is just like mine.' (Cuesta and Luz 1971/1980: 507)

Crucially, in these contexts, *qual* cannot be preceded by a definite article. In contrast, when introducing relative clauses, *qual* is always preceded by the definite article *o* 'the'; see (539).¹¹

- (539) Este governo atacou os direitos dos professores, *(os) quais
this government attacked the rights of.the teachers the which
ficaram bastante prejudicados com as medidas tomadas.
became very affected with the measures taken
'This government limited the rights of the teachers, who were very affected
by the measures implemented.'

In this case, the definite article is incorporated in the relative pronoun because no element can break the adjacency between the definite article and the *wh*-element (**o* preposition/adverb/noun/adjective *qual*). Within the complex pronoun,¹² the definite article is inflected for gender and number, whereas *qual* is inflected only for number (*o qual* 'the.M.SG which.SG'; *os quais* 'the.M.PL which.PL'; *a qual* 'the.F.SG which.SG', and *as quais* 'the.F.PL which.PL').

¹¹ The same is true of other Romance languages: the counterparts of the relative *o qual* also incorporate a definite article. The only exception is the Romanian *care*, which cannot be preceded by the article. It could have an article, however, in the 19th century: masculine *care-le*, fem. *care-a* (Ramat 2005).

¹² The internal complexity of *o qual* explains why it is sometimes dubbed a *complex pronoun* (Inada 2007).

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As for the syntactic and semantic properties of *o qual*-ARCs in CEP, two properties are worth describing (Brito 1991; Brito and Duarte 2003). First, *o qual*-ARCs can relativize the subject (see (540)), the direct object (see (541)), and the object of a preposition (see (542) and (543)).¹³

- (540) Já entreguei o processo ao meu advogado, o qual
already gave.1SG the process to.the my lawyer the which
dispõe de um mês para contestar a decisão.
has DE.PREP one month to contest.INF the decision
'I have already referred the matter to my lawyer, who has one month to
contest the decision.'
- (541) Recebemos algumas candidaturas incompletas, as quais excluímos
received.1PL some applications incomplete the which excluded.1PL
de imediato.
DE.PREP immediate
'We received some incomplete applications, which we excluded
immediately.'
- (542) O ministro foi alvo de muitas críticas, às quais
the minister was subject DE.PREP many critiques to.the which
respondeu com agressividade.
answered.3SG with aggressiveness
'The minister was subject to severe criticism, to which he replied in an
aggressive manner.'
- (543) No passado dia 2 realizou-se a 5.^a edição do *Portugal*
in.the last day 2 took.place-SE.CL the 5th edition of.the *P.*
Fashion, na qual participaram dez estilistas portugueses.
F. in.the which participated ten fashion.designers Portuguese
'On the 2nd of this month, the 5th edition of *Portugal Fashion* took place,
in which ten Portuguese fashion designers participated.'

¹³ In CEP, *o qual* may also introduce RRCs. However, in such a syntactic environment, it cannot relativize the subject and the object. By way of illustration, see examples (i) and (ii), from Brito (1991: 156).

- (i) *O homem o qual escreveu é meu amigo.
the man the which wrote is my friend
'The man who wrote (it) is a friend of mine.'
- (ii) *O homem o qual eu vi ontem é meu amigo.
the man the which I saw yesterday is my friend
'The man whom I saw yesterday is a friend of mine.'

Secondly, the pronoun *o qual* is compatible with human and non-human antecedents (see e.g. the contrast between (540) and (541)).

Finally, a word is in order regarding the use of *o qual*-ARCs in CEP. In general, relative clauses introduced by *o qual* are perceived by speakers as a formal and ‘prestige’ construction. Its use is regarded as somewhat artificial and less natural than, for instance, the use of relative clauses introduced by *que* ‘that’ (the same form as the complementizer).

Closely related to speakers’ perception of these relatives is the higher frequency of *o qual* relatives in written than in spoken texts. To confirm this tendency, I performed a corpus-based analysis of spoken and written Portuguese. Two corpora of roughly the same size were selected: *C-ORAL-ROM* (containing 320,452 words, in the Portuguese section), for spoken Portuguese, and a subcorpus of *CRPC* (*jornal_annotado_RL*), containing texts from some Portuguese newspapers (with 336,151 words). The results clearly show the tendency of *o qual* to occur in written texts; the spoken corpus yields 56 tokens of *o qual*, whereas the written corpus contains 207 tokens.¹⁴

The same tendency is observed for other contemporary Romance languages. Corominas and Pascual (1980: 257ff.), for instance, mention that contemporary spoken Spanish has totally abandoned *el cual*, and Fiorentino (1999: 92–3) notes the rarity of *il quale* in a spoken corpus of contemporary Italian (see Ramat 2005, and references therein).

4.3.3 Earlier stages of Portuguese

Earlier stages of Portuguese pattern with CEP with respect to the properties of *o qual*-ARCs mentioned in §4.3.2.

Regarding the internal structure of *o qual*, the same pattern is found: in the corpus edited by Martins (2001), the *wh*-element is always combined with the definite article, and no element can disrupt the article+*wh*-element sequence. The *wh*-element may occur without the definite article, but not in ARCs.¹⁵ Its occurrence is limited to RRCs (see (544)) and free relative clauses, with or without an additional internal head (see (545) and (546), respectively).¹⁶

¹⁴ Note that these tokens include both *o qual*-ARCs and *o qual*-RRCs.

¹⁵ For the occurrence of *qual* without article, see also Maia (1986: 696) and Mattos e Silva (1989: 752 n. 17). The examples cited in these studies seem to corroborate the idea that *o qual* without an article introducing a headed relative clause preferentially has a restrictive interpretation.

¹⁶ In the corpus edited by Martins (2001), *qual* (without the definite article) can also occur as a member of the correlative pair *tal... qual* ‘such... as’ (see (i)) and as an element introducing a nominal constituent (see (ii)).

(i) e quaéés dereituras sēpre deu táées dares tu
 and which rents always gave.3SG such give.INF.2SG you
 ‘and you must pay the same rent that he paid’ (13th c., Martins 2001: 117)

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- (544) que faça ou façã ende stromêto ou stromêtos
 that make.SBJV.3SG or make-SBJV.3PL of.it deed or deeds
 quaes les o dito Steuã perez mãdar fazer
 which them-CL the mentioned S. P. order.SBJV make.INF
 ‘(and I order that) he make or they make the deed or deeds that the afore-
 mentioned Steuã Perez ordered them to make’ (13th c., Martins 2001: 132)
- (545) quays fforom presentes.
 which were present
 ‘who were present: [list]’ (13th c., Martins 2001: 363)
- (546) e pera fazer ende carta [...] per qual Tabellion que a esta
 and to make.INF of.it letter by which notary that to this
 cousa for demandado
 thing be.SBJV summoned
 ‘and to compose a letter by whichever notary that be summoned to this thing’
 (13th c., Martins 2001: 355)

Likewise, earlier stages of Portuguese allow *o qual*-ARCs to take human and non-human antecedents, as shown in (547)–(548).

- (547) todollos herdamêtos e Cassaes que nos Auemos [...] ãno
 all.the lands and hamlets that we have in.the
 Couto de negrelhos que este Alen doyro o qual ha
 ±property of N. that is beyond D. the which to
 nos fficou de parte de nosso padre
 us.CL stayed from part of our father
 ‘all the lands and hamlets that we have in the property of Negrelhos, which is
 beyond Doyro, which was left to us by our father’ (14th c., *DCMP*)
- (548) e leixo a dita mha testamêteira por affom que
 and leave.1SG to mentioned my executor by work that
 auera dez libras aA qual dou e outorgo comprido
 have.FUT.3SG ten l. to.the which give.1SG and grant.1SG full
 poder.
 power
 ‘and I leave ten *libras* [currency] to my executor for the work that she will
 have; and I give and grant her full power (to distribute my money and
 property)’ (14th c., Martins 2001: 464)

- (ii) damos [...] a uos Afonso rodriguiz nosso irmão qual filho de nosso
 give.1PL to you A. R. our brother as son of our
 padre quantos herdamentos nos auemos
 father all.that lands we have
 ‘we give you Afonso Rodriguiz, our brother, as son of our father, all the lands that we have’ (13th c.,
 Martins 2001: 154)

Finally, *o qual*-ARCs in earlier stages of Portuguese pattern with their contemporary counterparts in the possibility of relativizing the subject (547), the object of a preposition (548), and the direct object (549).¹⁷

- (549) per hũa procuraõ feyta per mááo de Domĩgos stephães
 by a letter.of.attorney made by hand of D. S.
 Tabellion das Alcaçouas. a qual eu Johã soarez Tabellion da
 notary of.the A. the which I J. S. notary of.the
 Cidade de Lixbõa ui, líj
 city of L. saw read
 ‘by one letter of attorney created by Domĩgos Stephães, notary of Alcaçouas,
 which I, Johã Soarez, notary of Lisbon, saw and read.’ (13th c., Martins 2001:
 354)

4.4 Contrasting properties of *o qual*-appositive relatives

Whereas §4.3 focuses on some properties with respect to which *o qual*-ARCs in CEP and in earlier stages of Portuguese behave alike, the present section offers an overview of the syntactic properties that differentiate the two constructions, namely: (1) additional internal head (§4.4.1); (2) extraposition (§4.4.2); (3) pied-piping (§4.4.3); (4) clausal antecedents (§4.4.4); (5) split antecedents (§4.4.5); (6) coordination of the *wh*-pronoun with another DP (§4.4.6); (7) illocutionary force (§4.4.7);

¹⁷ In the case of RRCs introduced by *o qual*, there is, however, one important contrast between CEP and earlier stages of Portuguese. As mentioned in n. 13, *o qual*-RRCs in CEP can only relativize the object of a preposition (see (i)). This restriction does not hold, however, for earlier stages of Portuguese (Lucchesi 1990). See e.g. (ii) and (iii), where the direct object is relativized.

- (i) O Millennium é o banco ao qual recorro mais vezes.
 the M. is the bank to.the which resort.1SG more times
 ‘The Millennium is the bank I work with more often.’
- (ii) obligo a uos e empenhoro hũa nossa Casa. a qual nos auemos
 pawn.1SG to you and pledge.1SG a our house the which we have
 en Lixbõa.
 in L.
 ‘I pawn and pledge to you a house of ours that we have in Lisbon.’ (13th c., Martins 2001: 354)
- (iii) que façã a eles entregar todas herdades as quae a
 that make.SBJV.3PL to them return.INF all.the lands the which to
 esses Moesteiros e a essas Egreias tẽẽ e teuerõ filhados.
 those monasteries and to those churches have.3PL and had.3PL seized
 ‘(I order) that they make them return all the lands that they have seized from those monasteries’
 (13th c., Martins 2001: 168)

and the presence of a spelled-out coordinator (§4.4.8).¹⁸ Each section comprises three parts: evidence from CEP, cross-linguistic evidence, and evidence from earlier stages of Portuguese. As the reader will notice, there are some sections (§§4.4.1–3) that require more detail (and space) than others. This is due to the properties discussed there being robustly attested in earlier stages of Portuguese and being subject to various restrictions, which require more complex descriptive devices. I base the discussion in this chapter on my own intuitions, supplemented by judgments obtained from other native speakers of CEP. Whenever possible, I support the introspective judgments with data taken from corpora. Divergent judgments are reported and discussed in §4.6.2.

4.4.1 *Internal head*

4.4.1.1 *Contemporary European Portuguese* *O qual*-ARCs in CEP cannot exhibit an additional internal head. This impossibility is illustrated in (550) and (551) with a nominal and a non-nominal ARC, respectively.¹⁹

- (550) *Existem argumentos fortes a favor dessa análise,
there. are arguments strong in favor of. that analysis
os quais argumentos apresentarei de seguida.
the which arguments present-FUT.1SG DE.PREP next
'There are strong arguments in favor of that analysis, which arguments I will present next.'
- (551) *Os portugueses não gostam de música portuguesa, o
the Portuguese. people not like DE.PREP music Portuguese the
qual facto explica a escassa produção musical deste país.
which fact explains the sparse production musical of. this country
'The Portuguese people do not like Portuguese music, which fact explains the sparse musical production of this country.'

Two alternative constructions can be used in these contexts: (1) the ARC can be introduced by a relative pronoun (and no internal head is present) (see (552a)–(553a)); (2) the appositive construction can surface with an additional external head;²⁰ in this case, a noun phrase is modified by an RRC, and the

¹⁸ These properties are partially discussed in Cardoso (2008, 2011) and Cardoso and De Vries (2010).

¹⁹ In §4.4.1, the internal head is underlined for expository purposes.

²⁰ For technical details on the implementation of the additional internal head, see §1.3.2.5B(d).

complex (noun phrase + RRC) is in apposition to the antecedent (see (552b)–(553b)).²¹

- (552) a. Existem argumentos fortes a favor dessa análise,
there. are arguments strong in favor of. that analysis
os quais apresentarei de seguida.
the which present. FUT. 1SG next
'There are strong arguments in favor of that analysis, which I will present next.'²²
- b. Existem argumentos fortes a favor dessa análise,
there. are arguments strong in favor of. that analysis
argumentos que apresentarei de seguida.
arguments that present. FUT. 1SG DE. PREP next
'There are strong arguments in favor of that analysis, arguments that I will present next.'
- (553) a. Os portugueses não gostam de música portuguesa,
the Portuguese. people not like DE. PREP music Portuguese
o que explica a escassa produção musical deste país.
the which explains the sparse production musical of. this country
'The Portuguese people do not like Portuguese music, which explains the sparse musical production of this country.'
- b. Os portugueses não gostam de música portuguesa,
the Portuguese. people not like DE. PREP music Portuguese
facto que explica a escassa produção musical deste país.
fact that explains the sparse production musical of. this country
'The Portuguese people do not like Portuguese music, a fact that explains the sparse musical production of this country.'

4.4.1.2 *Cross-linguistic evidence* Languages do not behave uniformly regarding the occurrence of an additional internal head. Smits (1988) shows that there is cross-linguistic variation in this respect, as summarized in Table 4.2. Some examples of this structure are given in (554)–(558) (from Smits 1988: 65, 306, 321, 369, 272, 288).²³

²¹ For more details on the constructions in (552b) and (553b), see Peres and Mória (1995: 270–1), Brucart (1999: 423), and Brito and Duarte (2003: 674–5).

²² Note that the English translation of the sentence (552a) is ambiguous because *which* can take as antecedent either *analysis* or *strong arguments*. In CEP, this ambiguity does not arise because the inflectional marks (for number and gender) of the relative pronoun *os quais* 'the.M.PL which.PL' indicate that the antecedent is necessarily *fortes argumentos* 'strong arguments'.

²³ Smits (1988) uses the symbol '%' to indicate that it is a highly formal and marked construction.

TABLE 4.2 Appositive relatives with an additional internal head

Languages	Pronoun	Nominal ARCs	Non-nominal ARCs
Italian	<i>il quale</i>	+	–
Spanish	<i>el cual</i>	+	–
Catalan	<i>el qual</i>	arch.	+
French	<i>lequel</i>	+	+
Dutch	<i>welke</i>	+	+
German	<i>welcher</i>	+	+
English	<i>which</i>	+	+
Swedish	<i>vilken</i>	+	
Norwegian	<i>hvilken</i>	+	
Danish	<i>hvilken</i>	+	
Portuguese	no form		
Romanian	no form		
Icelandic	no form		

Note: The table is from Smits (1988: 65). The abbreviation arch. stands for ‘archaic’.

Italian:

- (554) %Cercavo una ragazza, con la quale ragazza uscire a cena.
 looked.for a girl with the which girl go.OUT.INF A.PREP dinner
 ‘I was looking for a girl, with which girl to go out and dine.’ (Smits 1988: 65)

Spanish:

- (555) %Los ejemplos de este fenómeno que he presentado, en los
 the examples of this phenomenon that have.1SG presented, in the
 cuales ejemplos he pensad mucho, no dejan de
 which examples have.1SG thought much not cease DE.PREP
 confundirme.
 confuse.me.CL
 ‘The examples of this phenomenon that I presented, about which examples
 I have thought much, never cease to confuse me.’ (Smits 1988: 306)

French:

- (556) Toutes les idées que j’aurais à développer, lesquelles idées sont
 all the ideas that I.have.COND to develop the.which ideas are
 exposées en détail dans ce mémoire
 laid.out in detail in this report
 ‘All the ideas that I would have to develop, which ideas are laid out in this
 report’ (Smits 1988: 321)

German:

- (557) Er sagte “Guten Tag,” welchen Gruß sie freundlich erwiderte.
he said good day which greeting she friendly returned
‘He said “good day,” which greeting she friendly returned.’ (Smits 1988:
272)

English:

- (558) My dog, which faithful animal has guarded me for years, died last week.
(Smits 1988: 288)

4.4.1.3 *Earlier stages of Portuguese* Variation can also be found in the diachronic dimension. Several authors have pointed out that *o qual*-ARCs in earlier stages of Portuguese can exhibit an additional internal head (Dias 1933/1970: §93; Said Ali 1931/1971: §515–16; Huber 1933/1986: §347; Barreto 1911/1980: 141; Neto 1957/1970: 509; Maia 1986: 696–7; Lucchesi 1990: 181; A. Costa 2004: 419). A case in point is given in (559).

- (559) entrego e outorgo. ao Mosteiro de san Salvador de
give.1SG and concede.1SG to.the monastery of S. S. DE.PREP
Moreyra. hũu casal que e en Rial de Pereyra. o qual
M. a hamlet that is in R. DE.PREP P. the which
casal a dita dona Mayor uëegas [...] mandou ao
hamlet the mentioned D. M. V. left to.the
dito Mosteiro.
mentioned monastery
‘I give and concede a hamlet that is located in Rial de Pereyra to the
monastery of San Salvador de Moreyra, which hamlet the aforementioned
Dona Mayor Vëegas left to the monastery.’ (13th c., Martins 2001: 143)

This possibility is also documented in Latin, as illustrated in (560). According to Ernout and Thomas (1972: 332) and Bassols de Climent (1967: 240), an additional internal head is found primarily in formal contexts, especially in legal documents. Its use can be explained as a strategy to avoid ambiguity when the relative and the antecedent are non-adjacent, as a way of conferring more precision on the utterance.

- (560) erant omnino itinera duo, quibus itineribus domo exire
were in.all routes two by.which routes from.home leave-INF
possent
could.SBJV.3PL
‘There were but two routes, by which routes they could leave home.’ (1st c.
BC, from Finch 2006: 36)

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In historical Portuguese, *o qual*-ARCs with an additional internal head are attested in texts from different periods and belonging to different textual typologies. Examples (561)–(567) provide illustrations of the construction in different textual genres, namely, notarial documents (561), historiographic texts (562), dissertations (563), travel literature (564), theatre (565), letters (566), and religious texts (567). Note further that examples (559) and (561)–(567) range over different periods, from the thirteenth to the eighteenth century.

- (561) E ffica ao dito Gomez perez e a ssa molher hũu
 and stays to.the mentioned G. P. and to his wife a
 prazo que cõta que e de Orraca perez e de
 ±contract that mentions that is DE.PREP O. P. and DE.PREP
 Affonso bēetíz pelo qual prazo deuyã a dõna.
 A. B. by.the which ±contract owed.3PL to D.
 Steuahya hũa soma de dinheiros.
 S. a amount of money
 ‘And a contract—which was made with Orraca Perez and Affonso Bēetíz—is assigned to Gomes Perez and his wife, under which contract they owed an amount of money to Dona Steuahya.’ (14th c., Martins 2001: 401)
- (562) ao quall foy emcomendada outra torre que está jumto com
 to.the which was commissioned another tower that is close by
 ha outra de Fez [...], a quall torre emtão hera chamada
 the other DE.PREP F. the which tower then was called
 de Madraba
 DE.PREP M.
 ‘who was commissioned another tower that is close by the other tower of Fez, which tower was then called Madraba’ (15th c., from Brocardo 1997: 201)
- (563) Esquizo são as primeiras linhas ou traços que se fazem com a
 sketch are the first lines or strokes that SE.CL make with a
 pena, ou com o carvão, dados com grande mestria e
 pen or with the charcoal executed with great perfection and
 depressa, os quaes traços comprehendem a idea e invenção do
 rapidly the which strokes contain the idea and invention of
 que queremos fazer.
 what want.1PL make.INF
 ‘A sketch is the first lines or strokes that are made with a pen, or with charcoal, executed with great perfection and quickly, which strokes contain the idea and the invention of what we want to make.’ (16th c., TYC)

- (564) a origem do rio procedia de hum lago que se
the beginning of.the river came DE.PREP a lake that SE.CL
chamaua Pinator, que demoraua a leste daquelle mar
called P. that was A.PREP east of.that sea
duzentas e sessenta legoas, no reyno de Quitirvão, o
two.hundred and sixty leagues in.the kingdom of Q. the
qual lago estaua cercado de grandes serranias
which lake was encompassed DE.PREP huge mountains
'the river had its source in the lake known as Pinator, which was two hundred
and sixty leagues east of the sea in the kingdom of Quitirvão, encircled by
high mountains' (16th c., TYC)
- (565) imaginei ãa festa/ à nossa Júlia modesta/ nacida per
imagined.1SG a party to.the our J. modest born by
mão de Deos/ a qual festa será esta.
hand of God the which party be.FUT this
'I imagined a party/for our modest Júlia/born by the hand of God/which
party will be as follows.' (16th c., Camões 1999)
- (566) os padres totalmente desconfiam de os índios haverem
the priests fully doubt DE.PREP the Indians have.3PL
de descer sem violência a qual violência não é
DE-PREP resettle.INF without violence the which violence not is
menos duvidosa
less doubtful
'the priests fully doubt that the Indians would resettle without violence,
which violence is no less doubtful' (17th c., TYC)
- (567) esta prodigiosa demonstraçãõ, foy a reposta que o Senhor
this prodigious demonstration was the answer that the Lord
lhe deu, da qual veyo a entender hauia
her.CL gave from.the which came A.PREP understand.INF had
muyto que cortar [..]. A qual revelaçãõ se veyo a
much what cut.INF the which revelation SE.CL came A.PREP
verificar.
verify.INF
'this prodigious demonstration was the answer that the Lord gave her, from
which she realized that there was a lot to be cut. This revelation came true.'
(18th c., TYC)

In earlier stages of Portuguese, *o qual*-ARCs with an additional internal head can be characterized according to five main properties: (1) categorial nature of the internal

head; (2) semantic class of the nominal internal head; (3) relation between the antecedent and the internal head; (4) expansion of the internal head; and (5) contexts of occurrence. These properties are listed in §§4.4.1.3A(a)–(e).

A. Properties of the additional internal head

(a) Categorical nature of the internal head

The antecedent of an ARC with an additional internal head can be nominal or non-nominal. ARCs with nominal antecedents are given, for instance, in (561) and (562). ARCs with non-nominal antecedents are illustrated in (568)–(569). Note that in (568) the antecedent is clausal, whereas in (569), it is an adverbial phrase (modified by an RRC).

(568) os ditos cassaaes fforõ cõprados dos dinheiros do
 the mentioned hamlets were bought DE.PREP.the moneys of.the
 dito mosteiro polla quall Razom de derejto perteçem
 mentioned monastery by.the which reason DE-PREP right belong.3PL
 e perteçyam ao dito mosteiro
 and belonged.3PL to.the mentioned monastery
 ‘the aforementioned hamlets were bought with the money of the aforementioned monastery, for which reason they belong and belonged to the monastery by right’ (15th c., Martins 2001: 262)

(569) A sombra não se ha de dar senão ali onde não
 the shade not SE.CL has DE.PREP apply.INF except there where not
 alcança a lux e claridade, o qual lugar fica logo
 reach.3SG the light and brightness the which area is consequently
 inobre.
 degraded
 ‘Shade is not to be applied except where the light and clarity do not reach, which area is consequently degraded.’ (16th c., TYC)

Importantly, these examples show that, regardless of the category of the antecedent, the internal head is always nominal.

(b) Semantic class of the nominal internal head

There seems to be no restriction on the semantic class of nouns that can appear as an internal head. For instance, the additional head can be a proper name (570), a count noun (571), or a non-count noun (572).²⁴

²⁴ Note that in (572) the antecedent includes a non-count noun (*vinho* ‘wine’) associated with a unit of measurement (*tonell* ‘vat’).

- (570) o dito Johã viçente disse que a dita vjnha
the mentioned J. V. said that the mentioned vineyard
trouxera ã outro tempo Luzia domingujz [...] A qual Luzía
bring.PPRF in other time L. D. the which L.
domingujz Era ffinada deste mondo
D. was deceased from.this world
'the aforementioned Johã Viçente said that Luzia Domingujz once owned the
aforementioned vineyard (in emphyteusis), which Luzía Domingujz was not
no longer in this world.' (14th c., Martins 2001: 454)
- (571) cõfesamos que nos Recebemos de uos Martjn saluadorez Cjncoeëta
confess.1PL that we received of you M. S. fifty
libras de dinheiros portugéeses as quaes #Lta libras a nos erõ
l. of currency Portuguese the which fifty l. to us were
Julgadas per Sentêca
attributed by sentence
'we confess that we received from you Martjn Saluadorez fifty *libras* of the
Portuguese currency, which fifty *libras* were assigned to us by court order'
(14th c., Martins 2001: 454)
- (572) que dem e paguem de foro e pensom da
that give.SBJV.3PL and pay-SBJV.3PL DE.PREP tenancy and rent of.the
dicta qujntãa en cada hũu año hũu tonell de vinho, puro do
mentioned farm in each a year one vat of wine pure of.the
que deus der nas vjnhas [...] o quall vinho sera vermelho.
that god give.SBJV in.the vineyards the which wine be.FUT red
'as for the renting of the aforementioned farm, I demand that they pay each
year one vat of the pure wine that God gives in the vineyards, which wine will
be red' (16th c., Martins 2001: 538)

(c) Relation between the antecedent and the internal head

There can be phonological and semantic identity between the head noun contained within the antecedent and the internal head, as shown, for instance, in (566). However, both elements can also differ. In this case, there are a number of possibilities. When the antecedent is nominal, the internal head can be a true synonym of the antecedent, as in (573). It can also express a defining property of the antecedent, as in (574), or a more specific classificatory property, as shown in (575).

- (573) mostrarõ logo ã Jujzo húú testamêto [...] na
showed.3PL immediately in judgment a testament in.the
qual mãda fazia mẽçom Antre as outras coussas que A
which will made mention among the other things that it.CL

mãdara fazer Sancha gíl.
 order.PPRF make.INF S. G.

‘they immediately showed a testament before the judge, in which will it was mentioned, among other things, that Sancha Gil ordered him to make it.’ (14th c., Martins 2001: 189)

- (574) e começou a era de quatrocentos e oito: no quall ano,
 and started the era of four.hundred and eight in.the which year
 estando el-rrei dom Henrique na villa de Touro, soube [...] be.GER the.king D. H. in.the village DE.PREP T. knew.3SG
 ‘and the era of four hundred and eight started, in which year, being in the village of Touro, the king Dom Henrique became aware that...’ (15th c., Macchi 1975: 129)

- (575) as quaees letras forõ probicadas a dom lourenço [...] o qual
 the which letters were addressed to D. L. the which
 arçebispo obedecendo aas dictas letras fez sobre ello seus
 archbishop obey.GER to.the mentioned letters made on it his
 processos
 processes
 ‘these letters were addressed to Dom Lourenço, which archbishop based his processes upon them’ (15th c., Martins 2001: 240)

If the antecedent is clausal, the additional internal head is typically a general abstract noun such as Razom ‘reason’ in (568). However, it can also be a more specific verbal noun that is morphologically related to a verb introduced in the preceding context; see (576), where the noun *pitiçon* ‘request’ is morphologically related to the preceding verb *pedir* ‘to request’.

- (576) E como Eu dito priol lhe pedise e Mådase
 and as I mentioned prior him.CL request.SBJV and order.SBJV
 pedir A dita palha [...] A qual pitiçon o dito
 request.INF the mentioned straw the which request the mentioned
 francisco martjnz cõtestou dela
 F. M. contested of.it
 ‘And as I, the aforementioned prior, requested and ordered them to request of him the straw, which request Francisco Martjnz contested...’ (14th c., Martins 2001: 223)

(d) Expansion of the internal head

The internal head NP can be a conjoined phrase, as is shown in (577). In these contexts, there is typically first conjunct agreement for phi-features between the relative pronoun and the noun in the first conjunct (*casal* ‘hamlet’ in (577)).

- (577) ffazemos prazo [...] dũu Casal que auemos en Cũpustelá e
make.1PL ±contract of.a hamlet that have.1PL in C. and
dũu meio Barco en verdugo O qual casal e meio Barco
of.a half boat in V. the.SG which.SG hamlet and half boat
ora trage Maria
now brings M.
'we make a contract of a hamlet in Cũpustelá and half a boat in Verdugo, which
hamlet and half boat now belong to Maria' (14th c., Martins 2001: 171)

The internal head can also be modified by different categories, such as a PP (578) or even a relative clause (579).

- (578) o quall casal com suas perteenças disse que trazia ã
the which hamlet with its belongings said.3SG that brought in
pregã
cry
'which hamlet with its belongings was being announced to be for sale' (15th
c., Martins 2001: 513)
- (579) os quaaes dinheiros que uos eu assy hey de dar
the which moneys that you.CL I this.way have DE.PREP give.INF
e pagar uos auya de pagar Joham
and pay.INF you-CL had DE.PREP pay.INF J.
'which money that I will give and pay you Joham should pay you' (15th c.,
Martins 2001: 492)

Furthermore, the internal head can be extended by a numeral, as in (571), or a possessive, as in (580). Both are construed pre-nominally. The occurrence of universal quantifiers is also attested, typically in a post-nominal position (581).

- (580) aos quaes meus procuradores dou cõprido poder
to.the which my attorneys give.1SG full power
'to which my attorneys I give full power' (14th c., Martins 2001: 422)
- (581) das quaées coussas todas o dito Priol por ssj e
of.the which things all the mentioned prior by him and
pelo Conuẽto de sseu Mostejro pedeu ende A m̃j dito
by.the convent of his monastery asked of.it to me mentioned
tabaliõ este strumento
notary this deed
'of which things the aforementioned prior in his name and in the name of
the convent of the monastery asked me to make this deed' (14th c., Martins
2001: 190)

(e) Contexts of occurrence

As previously mentioned, the presence of an internal head can sometimes be explained as a way of avoiding ambiguity. Consider, for instance, the sentence in (582); in this example, the lack of the internal head could lead to ambiguity, as it would not be clear whether the antecedent was *sua força* ‘his force’ or *Autorydade* ‘authority’.

- (582) o dito prioll per sua força e Autorydade lha
 the mentioned prior by his force and authority from.him.CL.it.CL
 tomara fforçadóo della A qual fforça djzia que [...] take.PPRF forcing.him.CL of.it the which force said.3SG that
 ‘the prior had taken it [the cow] and his daughter from him by force and authority, resorting to violence, which force he said (had taken place in March)’ (14th c., Martins 2001: 226)

The presence of an additional internal head is also favored in contexts in which the antecedent and the ARC are not adjacent. In the corpus-based investigation presented in Cardoso (2008), I have shown that, in earlier periods of Portuguese until approximately the seventeenth century, ARCs with an additional internal head are more frequent than ordinary ARCs in contexts of extraposition, as in (583), and when the relative clause is preceded by stacked or multiple embedded relative clauses, as in (584).

- (583) o dicto Juiz per sentença defenetiva asy o Julgou
 the mentioned judge by sentence definitive this.way it.CL judged
 da quall sentença o dicto Reeo nõ apellou
 of.the which sentence the mentioned defendant not appealed
 ‘the aforementioned judge passed this sentence, against which the defendant did not appeal’ (15th c., Martins 2001: 484)

- (584) ã hũa vñha que chamã o cõchouso que e A par da
 in a vineyard that call.3PL the C. that is next DE.PREP.the
 de Pero. caramos termho de Santarẽ A qual vñha deziam
 DE.PREP P. C. environs of S. the which vineyard said.3PL
 que Era do Moesteyro dachellas
 that was DE.PREP.the monastery of.C.
 ‘in a vineyard called the Cõchouso, which is next to the vineyard of Pero Caramos in the environs of Santarẽ, which vineyard is said to belong to the Monastery of Chellas’ (14th c., Martins 2001: 454)

4.4.2 Extraposition

4.4.2.1 *Cross-linguistic evidence* Ziv and Cole (1974: 777–8), Emonds (1979: 234–5), and Alexiadou, Law, Meinunger, and Wilder (2000: 31) assume that ARCs cannot be extraposed in English,²⁵ as exemplified in (585).²⁶

- (585) a. *A boy was kissing Mary, whom I had never seen before.
b. *A boy was here, whom I had never seen before.
c. *John was here, whom I had never seen before.
d. *My father just came in, who runs his own business.
(all Ziv and Cole 1974: 777–8)

Vergnaud (1974) also asserts the non-extraposability of ARCs in French (see (586)).

- (586) *Paul vient de passer qui portait un fedora.
P. comes DE.PREP pass.INF who wore a fedora
'Paul just passed wearing a fedora.' (Vergnaud 1974: 181)

However, this view has recently been challenged by various authors (De Vries 2002, 2006b; Arnold 2007; Strunk 2007). On the basis of examples such as (587) from Dutch, De Vries (2002, 2006b) refutes the traditional view, showing that it is plainly false that ARCs cannot be extraposed.

- (587) Gisteren heb ik mijn zuster bezocht, die blond haar heeft
yesterday have I my sister visited, who blond hair has
(zoals je weet).
(as you know)
'Yesterday I have visited my sister, who has blond hair (as you know).' (De Vries 2006b: 254)

Additional counterexamples can be found in English and German, as shown, respectively, in (588), from Arnold (2007: 306), and (589), from Strunk (2007: 41).

- (588) I was also given a Jubilee mug at school, which I still have.

²⁵ According to Alexiadou, Law, Meinunger, and Wilder (2000), extraposition of ARCs appears to be marginally possible with presentative focus on the antecedent, as in b.

- (i) *John arrived, who happens to be an expert in aerodynamics.
(ii) ??John arrived, who happens to be an expert in aerodynamics.

(Alexiadou, Law, Meinunger, and Wilder 2000: 31)

²⁶ In §4.4.2, following the same practice as in Ch. 3, the elements that intervene between the antecedent and the relative clause are referred to as *intervening material* and are underlined for expository purposes.

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(589) Allerdings habe er mit Prodi gespröchen, zu dem er “ein
however has he with Prodi talked to who he a
enges und intensives Verhältnis” pflege.
close and intensive relationship cultivates
‘However, he has spoken with Prodi, with whom he has a close and intensive
relationship.’

4.4.2.2 *Contemporary European Portuguese* Based on examples such as (590), Brito (2004) argues that extraposition of ARCs is not possible in CEP.

- (590) a. Vi o João, que é o meu amigo preferido.
saw.1SG the J. that is the my friend favorite
‘I saw João, who is my favorite friend.’
- b. O João, que é o meu amigo preferido, foi visto por mim.
the J. that is the my friend favorite was seen by me
‘João, who is my favorite friend, was seen by me.’
- c. *O João foi visto por mim, que é o meu amigo preferido.
the J. was seen by me that is the my friend favorite
(Brito 2004: 402)

However, and contrary to traditional belief, ARCs can be extraposed in CEP; see (591), from a CEP newspaper corpus.²⁷

(591) O leiloeiro, para não levantar suspeitas, utilizava ainda um
the auctioneer to not arouse.INF suspicions used additionally a
outro indivíduo nos negócios, o qual muitas vezes aparecia
other man in.the negotiations the which many times showed.up
a arrematar os bens em seu lugar.
A.PREP buy.INF the goods in his place
‘Not to arouse suspicion, the auctioneer used another man in the negoti-
ations, who showed up frequently buying goods in his place.’ (CETEMP)

In some discourse contexts, ARC-extraposition may even be obligatory, as illustrated in (592). In this case, the event referred to in the ARC is subsequent to that referred to in the main clause. Hence, the ARC must be extraposed in order to respect the sequence of events: the crash into a lamppost occurs after the passenger is thrown into the air. This type of ARC has been referred to in the literature as a

²⁷ Given the object of study of the present chapter, I will henceforth focus the discussion on extraposition of *o qual*-ARCs.

continuative appositive clause (see Jespersen 1949; Loock 2007; among others) or *supplementary appositive clause* (see Huddleston, Pullum, and Peterson 2002).

- (592) a. O carro despistou-se, projectando um passageiro pelo
 the car skidded.SE.CL throw.GER a passenger POR.PREP.the
ar, o qual foi embater contra um poste.
 air the which went crash.INF against a lamppost
 ‘The car skidded, throwing a passenger into the air, who crashed into a
 lamppost.’ (adapted from Peres and Mória 1995: 367)
- b. *O carro despistou-se, projectando um passageiro, o qual foi
 the car skidded.SE.CL throw.GER a passenger the which went
 embater contra um poste, pelo ar.
 crash.INF against a lamppost POR.PREP.the air

However, just as observed for RRCs (see §3.3.2), there are some constraints on the extraposition of *o qual*-ARCs in CEP, namely: (1) the definiteness effect; (2) restriction on extraposition from pre-verbal positions; and (3) restriction on extraposition from prepositional phrases. These restrictions are described in §§4.4.2.2A–C.

A. The definiteness effect

In CEP, the antecedent of an extraposed *o qual*-ARC can be a weak noun phrase but not a strong noun phrase (in the sense of Milsark 1974). The contrasts given in (593)–(594) illustrate this point: an extraposed *o qual*-ARC can be made acceptable if the antecedent is changed from a strong noun phrase to a weak noun phrase.

- (593) Em França, um grupo de skinheads atirou *o/um jovem
 in F. a group of skinheads threw the/a young.man
 marroquino ao rio Sena, o qual acabaria por
 Moroccan to.the river S. the which end.up.COND POR.PREP
 morrer afogado.
 die-INF drowned
 ‘In France, a group of skinheads threw the/a young Moroccan man into the
 river Seine, who would end up drowning.’
- (594) Deverá ser construída brevemente *a/uma ponte no Barreiro,
 shall.FUT be.INF built soon the/a bridge in.the B.
 a qual terá mais de 5 quilómetros e cerca de 5
 the which have.FUT more than 5 kilometers and about DE.PREP 5
 faixas de rodagem.
 lanes of vehicle.traffic
 ‘The/a new bridge, which will be more than 5 kilometers and have about 5
 lanes, will be built soon in Barreiro.’

B. Pre-verbal positions

B1. Pre-verbal subjects

Extraposed *o qual*-ARCs can take post-verbal subjects as antecedents, as shown in (595a)–(596a). However, if the subject is construed pre-verbally, the sentence is out, as shown in (595b)–(596b).

(595) a. Terá lugar uma reunião no dia 21 de setembro,
have.FUT place a meeting on.the day 21 of September
na qual se discutirá a viabilidade do projecto.
in.the which SE.CL discuss.FUT the viability of.the project
'A meeting will take place on September 21; the viability of the project will be discussed there.'

b. *Uma reunião terá lugar no dia 21 de Setembro,
a meeting have.FUT place on.the day 21 of September
na qual se discutirá a viabilidade do projecto.
in.the which SE.CL discuss.FUT the viability of.the project

(596) a. Será adoptado um novo modelo de avaliação de professores
be.FUT adopted a new model of evaluation of teachers
no próximo ano lectivo, do qual todos os professores
in.the next year school of.the which all the teachers
discordam.
disagree

'A new evaluation model for teachers will be adopted in the next school year; all teachers disagree with it.'

b. *Um novo modelo de avaliação de professores será adoptado
a new model of evaluation of teachers be.FUT adopted
no próximo ano lectivo, do qual todos os professores
in.the next year school of.the which all the teachers
discordam.
disagree

B2. Discourse dedicated positions in the left periphery

Extraposed *o qual*-ARCs cannot take as antecedent a topicalized constituent. This impossibility is illustrated by the contrast displayed in (597).²⁸

²⁸ Example (597b) is a little marked (given the heaviness of the topicalized constituent), but acceptable in general.

- (597) a. *Filmes cómicos, não aprecio, com os quais todos se
movies comic not appreciate.1SG with the which all SE.CL
riem às gargalhas.
roar to.the laughter
'I do not appreciate comedy movies, at which everyone roars with
laughter.'
- b. Filmes cómicos, com os quais todos se riem às
movies comic with the which all SE.CL roar to.the
gargalhadas, não aprecio.
laughter not appreciate.1SG

However, this restriction does not seem to hold for other constituents at the left periphery. As shown in (598) and (599), extraposition is allowed when the antecedent is a *wh*-constituent or a preposed focus.²⁹

- (598) Que desporto é que tu praticas, sem o qual não
what sport is that you practice without the which not
sobreviverias?
survive.COND.2SG
lit. 'What sport do you practice, without which you would not survive?'
- (599) Outras pessoas se manifestaram contra a barragem,
another people SE.CL demonstrated against the dam
com as quais eu concordei inteiramente.
with the which I agreed fully
'Another group of people, whom I fully agreed with, demonstrated against
the dam.'

²⁹ The description of RRC-extraposition set out in Ch. 3 also takes into account sentences involving preposed emphatic/evaluative phrases. This context is not considered here because *o qual*-ARCs cannot take emphatic/evaluative phrases as antecedent, as shown by the non-extraposed variant in (ii).

- (i) *Muito whisky o João bebeu, com o qual ficou completamente
a.lot.of whisky the J. drank with the which got completely
embriagado!
drunk
'João drank a lot of whisky; he got completely drunk on it!'
- (ii) *Muito whisky, com o qual ficou completamente embriagado,
a.lot.of whisky with the which got completely drunk
o João bebeu!
the J. drank

C. Prepositional phrases

Extrapolation of *o qual*-ARCs does not seem to be allowed when the antecedent is the object of a preposition. Examples (600)–(601) illustrate this impossibility.

(600) *Foi preso o mestre de uma embarcação ontem,
was arrested the.M skipper.M of a.F boat.F yesterday
na qual foram encontrados 10 quilos de cocaína.
in.the.F which were found 10 kilos of cocaine
'The skipper of a boat was arrested yesterday; 10 kilos of cocaine were found
in the boat.'

(601) *Discuti com um amigo meu ontem, o qual teima em
argued.1SG with a friend mine yesterday the which insists on
dizer que não vai votar nas próximas eleições.
say.INF that not goes vote.INF in.the next elections
'Yesterday I argued with a friend of mine; he insists on saying that he is not
going to vote in the next elections.'

D. Extrapolation across conjuncts

In CEP, an extraposed *o qual*-ARC cannot take the first conjunct of a multiple coordinate structure as its antecedent, as illustrated in (602).

(602) *O Pedro e a Maria chegaram, o qual (Pedro) disse
the P. and the M. arrived the.M which (P.) said
que se tinha sentido mal.
that SE.CL had felt badly
'Pedro and Maria arrived. He said that he felt unwell.'

E. Extrapolation across discourse

In CEP, *o qual*-ARCs cannot take an antecedent across the discourse. Take, for instance, the ungrammatical (603), in which the antecedent and the *o qual*-ARC appear in different utterances.

(603) —Quero desejar boa sorte aos jogadores da seleção
want.1SG wish.INF good luck to.the players of.the team
portuguesa—disse o presidente.
Portuguese said the president
'I want to wish good luck to the players of the Portuguese team—said the
president.'
*Os quais ficaram muito comovidos com estas palavras.
the which were very moved with these words
'The which (players) were very moved by these words.'

4.4.2.3 *Earlier stages of Portuguese* Having seen the restrictions that hold for CEP, let me now turn to the properties of extraposition in earlier stages of Portuguese. For ease of comparison, the same set of properties used for CEP is inspected for these earlier stages.

A. The definiteness effect

In earlier stages of Portuguese, the extraposition of *o qual*-ARCs was not sensitive to the definiteness effect. Sentences (604)–(607) exemplify extraposed *o qual*-ARCs taking strong noun phrases as antecedents. In (604) and (607), the antecedent is introduced by a definite article (followed by an adjective), in (605) by a definite article (followed by a possessive), and in (606) by a demonstrative.

- (604) *depos morte da dicta dona Gyralda fficou o dicto*
 after death of.the mentioned D. G. stayed the mentioned
herdamento ao dicto Moesteyro de suso nomeado. o qual
 land to.the mentioned monastery of above mentioned the which
herdamento est assy como os manios Çinquenta astiís.
 land is such as the ±untilled.grounds fifty a.
 ‘after Dona Gyralda’s death, the aforementioned monastery got the afore-
 mentioned land, which land has, like the untilled grounds, fifty *astiís*
 [medieval agrarian measure]’ (13th c., Martins 2001: 366)
- (605) *mãdamos dar esta Sentemça Seelada do nosso Seelo*
 demand.1PL give.INF this sentence stamped of.the our stamp
ao dicto Conuêto no qual screuemos nosso nome data
 to.the mentioned convent in.the which wrote.1PL our name date
 ‘we demand that this sentence with our stamp, in which we wrote our name
 and date, be given to the aforementioned convent’ (14th c., Martins 2001: 216)
- (606) *Eu Affomso goterrez [...] que este stromento pera ho dicto lujs*
 I A. G. that this deed to the mentioned L.
EAnes scripuý en no quall meu Sjgnal fíz que tall e%.
 E. wrote in in.the which my sign made.1SG that such is
 ‘I, Affomso Goterrez, who wrote this deed to the aforementioned Lujs EAnes,
 in which I made my sign, which is as follows % [sign].’ (15th c., Martins 2001:
 475)
- (607) *cõ outras confrontações cõ que de direito os ditos*
 with other limits with that of right the mentioned
bêes deuẽ departir; os quaees elas [...] enprazam nouamente
 properties should border-INF the which they give again

aa dicta antonja
 to.the mentioned A.

‘with other limits on which the aforementioned properties should border by right, which [properties] they give again (in emphyteusis) to the aforementioned Antonja’ (16th c., Martins 2001: 543)

B. Pre-verbal positions

B1. Pre-verbal subjects

In earlier periods of its history, Portuguese allowed for extraposed *o qual*-ARC with a pre-verbal subject as antecedent. Sentences (608)–(610) attest to the relevant pattern.

(608) diserom que os dictos logares danboroes e mōte valem
 said-3PL that the mentioned lands of.A. and hill are.worth
todo onze maravedis da boa moeda cō ho dicto monte
 all eleven m. of.the good coin with the mentioned hill
 os quaes logares danboroes partem cō erdade darouqua
 the which lands of.A. border with land of.A.

‘they said that the aforementioned lands of Anboroes and the hill, which lands are worth eleven *maravedis* [currency] of good coin, including the hill, which lands of Anboroes border on land of Arouqua’ (15th c., Martins 2001: 255)

(609) e toda a outra cidade era devassa, na quall moravam
 and all the other city was opened in.the which lived
 muitas gentes avondadas de grandes rriquezas e bēes
 many people full of great wealth and belongings
 ‘and the rest of the city, in which many rich people lived, could be easily attacked’ (15th c., Macchi 1975: 258)

(610) onde então o Rey dos Batas se estaua fazēdo prestes para
 where then the king of.the B. SE.CL was make.GER ready to
 yr sobre o Achē, o qual tanto que soube do presente &
 go.INF over the A. the which as.soon.as knew of.the gift and
 carta que lhe eu leuaua do Capitão de Malaca, me
 letter that him.CL I took from.the captain of M. me.CL
 mandou receber pelo Xabandar
 ordered receive.INF by.the X.

‘(from the city of Panaajû,) where the king of the Battak was busy with preparations to attack the Achinese, who as soon as he heard about the gift and letter that I was taking to him, sent out Xabandar to welcome me’ (16th c., TYC)

B2. Discourse dedicated positions in the left periphery

In earlier stages of Portuguese, *o qual*-ARCs may take a preposed focus as antecedent.

Example (611) illustrates the point at hand.

- (611) Arato [...] fez tirar em publico as outras pinturas dos
 A. made remove.INF in public the other paintings of.the
 tiranos, mas a de Aristrato determinava de quebrar, a
 tyrants but the of A. determined.3SG DE.PREP break.INF the
 qual pintura era nobre á maravilha;
 which painting was noble to.the wonder
 ‘Arato ordered the other paintings of the tyrants to be removed in public, but
 he was determined to break the painting of Aristrato, which was very
 impressive;’ (16th c., TYC)

However, in the corpora inspected thus far, no clear occurrence of *o qual*-ARCs with a topic as antecedent was found.³⁰

B3. Scrambled objects

Earlier stages of Portuguese had a richer clausal structure than CEP, making available more syntactic positions with specific interpretative effects. This is the case with the multiple specifier positions that were available in the IP domain, which were responsible for the IP scrambling (or middle scrambling) attested in earlier stages of the language (see §3.4.3.2C). Not surprisingly, extraposition may emerge in this context; see (612) (repeated as (614)).³¹

³⁰ There are some complex structures in which the alleged antecedent of the ARC is introduced into the universe of discourse and then referred to anaphorically by different elements, such as *wh*-constituent *o qual* (*N*). This gives rise to complex sequences, such as the one displayed below. For ease of reading, the antecedent is marked in italic and the anaphoric links in bold.

a preza de Ribell tem este casall dardor dela [...] e da
 the dam of R. has this hamlet around of.it and of.the
dita preza tem no verã daugoa della hũ dia cada
 mentioned dam has.3SG in.the summer of.water of.it one day each
 somana e asy en todo Año a **quall** he de muyto pouca augoa
 week and such in all year the which is of very little water
 ‘the dam of Ribell has this hamlet around it (. . .); there is water in the dam one day each week
 during all the year; the dam has very little water’ (16th c., Martins 2001: 331)

Note, however, that although one of the intermediate chain links is a topic in a left dislocation construction (*da dita preza* ‘of the mentioned dam’), the anaphoric link that is nearer the *wh*-constituent *o qual* is *ella* ‘she’, which is not in a topic position.

³¹ Note that the scrambling of *nesta carta* ‘in this letter’ in (612) 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;

- (612) que este emprazamento valha e se cumpra como
that this emphyteusis be.valid-SBJV and SE.CL carry.out.SBJV as
se nesta carta contem haa quaL dou minha auctoridade
SE.CL in.this letter contains to.the which give.1SG my authority
'(I want) this emphyteusis to be valid and to be carried out as it is written in
this letter, to which I give my authority.' (16th c., Martins 2001: 318)

C. Prepositional phrases

In earlier periods of the history of Portuguese, an extraposed *o qual*-ARC can take as an antecedent the object of a preposition. See examples (613)–(614), in which the PP containing the antecedent is the indirect object and an oblique constituent, respectively.

- (613) Joham Lourenço mandou rrecado a sua molher que sse
J. L. sent message to his wife that SE.CL
fosse pera elle: da quall ja tiinha hũu filho, que
go.SBJV to him of.the which already had.3SG a son that
chamavom Alvoru
call.3PL A.
'Joham Lourenço sent his wife a message saying that she should go back
home. He already had a son by her called Alvoru' (15th c., Macchi
1975: 199)
- (614) que este emprazamento valha e se cumpra
that this emphyteusis be.valid.SBJV and SE.CL carry.out.SBJV
como se nesta carta contem haa quaL dou minha
as SE.CL in.this letter contains to.the which give.1SG my
auctoridade
authority
'(I want) this emphyteusis to be valid and to be carried out as it is written in
this letter, to which I give my authority.' (16th c., Martins 2001: 318)

Note additionally that the PP may be further embedded in another constituent. See example (615), where extraposition takes place from a PP within a DP.

- (615) os quaes posam penhorar [...] em quaesquer bẽes dos
the which can seize.INF in any belongings of.the
ditos enprazadores honde quer que achados fforem os quaes
mentioned lessees wherever found were the which

hence, in (612), because *nesta carta* 'in this letter' is interpolated (i.e. occurs between the proclitic and the verb), it is necessarily a scrambled constituent. If it occurred to the left of the clitic, it would be a left-dislocated/focused constituent.

nam terã poder de tolher o dito penhor
 not have.FUT power DE.PREP block.INF the mentioned seizure
 ‘(so that) they can seize any properties of the aforementioned lessees, wherever they are, and the lessees have no power to block the aforementioned seizure’ (15th c., Martins 2001: 292)

D. Extraposition across conjunct(s)

Earlier stages of Portuguese, contrary to CEP, allow an extraposed *o qual*-ARC to take the first conjunct of a multiple coordinate structure as its antecedent. See (616), which involves coordination at the DP-level of projection.³²

- (616) *testemunhas que Eram presentes llopo martjz orjuez e alluaro*
 witnesses that were present L. M. jeweller and A.
gomcalluez barbeJro e bento velloso **ao quall llopo martiz**
 G. barber and B. V. to.the which L. M.
 a dita catarjna periz rrogou que asynasse por sy
 the mentioned C. P. asked that sign.SBJV.3SG POR.PREP him
 e por ella
 and POR.PREP her
 ‘witnesses that were present: Llopo Martjz, a jeweler, Alluaro Gomcalluez, a barber, and Bento Velloso, the which Llopo Martiz Catarjna Periz asked to sign in her place’ (16th c., Martins 2001: 307)

Another possibility is that the antecedent is contained within the first conjunct and other conjunct(s) appear in the intervening position. Consider, for instance, the examples in (617)–(618), which display, respectively, coordination at the VP and IP levels of projection.

- (617) *os Reys comarcaõs della o mandaraõ visitar por seus*
 the king neighboring of.it him.CL ordered visit.INF by their
 Embaixadores, & darlhe os parabẽ da sua
 ambassadors and give.to him.CL the congratulations for.the his
capitania, [...], **entre os quais** veyo hum del Rey dos Batas
 appointment among the which came a of.the king of.the B.
 ‘the neighboring kings sent their ambassadors to visit him and congratulate him on his appointment (with offers to renew the peace and friendship treaties they had maintained with the king of Portugal). Among those who came was an ambassador of the king of the Battak.’ (16th c., TYC)
- (618) *E logo os ssobreditos lançarõ ssortes das ditas*
 and immediately the mentioned drew.lots of.the mentioned

³² For expository purposes, the relative pronoun and the internal head are marked in bold.

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partições E acôteçeo A ljonor gonçaluez os oljuaaes e
 divisions and went to L. G. the olive.groves and
 herdades que som ã santarẽ [...] E acôteçeo Ao dito
 lands that are in S. and went to.the mentioned
 Affonso martijz e a ssa molher A herdade de môte maior [...]
 A. M. and to his wife the land of M. M.
 as quaes partições os ssobreditos outorgarõ.
 the which divisions the mentioned granted

‘And the aforementioned (people) drew lots for the aforementioned divisions. And the olive groves and the lands located in Santarẽ went to Ljonor Gonçaluez; the land in Môte Maior went to Affonso Martijz and to his wife, which divisions the aforementioned people granted.’ (14th c., Martins 2001)

E. Extraposition across clauses

In earlier stages of Portuguese, an embedded clause can break the adjacency between the antecedent and the *o qual*-ARC. See (619)–(620), which involve, respectively, a nominal and an adverbial clause in the intervening position.

(619) Joham Lourenço mandou rrecado a **sua molher** que sse fosse
 J. L. sent message to his wife that SE.CL go.SBJV
 pera elle: da quall ja tiinha hũu filho, que chamavom
 to him of.the which already had.3SG a son that called.3PL
 Alvorõ.

A.

‘Joham Lourenço sent his wife a message saying that she should go back home. He already had a son by his wife, who was called Alvorõ.’ (15th c., Macchi 1975: 199)

(620) era concertada cõ Joham goncaluez [...] de lhe auer
 was concerted with J. G. DE.PREP him.CL have.INF
 denprazar o dicto pardieiro porque asy ho
 DE.PREP.give.INF the mentioned old.building because as.such it.CL
 aujã por serujço de deus e proueito da dicta
 had.3PL POR.PREP service of god and benefit of.the mentioned
 dona mjcia e do dicto seu moesteiro; o quall pardieiro
 D. M. and of.the mentioned her monastery the which old.building
 lhe logo enprazarõ
 him-CL immediately gave.3PL

‘she had a deal with Joham Goncaluez to give him (in emphyteusis) the aforementioned old building because they had it in the service of God and in benefit of the aforementioned Dona Mjcia and her monastery; which old building they promptly gave to Joham Goncaluez’ (15th c., Martins 2001: 531)

F. Extraposition across the discourse

Surprisingly, the non-adjacency between the antecedent and the ARC can lead to a far more radical situation: the units that appear as intervening material may belong not to the sentence level but rather to the discourse level. More specifically, a textual fragment may intervene between the antecedent and the ARC. Consider, for instance (621), where a document is transcribed before the *o qual*-ARC.

- (621) luis dallmeida dom prioll do mosteiro de uillarinho e francisco
 L. D. D. prior of.the monastery of U. and F.
 fernandez [...] me emviaram dizer per sua pitição o
 F. to.me.CL sent say.INF through their petition the
seguinte [...] a **quall** pitição vista per mjm mãdei vasar
 following the which petition seen by me ordered.1SG make.INF
 carta de vedoria
 letter of assessment
 ‘Luis de Allmeida, prior of the monastery of Uillarinho, and Francisco
 Fernandez sent me a petition saying the following [copy of the petition],
 having seen which petition, I ordered a letter of assessment to be made’
 (16th c., Martins 2001: 327)

In (621), the extraposed ARC clearly relates to an antecedent across discourse. Another possibility is that the antecedent and the *o qual*-ARC appear in different utterances. See, for instance, examples (622) and (623), where the antecedent appears in a first-person direct speech (punctuated with an introductory dash), whereas the ARC appears in the third-person narration.

- (622) —Senhor, chegou ally o allmocadê, e parece-me que diz que lhe he necessário
 de vos fallar llogo amte que amanheça.
 ‘—Sir, the Moorish captain arrived there and it seems to me he is saying he
 needs to speak to you promptly, before it dawns.’
 O **qual** o comde mamdou que viesse.
 the which the count ordered that come.SBJV
 ‘The which (Moorish captain) the count ordered to come.’ (15th c., Brocardo
 1997: 296)
- (623) —Ora—disse o comde—nõ abasta que vos esto comteis a mÿ soo, mas quer
 que o digaes assy presemte todos estes fidallos que aquy sã.
 ‘—Well—said the count—I want you to tell this story not only to me, but also
 to all the noblemen here.’
 Os **quaes** forã mui comtemtes do que lhe as
 the which were very happy DE.PREP.the that to.him.CL the

escuitas disserão

eavesdroppers said

‘The which noblemen became very happy with what the eavesdroppers said.’

(15th c., Brocardo 1997: 310)

4.4.3 Pied-piping

A. Contemporary European Portuguese

In CEP, there are category-specific restrictions with respect to the constituent that can be pied-piped³³ in *o qual*-ARCs. As illustrated in (624) and (625), pied-piping is allowed if the constituent to be raised is a PP or an AdvP.

- (624) Recomendo este livro, [PP no qual] podes encontrar toda
recommend.1SG this book in.the which can.2SG find.INF all
a informação que procuras.
the information that look.for.2SG
‘I recommend this book, in which you can find all the information you are looking for.’

- (625) os proprietários da garagem são os subscritores do pedido
the owners of.the garage are the subscribers of.the request
de licenciamento que deu entrada na autarquia,
of licensing that gave entrance in.the council
[AdvP relativamente ao qual] a ACIB foi convidada a
relatively to.the which the A. was invited to
pronunciar-se.
pronounce.INF-.SE.CL
‘The owners of the garage are the subscribers of the licensing request that was submitted to the council, relative to which the ACIB was invited to pronounce.’ (CETEMP)

However, pied-piping is not allowed if the constituent to be raised is a DP or an AP (see (626) and (627), respectively).

³³ The term *pied-piping* refers to a phenomenon whereby a particular movement operation, designated to displace an element X, actually displaces a larger phrase in which X is embedded. Pied-piping occurs in various contexts (e.g. questions, wh-exclamatives, and relative clauses). When applied to relativization, it involves the movement to the C-domain not only of the relative noun phrase but also of its surrounding structure (e.g. a PP, in the example below). Note that in §4.4.3, the pied-piped constituents are in square brackets, as in

the man [to whom] I gave the book

- (626) *O Pedro, [DP a mulher do qual] conheceste ontem,
 the P. the wife of.the which met.2SG yesterday
 perguntou por ti.
 asked for you.
 ‘Pedro, the wife of whom you met yesterday, asked for you.’
- (627) *Vou convidar o João, [AP admirador do qual] eu sempre fui.
 go.1SG invite.INF the J. admirer of.the which I always was
 ‘I will invite João, an admirer of whom I have always been.’

An apparent exception to the generalization that DPs cannot get pied-piped concerns the contexts involving partitive structures.³⁴ In these cases, when the relative pronoun is the complement of the preposition, the whole partitive structure can get pied-piped along with the relative pronoun. This possibility is illustrated in (628), where the pied-piped constituent is a quantificational phrase (QP) headed by a numeral.³⁵ Another possibility is that it involves a non-numeral quantifier (such as *algumas* ‘some’ in (629)).³⁶

- (628) Este acto terá levado o industrial a disparar três tiros,
 this act have.FUT led the industrialist to fire.INF three shots
 [QP dois dos quais] terão atingido o filho no abdómen.
 two of.the which have.FUT hit the son in.the stomach
 ‘This act might have led the industrialist to fire three shots, two of which might have hit his son in the stomach.’ (CRPC)

³⁴ A partitive structure typically has the following structure: expression of quantity + *of* + noun phrase. The complement of the preposition designates a set out of which certain individuals are selected. An example is

[Two of the girls] showed up.

³⁵ In the label associated with the pied-piped constituent, I assume that partitive structures involve a QP. See §4.5.3 for more details.

³⁶ Interestingly, the pied-piping of a partitive structure is also possible in appositions, where no verb occurs:

Com a sua prisão já são cinco as pessoas detidas no
 with the his imprisonment already are five the people arrested in.the
 âmbito do processo Lasa e Zabala, [QP quatro das quais]
 context of.the case L. and Z. four of.the which
 comandos e militares da guarda.
 commandoes and military.men of.the guard

‘With his detention, there are already five people arrested in the Lasa and Zabala case, four of whom (are) commandos and men of the military guard.’ (CRPC)

This construction may provide evidence for an analysis of appositions as involving an (implicit) clausal structure with a null copula, as proposed by Cardoso and De Vries (2010) (see §1.3.2.5B(d) for more details).

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- (629) Nas últimas provas de natação, foram seleccionadas
in.the last competitions DE.PREP swimming were selected
vinte crianças, [QP algumas das quais] o Paulo tinha treinado.
twenty children some of.the which the P. had coached
'In the last swimming competitions, there were selected twenty children,
some of whom Paulo had coached.' (Peres and Mória 1995: 278)

An additional restriction on pied-piping concerns the contexts in which the constituent to be moved is a non-finite clause.³⁷ As shown in (630)–(632), infinitival, gerundive, and participial clauses cannot get pied-piped in CEP.³⁸

Infinitival clauses:

- (630) *Entregaram-me ontem os documentos, [CP para analisar
delivered.3PL-me.CL yesterday the documents to analyze.INF
os quais], preciso de pelo menos um mês.
the which need.1SG DE.PREP at least a month
'They delivered me the documents yesterday, to analyze which I need at
least a month.'

Gerundive clauses:

- (631) *Convocámos os responsáveis, [CP reflectindo com os quais]
called.1PL the people.in.charge reflect.GER with the which
chegámos a uma conclusão.
came.1PL to a conclusion
'We called the people in charge for a meeting; in a joint reflection, we came
to a conclusion.'

³⁷ There is no consensus among scholars with respect to the analysis of sequences such as (i), from Horvath (2007), and originally reported by Nanni and Stillings (1978).

(i) The elegant parties, [to be invited to one of which] was a privilege... (Horvath 2007: 23/46)

Some authors assume that they involve pied-piping (more precisely *heavy* or *massive* pied-piping) (Heck 2008; Cable 2007); others claim that they do not involve true instances of pied-piping, but rather topicalization (Emonds 1976, 1979; Webelhuth 1992). Truswell (2011), when analyzing sentences such as (ii), attested in 16th- to 19th-century English, claims that they do not involve pied-piping but rather base-generation of the clause in a left-adjoined position.

(ii) This seemed to be done in distrust of the privy council, as if they might stifle his evidence; [[which to prevent], he put it in safe hands]. (from Truswell 2011: 292)

Here I assume that these constructions are true instances of pied-piping. See §4.5.3 for more details.

³⁸ In labels associated with the pied-piped clauses, I assume, following Lobo (2003), that gerundive and participial clauses involve a CP projection. The same analysis is adopted for infinitival clauses, under the assumption that the connective introducing the infinitival clause (as *para* 'to' in (630)) occupies the C-position. These are the criteria for Portuguese examples reported here; for the examples taken from other authors, I will adopt the original bracketing and labels (where present).

TABLE 4.3 Restrictions on pied-piping: Contemporary European Portuguese

	DPs	APs	CPs	AdvPs	PPs	Partitives
CEP	–	–	–	+	+	+

Participial clauses:³⁹

- (632) *A direção vai apresentar os resultados, [CP conhecidos
 the management goes present-INF the results known-PTCP
 os quais] algumas soluções estratégicas serão discutidas.
 the which some solutions strategic be-FUT discussed
 ‘The management will present the results, which being known some of the
 strategic solutions will be discussed.’

To sum up, the restrictions reviewed up to this point are presented in Table 4.3.

Interestingly, the restrictions in Table 4.3 do not universally hold but are subject to cross-linguistic variation, as I will show in §4.4.3B.

B. Cross-linguistic evidence

Whereas some languages are very strict about the category of the pied-piped constituents, other languages seem to be much less constrained, allowing generalized

³⁹ A word is in order regarding the apparent pied-piping of participial clauses. There is a special context in which the construction seems to be possible in CEP, as shown in (i) and (ii). However, only a very restricted number of verbs can enter the construction, namely the verb *terminar* ‘to expire’, as in (i), or a synonym of it, such as *findar* in (ii) or *concluir*. A change of the verb seems to block its viability, as indicated in (632). This fact can be explained by assuming that the apparent pied-piping of participial clauses is not a productive syntactic structure in CEP (as opposed to the situation in earlier stages of Portuguese). Hence, the sequence *terminado/findo/concluído o qual* ‘expired which’ behaves as a fixed expression, involving specific lexical items and not admitting the occurrence of other verbs.

- (i) Será definido um período, [CP terminado o qual] ninguém poderá
 be-FUT established a period ended-PTCP the which nobody can-FUT
 reclamar.
 complain-INF
 ‘A period will be defined; this period ended, nobody can complain.’ (Peres and Móia 1995: 279)
- (ii) Os analistas estimam que estas negociações [...] se prolonguem por
 the analysts estimate that these negotiations SE-CL extend-SBJV for
 um prazo entre 12 e 18 meses, [CP findo o qual]
 a period between 12 and 18 months ended-PTCP the which
 deverá haver um acordo.
 should-FUT have-INF a deal
 ‘The analysts estimate that these negotiations will be extended for a period of 12 to 18 months; ended
 which period, there must be a deal.’ (CETEMP)

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pied-piping in ARCs. This is reported, for instance, by Cinque (2008), for Italian *il quale*-ARCs; see (633).

- (633) a. Inviterò anche Giorgio, [_{PP} del quale] avete certamente
 invite.FUT.1SG also G. of.the which have.2PL certainly
 sentito parlare.
 heard speak.INF
 ‘I will invite also Giorgio, of whom you have certainly heard.’
- b. Inviterò anche Giorgio, [_{DP} il fratello del quale]
 invite-FUT.1SG also G. the brother of.the which
 è uno dei nostri più cari amici.
 is one of.the our more dear friends
 ‘I will invite also Giorgio, the brother of whom is one of our dearest friends.’
- c. Inviterò anche Giorgio, [_{AP} affezionato al quale]
 invite.FUT.1SG also G. fond A.PREP.the which
 per altro non sono.
 for other not am
 ‘I will also invite Giorgio, fond of whom nevertheless I am not.’
- d. Inviterò anche Giorgio, [_{CP} liberarmi del quale]
 invite.FUT.1SG also G. get.rid.INF.me.CL of.the which
 non mi è proprio possibile.
 not me-CL is really possible
 ‘I will also invite Giorgio, to get rid of whom is really not possible
 for me.’
- e. Inviterò anche Giorgio, [_{AdvP} diversamente dal
 invite.FUT.1SG also G. differently DA.PREP.the
 quale] io non serbo rancore.
 which I not bear grudge
 ‘I will invite also Giorgio, differently from whom I bear no grudge.’
 (Cinque 2008: 101; glosses mine)

Similar possibilities of pied-piping are reported for English. Heck (2008) shows that English ARCs allow for the pied-piping of PPs, APs, DPs, and clausal constituents (see (634)). Fabb (1990) also reports the pied-piping of DPs (635a) and partitive structures (635b).

- (634) a. Egbert, [_{PP} to whom] you were talking only yesterday, ...
 b. ?this earthquake, [_{AP} affected by which] the area was, ...
 c. the royal family, [_{DP} pictures of whom] are permanently on sale, ...
 d. Egbert, [_α to hire whom] would be a real scoop, ...
 (Heck 2008: 168)

- (635) a. The man, [the mother of whom] I met yesterday, is a French speaker.
 b. The men, [some of whom] I like, arrived yesterday.
 (Fabb 1990: 64)

C. Earlier stages of Portuguese

Interestingly, the restrictions on pied-piping are also subject to variation in the diachronic dimension. Comparing the properties of pied-piping in CEP with the ones in earlier periods of Portuguese, the differences are remarkable. The general scenario is that earlier periods of Portuguese pattern with contemporary English and Italian in allowing generalized pied-piping.

To be more concrete, *o qual*-ARCs in earlier stages of Portuguese allow pied-piping of PPs, partitive constructions, and AdvPs, just like their contemporary counterparts. This is illustrated in (636)–(638).

- (636) Reçebemos de Giral dominguiz [...] Cem libras de
 received.1PL DE.PREP G. D. one.hundred l. of
 dinheiros portugaeses [PP polos quaes] lhj nós vendemos[...]
 currency Portuguese by.the which to.him.CL we sold
 ‘We received from Giral Dominguez one hundred *libras* of the Portuguese
 currency, for which we sold him (two houses that we have in the aforemen-
 tioned village).’ (14th c., Martins 2001: 208)
- (637) nos matou logo seis homens, [QP hum dos quais] foy Diogo
 us.CL killed.3SG outright six men one of.the which was D.
 Vaz Coutinho filho do Capitão mòr
 V. C. son of.the admiral
 ‘it killed six of our men outright, one of whom was Diogo Vaz Coutinho, the
 admiral’s son’ (16th c., TYC)
- (638) taes são os importantes objectos, [AdvP relativamente aos quaes]
 such are the important topics relatively to.the which
 devem os factos ser escolhidos, e detalhados.
 should the facts be.INF selected and detailed
 ‘these are important topics, relative to which the facts that should be selected
 are detailed’ (19th c., CP)

However, historical Portuguese, contrary to CEP, allows pied-piping of DPs and clausal constituents.⁴⁰ Examples (639)–(643) illustrate pied-piping of DPs; notice that in these examples the gap corresponds either to the subject (as in (639)–(641), (643)–(644)) or to the direct object position (as in (642)).

⁴⁰ In the corpora of historical Portuguese inspected, pied-piping of APs is not attested. For this reason, in this section I mainly focus on the pied-piping of DPs and clausal constituents.

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DPs:

- (639) *recebj hua procuraço do Abade san Joane da*
received.1SG one letter.of.attorney of.the abbot S. J DE.PREP.the
pendorada e do Conuêto [DP o teor da qual] atal
P. and DE.PREP.the convent the tenor of.the which such
e de ueruo. a ueruo
is DE.PREP word A.PREP word
'I received one letter of attorney from the abbot of San Joane of Pendorada and from the convent; the tenor of which is the following, word for word.'
(13th c., Martins 2001: 132)
- (640) *como mais larguamente consta dapeguação que*
as more extensively is.reported DE.PREP.the.±possession.letter that
aqui mandei treladar de verbo a verbo
here ordered.1SG copy.INF DE.PREP word A.PREP word
[DP o trelado da qual] he o seguinte
the copy of.the which is the following
'as it is more extensively reported in the possession letter that I ordered to be copied here, word for word; the copy of which is as follows' (16th c., Martins 2001: 328)
- (641) *A composição dos edeficios consta de symetria,*
the composition of.the buildings consists of symmetry
[DP a razão da qual] os deligentes arquitetos hão de
the reason of.the which the diligent architects have DE.PREP
entender.
master.INF
'The composition of buildings consists of symmetry, the principles of which diligent architects have to master.' (16th c., TYC)
- (642) *e fe os particulares devem fer amparados na fua menor*
and if the individuals should be.INF protected in.the their minor
idade, quanto mais o deve fer hum Rey; [DP a
age let alone it.CL should be.INF a king the
boa criação do qual] fe dirige ao bem de muitos,
good education of.the which SE.CL directs to.the good of many
ao ferverço de Deos, e à protecção da Religiaõ
to.the service of God and to.the protection of.the Religion
Catholica;
Catholic
'and if the common people should be protected when they are under-age, let alone the king, the good education of whom benefits not only the wellbeing of many, but also the service of God and the protection of the Catholic Religion;'
(18th c., TYC)

- (643) Agora falarei nos requisitos para a inteligência da
 now talk.FUT.1SG in.the requirements for the understanding of.the
 dita língua, [DP a falta dos quais] não se deve
 mentioned language the lack of.the.PL which.PL not SE.CL should
 contar entre os menores abusos;
 number.INF among the minor abuses
 ‘I will now talk about the requirements for the understanding of the afore-
 mentioned language; the lack of which must not be numbered among the
 minor abuses.’ (18th c., TYC)

Over the course of its history, Portuguese also allowed for pied-piping of non-finite CPs. By way of illustration, see examples (644)–(658), which involve participial clauses (see (644)–(650)), gerundive clauses (see (651)–(655)), and infinitival clauses (see (656)–(658)).

Participial clauses:

- (644) sobre o negado ffoy ffilhada Enqueriçõ [CP A qual vista per m̃]
 about the ±denial was accepted inquiry the which seen by me
 Julgey que o dito prioll prouaua quanto Auõdaua
 judged.1SG that the mentioned prior proved all.that was.sufficient
 ‘an inquiry about the denial was accepted, seeing which I judged that the
 aforementioned prior has proved conclusively (that he was right)’ (14th c.,
 Martins 2001: 227)
- (645) Dona Thareyía martiis dona da Chelas mostrou hũa carta de nosso senhor El
 Rey e sseelada do seu seelo pendēte da qual o tēhor atal he. [...]
 ‘Dona Thareyía Martiis, Dona of Chelas, showed a letter from the King,
 stamped with his hanging stamp; the tenor of the letter is as follows:
 [transcription of the letter]’
 [CP A qual carta mostrada e leuda] a dita Thareyía
 the which letter shown and read the mentioned T.
 martiis comprou tres courelas de vinhas en Barathoío per
 M. bought three lands of vineyards in B. by
 outoridade da dita carta
 authority of.the mentioned letter
 ‘this letter being shown and read, Thareyía Martiis bought three vineyards in
 Barathoío under the authority of the aforementioned letter’ (14th c., Martins
 2001: 405)
- (646) Eu Nicollaa de ffreitas tabaliam del Rey na dicta villa de guimarãaes que esta
 procuraçom per mādado e outorgamēto da dicta Maria fernandez screpuj e
 aquy meu synal fiz que tal. he.
 ‘I, Nicollaa de Ffreitas, notary of the king in the village of Guimarãaes, wrote
 this letter of attorney under Maria Fernandez’s consent. I put here my sign,
 which is as follows.’

[_{CP} A quall presentada] os dictos procuradores do dicto
the which presented the mentioned attorneys of.the mentioned
Moesteíro disserom que antre elles Era preito.
monastery said that between them was legal.dispute
'Shown which, the attorneys of the aforementioned monastery said that they
were involved in a legal dispute.' (15th c., Martins 2001: 251)

- (647) E com os ingreses viinha o alferes do duque d'Allancastro [...],
and with the English came the ensign of.the duke of.A.
que tragia sua bandeira; [_{CP} a quall tendida na
that brought his flag the which stretched in.the
batalha], braadavom os ingreses todos.
battle yelled the English all
'And the ensign of the duke of Allancastro, carrying his flag, came along with
the English knights; the which being raised in the battle, the English knights
started yelling out.' (15th c., Macchi 1975: 532)

- (648) O Capitão mór entendendo quão importante cousa esta era, lhe aceitou a
promessa, & lhe concedeo de nouo as pazes
'The captain, fully aware of the gravity of the situation, accepted her promise
and renewed the peace treaty'
[_{CP} as quais juradas aly logo & confirmadas de
the which sworn there immediately and confirmed DE.PREP
ambas as partes com as cerimonias costumadas entre
both the parties with the ceremonies used among
aqueles Gentios], a Raynha buscou todos os meyo possiueis
those heathen.people the queen tried all the means possible
para cumprir a sua palaura
to keep.INF the her word
'which sworn to there and then, and confirmed by both parties in accordance
with the local ceremonies, the queen tried in every way possible to keep her
word' (16th c., TYC)

- (649) Depois de faber ler, e efcrever, ouvio El Rey
after DE.PREP know.INF read.INF and write.INF heard the.king
Grammatica, [_{CP} na qual instruido] passou ao eftudo de
grammar in.the which instructed moved to.the study of
Autores Latinos
authors Latin
'After learning to read and write, the king learned grammar; instructed in
which, he started studying the Latin authors' (18th c., TYC)

- (650) e no anno de 699. foy mandado ouvir Artes
 and in.the year DE.PREP 699 was.3SG commanded listen.INF Arts
 no Real Mosteiro de Santa Maria de Ceiça, e Theologia
 in.the Royal Monastery DE.PREP S. M. d. C. and Theology
 no nosso Collegio de S. Bernardo de Coimbra;
 in.the our College DE.PREP S. B. d. C.
 [CP acabados os quaes Cursos], fe graduou de Doutor
 ended the which courses SE.CL graduated.3SG DE.PREP. Doctor
 Theologo
 Theologian
 ‘in the year of 699, he attended Arts in the Royal Monastery of Santa Maria de
 Ceiça and Theology in our College of S. Bernardo de Coimbra, the which
 courses ended, he received his doctorate in Theology’ (18th c., TYC)

Gerundive clauses:

- (651) enprazou a afonso periz de lestosa e a sua mulher
 gave.3SG to A. P. d. L. and to his wife
 marja anes e a hũu filho ou filha dantre ambos
 M. A. and to a son or daughter of both
 [CP o qual hi nom avendo] a hũa pessoa qual ho
 the which there not haveGER to a person which the
 postumeiro que deles mais viuer nomear
 last that of.them more live.SBJV appoint.INF
 ‘He gave it in emphytosis to Afonso Periz de Lestosa, to his wife Marja
 Anes, and to a son or daughter of them, whom not existing, to a person that
 the later of them to die will appoint’ (15th c., Martins 2001: 286)
- (652) avendo primeiro salvo-conducto de dona Johana, rrainha entom
 have.GER first safe-conduct of D. J. queen then
 d’aquella provincia; [CP na quall estando per pouco tempo], Pero
 of.that province in.the which be.GER by short time P.
 Bernaldez, cossairo d’Aragom, chegou hi com gallees armadas
 B. corsair of.A, arrived there with galleys armed
 ‘they had a safe-conduct given by Dona Johana, who was the queen of that
 province; being in which for a short time, Pero Bernaldez, a corsair from
 Aragog, arrived there with armed galleys’ (15th c., Macchi 1975: 393)
- (653) estando hi em cabido scilicet o Reueremdo senhor lujs dalmeida prioll do
 dito mosteiro e manuell JorJe conjo do dito mosteiro
 ‘The Reverend Sir Lujs dalmeida, prior of the monastery, and Manuell JorJe,
 canon of the monastery, being there gathered for the chapter’

[_{CP} o quall prioll e conjgo estando no dito cabido
the which prior and canon be.GER in.the mentioned chapter
Juntos per som de campam tamgida como tem de seus
together through sound of bell rung as has DE.PREP its
costumes] o dito prioll dise que [...]
costumes the mentioned prior said that
'which prior and the canon, being gathered in the chapter by the sound of the
bell ringing, as usual, the prior said that (...)' (16th c., Martins 2001: 312)

- (654) a sucessaõ delRey D. Joaõ III. filho primogenito delRey D. Manoel, acabou em ElRey D. Sebastiaõ seu neto; e tornando aos filhos do mesmo Rey D. Manoel, não achou varaõ vivo, mais que o Cardeal D. Henrique, 'the succession of the king D. Joaõ III, firstborn son of the king D. Manoel, ended at the king D. Sebastiaõ, his grandson; among king D. Manoel's children, there was no living son besides Cardinal D. Henrique'
[_{CP} o qual morrendo sem sucessaõ, e sem irmaõ, ou
the which die.GER without succession and without brother or
irmãa, a quem deixasse o Reyno], necessariamente havia de
sister to whom pass.SBJV the kingdom necessarily had DE.PREP
hir a hum de muitos sobrinhos seus
go.INF to one of many nephews his
'which (Cardinal D. Henrique) dying without succession and without a sister
or a brother to whom to leave the kingdom, had necessarily to leave the
succession to one of his many nephews' (17th c., TYC)

- (655) e me disse como se lhe pedissem juramento,
and me.CL said.3SG that if her-CL ask.SBJV.3PL oath
o daria na verdade deste cazo; [_{CP} o qual relatando
it.CL make-COND in.the truth of.this case the which tell.GER
ao mesmo Padre], lhe respondeo, que
to.the same priest her.CL replied.3SG that [...]
'and she told me that, if she was asked to make an oath, she would make it in
the name of the truth of this case; telling which to the same priest, he told her
that(...)' (18th c., TYC)

Infinitival clauses:

- (656) no Latim há três Gerúndios, um em Di, outro em Do, outro
in.the Latin has three gerunds one in -di other in -do other
em Dum, [_{CP} para explicar os quais] se serve a língua
in -dum to express.INF the which SE.CL uses the language

Portuguesa da voz do Infinitivo com alguma preposição
 Portuguese of.the voice of.the infinitive with some preposition
 ‘in Latin, there are three gerunds ending in *-di*, *-do* and *-dum*, to express which the Portuguese language uses the infinitive with a preposition’ (18th c., *TYC*)

- (657) se descobriu em mim culpas, [CP para remir as quais]
 if found.3SG in me faults to reedem.INF the which
 me marcou esta penitência, bem vê com que
 to.me-CL gave.3SG this penance well see.3SG with what
 resignação eu a aceito
 resignation I it.CL accept
 ‘if you found my faults, to cleanse me from which you gave me this penance, you can see with how much resignation I accept it’ (19th c., *CP*)

- (658) Burlado até na esperança de colher às mãos o audaz
 deceived even in.the hope of catch.INF A.PREP.the hands the bold
 primo do senhor de Cresconhe, Egas, que ele supunha em
 cousin of.the S. d. C. E. that he presumed in
 Guimarães, e [CP para achar o qual] tinham sido vãs
 G. and to find.INF the which had been vain
 as mais severas pesquisas
 the more severe researches
 ‘Deceived even in the hope of catching the bold cousin of the Senhor de Cresconhe, Egas, whom he presumed to be in Guimarães, and to find whom several attempts had been in vain ...’ (19th c., *CP*)

A closer inspection of the examples (644)–(658) reveals that they involve a rather complex syntactic environment containing at least three different clauses: the clause that contains the antecedent (antecedent clause), the embedded clause (ARC), and the pied-piped clause contained within the ARC. See the schematic representation in (659).

- (659)
- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|----------|-------|------------|------|-------|----------|------------|------------|-------|-------|----|------|-------------------|--|--|--|--|--|--|--|--|--|-----|------|----------|----|--------|----|-------|---|--------|------------|----|-----|----|-------------|-----|-------|-------|------|-----|----------|------------|--------|-------|
| antecedent clause | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| no | Latim | há | três | Gerúndios, | um | em | Di, | outro | em | Do, | outro | em | Dum, | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| in.the | Latin | has | three | gerunds | one | in | -di | other | in | -do | other | in | -dum | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table style="border-collapse: collapse; margin-left: 20px;"> <tr> <td colspan="10" style="text-align: center; border-bottom: 1px solid black;">pied-piped clause</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">[CP</td> <td style="padding: 5px;">para</td> <td style="padding: 5px;">explicar</td> <td style="padding: 5px;">os</td> <td style="padding: 5px;">quais]</td> <td style="padding: 5px;">se</td> <td style="padding: 5px;">serve</td> <td style="padding: 5px;">a</td> <td style="padding: 5px;">língua</td> <td style="padding: 5px;">Portuguesa</td> <td style="padding: 5px;">da</td> <td style="padding: 5px;">voz</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">to</td> <td style="padding: 5px;">express.INF</td> <td style="padding: 5px;">the</td> <td style="padding: 5px;">which</td> <td style="padding: 5px;">SE.CL</td> <td style="padding: 5px;">uses</td> <td style="padding: 5px;">the</td> <td style="padding: 5px;">language</td> <td style="padding: 5px;">Portuguese</td> <td style="padding: 5px;">of.the</td> <td style="padding: 5px;">voice</td> </tr> </table> | | | | | | | | | | | | | | pied-piped clause | | | | | | | | | | [CP | para | explicar | os | quais] | se | serve | a | língua | Portuguesa | da | voz | to | express.INF | the | which | SE.CL | uses | the | language | Portuguese | of.the | voice |
| pied-piped clause | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| [CP | para | explicar | os | quais] | se | serve | a | língua | Portuguesa | da | voz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| to | express.INF | the | which | SE.CL | uses | the | language | Portuguese | of.the | voice | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ARC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

There is a lot going on in pied-piped clauses, but there are three aspects that I would like to highlight: (1) the chronology; (2) the position of the relative pronoun; and (3) the clause types involved.

(a) The chronology

In the corpora inspected in this research, the pied-piping of non-finite clausal constituents is attested in earlier periods of Portuguese. However, it is not evenly distributed across non-finite clauses but is found almost exclusively in participial and gerundive clauses. For instance, in the texts edited by Martins (2001), pied-piping of participial and gerundive clauses is attested, but pied-piping of infinitival clauses is not. I found it in other corpora, but only in later periods (see examples (656)–(658)). Further evidence from larger corpora is needed to assess whether this is real or corresponds to an accidental gap.

(b) The position of the relative pronoun

Within the pied-piped clause, the relative pronoun can occur in its base position or can undergo internal movement to the CP domain. In (650) and in (656)–(658), the relative pronoun stays in its base position within the pied-piped clause, whereas in (644)–(649) and in (651)–(655) it undergoes internal movement to the CP domain. The latter case corresponds to the so-called *internal wh-movement* or *secondary wh-movement* (see Bianchi 1999; Smits 1988; Cable 2007; Heck 2008; Truswell 2011).⁴¹

In the earliest texts inspected, the internal *wh-movement* is predominant. In the corpus edited by Martins (2001), all participial and gerundive clauses involve internal *wh-movement*. The occurrence of the *wh-pronoun* in its base position is attested in latter texts, as shown by the examples in (650) and in (656)–(658), involving a participial clause and infinitival clauses, respectively.

In the data inspected thus far, internal *wh-movement* may also display these properties: (1) pied-piping of a PP (see (649) and (652)); (2) additional internal head (see (645) and (650));⁴² (3) across-the-board extraction of the relative pronoun out of coordinate pied-piped clauses (see (645) and (648), which involve participial clauses).

⁴¹ Truswell (2011) reports the existence of internal *wh-movement* in earlier stages of English, as shown in (i) and (ii). Bianchi (1999), in turn, reports the possibility of internal *wh-movement* in earlier stages of Italian, as illustrated in (iii). I also refer the also to Danckaert (2012), who provides empirical evidence of this phenomenon in Latin.

- (i) a sarmon, something better then that in the morning: [_{CP} which ended, with all Ceremones], I returned to my lodging. (16th/17th c., from Truswell 2011: 292)
- (ii) Mr Hoby, my Mother, and my selfe, went to visitt some freindes [_{CP} who, beinge not at home], we returned (16th/17th c., from Truswell 2011: 292)
- (iii) Non si meravigli dunque alcuno se lunga è la digressione della mia scusa, ma, sì come necessaria, 'hence nobody be astonished if the digression of my justification is long, but, as it is necessary, la sua lunghezza paziente sostenga. [_{CP} La quale proseguendo], dico the its length patient tolerate-IMP the which continue-GER say-1SG 'its length with patience tolerate. Continuing the digression, I say . . .' (14th c., from Bianchi 1999: 143)

⁴² The additional internal head can be a conjoined phrase, as in (582). For more details on the internal head, see §4.4.1.

(c) The clause types involved

The clausal pied-piping is not, however, confined to non-finite clauses. Pied-piping of finite adverbial clauses is also attested in earlier stages of Portuguese, as shown in (660)–(662).⁴³

- (660) E emtom a molher disse ao segundo marido que
and then the woman said to.the second husband that
matasse o primeiro marido e que ella teria a
kill.SBJV.3SG the first husband and that she have.COND A-PREP
elle por seu marido. [_{CP} O qual como nom quisesse fazer
him as her husband the which because not want-SBJV make-INF
tamanha traiçom], a dita molher matou ao dito
such betrayal the mentioned wife killed A.PREP.the mentioned
primeiro marido em no çeleiro.
first husband in in.the barn

‘The woman told the man to kill her first husband. She promised him that if he did, she would become his wife. The which (man) not willing to make such a betrayal, the woman killed her husband in the barn.’ (13th c. [transmitted by a 15th-c. MS], *CP*)

- (661) Admite além disso a nossa língua com grande
admits besides DE.PREP.that the our language with great
elegância, e particular graça as metáforas, [_{CP} as quais como
elegance and particular grace the metaphors the which because
se podem aplicar a tantas cousas], fica uma mesma
SE.CL can.3PL apply-INF to so.many things stays a same
sentença servindo muitos sentidos
sentence serve.GER many meanings

‘With great elegance and particular grace, our language also admits metaphors, and because the which can apply to many things, the same sentence can have many meanings.’ (17th c., *CP*)

⁴³ Truswell (2011) reports similar constructions for 16th- to 19th-century English (see (i)–(iii)).

- (i) receive then this Draught [[with which when thou art refresh’d], thou mayst more strongly proceed to other Matters which yet remain]. (17th c., from Truswell 2011: 292).
(ii) I make a square, that is G.H.K.L, [[In which square if I draw crosse lines frome one side to the other, according to the diuisions of the line G.H], then will it appear plaine, that the theoreme doth affirme]. (16th c., from Truswell 2011: 306).
(iii) but not so easie work found Ethelfrid against another part of Britans that stood in arms, [[whom though at last he overthrew], yet with slaughter nigh as great to his own souldiers]. (17th c., from Truswell 2011: 306).

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(662) nem tenham diante dos-olhos estas circunstancias:
 nor have.SBJV.3PL before DE.PREP.the.eyes these circumstances
 [CP as quais se eu nam tivesse executado], totalmente
 the which if I not haveSBJV executed totally
 me-faltaria aquela benevolencia, que certamente me-mostram,
 me.CL-lack.COND that benevolence that certainly me.CL-show
 os que examinam as minhas asoens
 the that examine the my actions
 ‘(Do you think there are persons who) do not consider these circumstances?
 Had I not taken the which into account, I would lack that benevolence that
 the ones who examine my actions say I have.’ (18th c., TYC)

Note that the adjacency between the relative pronoun and the connective introducing the adverbial finite clause and the fact that the relative pronoun does not play any function within the main clause clearly show that the relative pronoun is not extracted from the adverbial clause, but rather internally moved to the left periphery.⁴⁴

To summarize, the contrasts between CEP and earlier stages of Portuguese with respect to pied-piping are displayed in Table 4.4.

TABLE 4.4 Restrictions on pied-piping: Different stages of Portuguese

	DPs	APs	CPs	AdvPs	PPs	Partitives
CEP	–	–	–	+	+	+
Earlier stages of Portuguese	+	?	+	+	+	+

⁴⁴ Peres and Mória (1995: 287) report a construction from a 16th-century Portuguese text that, in my opinion, is similar to the ones discussed here (see example below). However, they claim that it involves extraction of the relative pronoun out of the subordinate clause. I depart from their analysis (and interpretation) because, as clearly shown by the translation, the relative pronoun does not play any function in the main clause.

Esta é a ditosa pátria minha amada, À qual se o
 this is the delightful homeland my beloved the which if the
 céu me dá que eu sem perigo Torne com esta
 heaven me-CL gives that I without danger return with this
 empresa já acabada Acabe-se esta luz ali comigo.
 war already ended end.SBJV-SE.CL this light there with.me
 ‘This is my own beloved delightful land/to which if heaven accord me safe/return, with this war ended,
 there may the light of life leave me.’ (16th c., from Peres and Mória 1995: 287)

4.4.4 Clausal antecedent

A. Contemporary European Portuguese

In CEP, *o qual*-ARCs cannot take a clausal antecedent, as can be observed in the ungrammatical sequence in (663).⁴⁵

- (663) *O João chegou a horas, **o qual** muito me
 the J. arrived A.PREP hours the which very.much me.CL
 surpreendeu.
 surprised
 ‘João arrived on time, which surprised me very much.’

The only relativizers that can introduce clausal antecedents are *o que* lit. ‘the that’ and *que* lit. ‘that’. This is illustrated, respectively, in the grammatical sentences provided in (664)–(665).⁴⁶

- (664) O João chegou a horas, **o que** muito me surpreendeu.
 the J. arrived A.PREP hours the that very.much me.CL surprised
 ‘João arrived on time, which surprised me very much.’
- (665) O João faltou à reunião, **que** era o que eu devia
 the J. missed A.PREP.the meeting that was the that I should
 ter feito.
 have.INF done
 ‘João missed the meeting, which was what I should have done.’

B. Earlier stages of Portuguese

Earlier stages of Portuguese behave differently in this respect. As examples (666)–(670) show, *o qual*-ARCs can take a clausal antecedent; in this case, the ARC is introduced by an invariable *o qual*.

- (666) e se obrygou de pagar os dytos duzemtos Reaes e dous fframguãos e a dyta
 galinha de fforo despoys do ffaçememto da dyta molher do dito alluaro
 fernandez em cada hũu Ano pelo dito dia de natall
 ‘and he committed himself to pay, after the death of Alluaro Fernandez’s wife, the
 aforementioned two thousand *reaes* [currency], two cockerels, and one hen as
 rent; this payment must take place every year, on Christmas day’

⁴⁵ In §4.4.4, the relativizer *o qual* (and its internal head, if present) is highlighted in bold for ease of reading.

⁴⁶ Note that, in (665), the ARC *que era [...] feito* ‘which was [...] done’ accidentally contains a free relative clause. For further examples of ARCs with a clausal antecedent in CEP, see Brito and Duarte (2003: 674–5).

pera o qual loguo obrygou seus bẽes
for the which immediately pawned.3SG his belongings
'for which he pawned his belongings' (16th c., Martins 2001: 556)

- (667) e tantas lagrimas e gritos e taaes pallavras diziam, que nom havia homem que as ouvisse que nom ouvesse d'ellas compaixom e doo;

'and the women cried so many tears, let out so many screams, and said such words that all the men hearing them felt compassion and pity for them;'

o quall tanto esforço fez cobrar aos que dentro eram
the which such strength made gather.INF to.the that inside were
que rrijamente aderçarom pera aquell logar em que os
that sturdily went.3PL to that place in that the
mouros estavam

Moors were

'which made the men that were inside the city gather so much strength that they sturdily went to the place where the Moors were' (15th c., Macchi 1975: 66)

- (668) se assentou com este mercador por esta maneyra, que o padre lhe desse duzentos taeis, que são trezentos cruzados da nossa moeda, & que auia de yr daly da nao ate a cidade sempre cos olhos tapados porque se caso fosse que por elle ser estrangeyro, a justiça entendesse nelle, como estaua certo que auia de ser, & pondoo a tormento lhe dissessem que confessasse quem o aly trouxeraõ elle o não soubesse dizer, nem conhecesse quem o aly trouxera, porque se temia que se fosse descuberto lhe mãdassem por isso cortar a cabeça

'They agreed with this merchant as follows: the father was to give him two hundred *taeis* [currency]—which is worth three hundred *cruzados* [currency] in our money—to take him from where the *nao* was anchored all the way to the city with his eyes blindfolded, so that in case—because he was a foreigner—the police got hold of him, as was bound to happen, and tried to make him confess under torture who had brought him there, he would not be able to tell them nor recognize the one who had brought him there, for fear that if he were discovered they would have his head chopped off'

o qual o padre aceitou com todos estes partidos
the which the father accepted with all these conditions
'which the father accepted with all these conditions.'

(16th c., *CP*)

- (669) E depois de feito Deos e home deitou outro pregão sobre o mesmo caso dizendo aos discípulos: nam convém a vós outros saber o que está por vir, porque isso pertence à omnipotência do padre.

'And after making God and the man, he made another statement on the same case telling his disciples: it is not in your interest to know what will happen in the future because that belongs to the Father's omnipotence.'

Polo **qual** mui maravilhado estou dos letrados
POR.PREP.the which very amazed am DE.PREP.the lettered.men
mostrarem-se tam bravos contra tam hórridos pregões.
be.INF-SE.CL so furious against such horrible notices
'For which, I am amazed at the lettered man being so furious with such
horrible notices' (16th c., Camões 1999)

(670) acrescentando ele suplicante [...] que por obedecer levaria os papéis e
apontamentos que tinha feito no estado em que estivessem como lhe era
mandado.

'he, supplicant, added that to obey (the tribunal's order) he would bring them
the papers and the notes he had made, exactly as they were, as requested'

Em cumprimento do **qual** foi ele suplicante ao Santo
in observance of.the which went he supplicant to.the S.

Ofício em 14 do dito mês.

O. on 14th of.the mentioned month

'In the observance of which he, supplicant, went to the Santo Ofício [tribunal
of the Inquisition] on July 14th.' (17th c., Muhana 1995: 117)

Further examples making the same point are given in (671)–(673). These examples
contrast with (666)–(670) in that an additional internal head follows the relative
pronoun. Recall from §4.4.1 that, in the contexts of ARCs with a clausal antecedent,
the additional internal head is typically a general abstract noun such as *cousa* 'thing'
(see (671)) or *razom* 'reason' (see (672)–(673)).

(671) E dou por firme e por estauil pera todo sempre
and give.1SG as firm and as steady to every always
todalas cousas que forem feytas e procuradas per este meu
all.the things that be-SBJV made and represented by this my
procurador [...] No testemoyo da **qual** **cousa** roquey
attorney in.the testimony of.the which thing asked.1SG

Domígos esteueiz tabelliom das alcaceuas que mi

D. E. notary of.the A. that me

fezesse ende esta procuraçom.

make.SBJV.3SG of.it this letter.of.attorney

'I confirm whatever my attorney does. As a testimony of which I asked
Domígos Esteueiz, notary of Alcaceuas, to make this letter of attorney.'
(13th c., Martins 2001: 359)

(672) nom declarar que os ditos cassaaes fforõ cõprados
not declare.INF that the mentioned hamlets were bought

dos dinheiros do dito mosteiro
DE.PREP.the money DE.PREP.the mentioned monastery
polla quall Razom de derejto perteçem e
by.the which reason by right belong.3PL and
perteçyam ao dito mosteiro
belonged.3PL to.the mentioned monastery

‘(considering that he would feel a pang of conscience at) not declaring that the aforementioned hamlets were bought with the money of the monastery, for which reason they belong and belonged by right to the monastery...’ (15th c., Martins 2001: 262)

- (673) Bem sabe el-rrei dom Henrique, meu irmão e amigo, como
well knows the-king D. H. my brother and friend that
el-rrei de Graada tem tomados navios e averes e gentes
the-king of G. has taken ships and goods and people
cativas de minha terra, por a quall rrazom eu ei com ell
captive from my land by the which reason I have with him
guerra.

war

‘The king Dom Henrique, my brother and friend, knows very well that the king of Graada has my ships and goods in his possession, and keeps the people of my land captive, for which reason I am at war with him.’ (15th c., Macchi 1975: 330)

C. Cross-linguistic evidence

There are some contemporary languages that pattern with earlier stages of Portuguese with respect to this property. Cinque (2008) reports that Italian *il quale*-ARCs may take a clausal antecedent; see, for instance, the example in (674). The same point can be made for English. As shown in (675), the relativizer *which* can take a clausal antecedent, optionally followed by an internal head.

- (674) Carlo lavora troppo poco. La qual cosa verrà certamente
C. works too little the which thing come-FUT certainly
noticed
notata.

‘Carlo works too little. Which thing will certainly be noticed.’ (Cinque 2008: 106; glosses mine)

- (675) a. Little Joey snatched the letter away, **which** infuriated his sister.
b. They are said to have taught a baboon to write, **which claim** has immediately been ridiculed by most scholars. (Smits 1988: 287)

4.4.5 Split antecedents

A. Contemporary European Portuguese

In CEP, *o qual*-ARCs cannot have split antecedents. This impossibility is illustrated in (676).

- (676) *Se o Carlos_i já não gosta da Maria_j, os quais_{i+j}
 if the C. already not likes DE.PREP.the M. the which
 nunca se deram nada bem, então acho que
 never SE-CL went at.all well then think.1SG that
 não vale a pena continuarem juntos.
 not is.worth stay.3PL together
 ‘If Carlos no longer loves Maria, who never got along with each other, then
 I think they should not stay together.’

B. Cross-linguistic evidence

Interestingly, a different pattern is reported for other languages. Cinque (2008) points out that Italian *il quale*-ARCs can take split antecedents (see (677)); Arnold (2007) reports the same behavior for English ARCs (see (678)).

- (677) Se Carlo_i non amava più Anna_j, i quali_{i+j} d'altra
 If C. not loved more A. the.PL which.PL DI.PREP.other
 parte non si erano mai voluti veramente bene, una ragione
 part not SI-CL were never loved really well a motive
 c'era
 there.was.
 ‘If Carlo was no longer in love with Anna, who after all never really loved
 each other, there was a motive.’ (Cinque 2008: 104; glosses mine)

- (678) Kim likes muffins_i, but Sandy prefers scones_j, which_{i+j} they eat with jam.
 (Arnold 2007: 274)

C. Earlier stages of Portuguese

The same, however, is not true of earlier stages of Portuguese. As shown in (679)–(682), *o qual*-ARCs with split antecedents are documented in the history of Portuguese. In the corpora inspected in this research, two options are available: (1) the ARC may be introduced by the plural form of the relative pronoun, as shown in (679)–(680); (2) the relative pronoun may be followed by an additional internal head, which may be a conjoined noun phrase, as in (681)–(682).⁴⁷

⁴⁷ Recall from §4.4.1 that if the internal head corresponds to a conjoined noun phrase, there is typically first conjunct agreement for phi-features between the relative pronoun and the noun in the first conjunct.

- (679) Julgo per sentença que este êprazamento valha e se
 judge.1SG by sentence that this emphyteusis be.valid.SBJV and SE.CL
 cūpra como se nesta carta_i cõtẽ, e no vltimo
 fulfill.SBJV as SE.CL in.this letter contains and in.the last
 consentimento do dicto prior e convento_j faz menção
 approval of.the mentioned prior and convent makes mention
 Aos quaes_{i+j} dou e hey por dada mynha
 to.the.PL which.PL give.1SG and have.1SG as given my
 autorydade.
 authority
 ‘I order this contract to be valid and fulfilled, as stated in this letter and in the
 last approval of the aforementioned prior and convent, to which I give my
 authority.’ (16th c., Martins 2001: 326)
- (680) E por séér mays firme esta carta_i seelamos dos
 and to be.INF more firm this letter stamp.1PL DE.PREP.the
 nossos séelos e outra tal_j das quaes_{i+j} deue téér
 our stamps and other such DE.PREP.the.PL which.PL should have.INF
 o dicto ffernã yohanes hũa e a dicta dona outra.
 the mentioned F. Y. one and the mentioned D. other
 ‘And, to be irrevocable, we stamp this letter with our stamps and a duplicate
 of it, of which Ffernã Yohanes should have one and the aforementioned Dona
 another.’ (13th c., Martins 2001: 350)
- (681) per a dicta soprioresa ffuj logo apresentada hũa
 by the mentioned vice-prioress was immediately shown a
 carta dEl Rey_i [...] na quall ffazya mençõ antre as
 letter from.the king in.the which made mention among the
 outras cousas que Em Ella Era conthyudo hũa clausulla_j [...]
 other things that in it was contained a clause
 a quall carta_i E clausulla_j Em Ella conthyuda asy amostrada
 the.SG which.SG letter and clause in it contained this.way shown
 ‘the aforementioned vice-prioress immediately showed a letter from the king, in
 which it was mentioned, among other things, that a clause was contained in it;
 showing which letter and the clause contained in it (the aforementioned vice-
 prioress said ...).’ (15th c., Martins 2001: 488)
- (682) E pagam de cada casal ou courella dezasete alqueires
 and pay.3PL DE.PREP each hamlet or land seventeen bushels
 de pam_i [...] Item pagam mais em dinheiro_j [...] mj] &
 de bread also pay.3PL more in money one.thousand and

trezentos & trinta Reaes. O qual pam_i & dinheiro_i
 three.hundred and thirty r. the which bread and money
 sam obrigados repartirem antre ssy.
 are.3PL forced share.3PL between them
 ‘And they pay for each hamlet and land seventeen bushels of bread. They
 also pay in money one thousand three hundred and thirty *reais* [currency].
 Which bread and money they are forced to share between them.’ (15th/
 16th c., CP)

4.4.6 Coordination of the *wh*-pronoun with another Determiner Phrase

A. Contemporary European Portuguese

In contemporary *o qual*-ARCs, coordinating the *wh*-pronoun with another DP results in ungrammaticality (see (683)).⁴⁸

- (683) *O presidente elogiou o João, [o qual e a sua mulher]
 the president praised the J. the which and the his wife
 têm desenvolvido um óptimo trabalho naquela instituição.
 have developed a great work in.that institution
 ‘The president praised João, who, with his wife, has been developing great
 work in that institution.’

B. Cross-linguistic evidence

However, such coordination is possible in other contemporary languages, such as Italian and English. As reported in Cinque (2008), Italian *il quale*-ARCs and English ARCs may display coordination of the relativizer with a DP. This possibility is illustrated in (684) and (685) respectively.

- (684) a. ?Gianni e Mario, [le rispettive consorti e i quali]
 G. and M. the respective wives and the.PL which.PL
 non si erano mai potuti soffrire
 not SI.CL were never could endure
 ‘Gianni and Mario, the respective wives and whom had never been able
 to stand each other ...’
 b. Gianni e Mario, [fra le rispettive consorti e
 G. and M. between the respective wives and

⁴⁸ In §4.4.6, the fronted constituent containing the relative pronoun and the coordinated DP are in square brackets for ease of reading.

i quali] non c'era mai stato un grande affiatamento
the.PL which.PL not there.was never exist a real understanding
'Gianni and Mario, between their respective wives and whom there never
was a real understanding' (Cinque 2008: 108; glosses mine)

- (685) He recalled the name of the solicitor, [between whom and himself] there had been occasional correspondence. (Jespersen 1949, from Cinque 2008: 115)

C. Earlier stages of Portuguese

O qual-ARCs displaying coordination of the *wh*-pronoun with a DP is found in earlier stages of Portuguese, as illustrated in (686) and (687).

- (686) filho de hum seu filho chamado per nome dom Henrrique, o qual era lidimo e, segundo conta a cronica, era o primeiro filho que o dito rei de Ungria ouve 'son of one of his sons called Dom Henrrique, who was legitimate and, according to the chronicle, was the first son that the king of Ungria had'
[O qual dom Henrrique e hum seu tio, irmão de sua
the which D. H. and a his uncle brother of his
madre], [...] se vierão a Castela aa corte, donde o
moher SE.CL came.3PL to C. to.the court where the
dito rei dom Affonso estava.
mentioned king D. A. was
'The which Dom Henrrique and his uncle, brother of his mother, came to Castela, to the court, where the king Dom Affonso was.' (15th c., CP)
- (687) [As quais razões e outras muitas que o padre-mestre
the which reasons and others many that the father.master
Francisco lhe dava], o rei gentio de Bungo ouviu e
F. him.CL gave the king heathen of B. heard and
entendendo de maneira que deu em pródigo com
understand.GER DE.PREP way that became EM.PREP prodigal with
os pobres.
the poor
'The heathen king of Bungo heard these and many other reasons that the Father Master Francisco gave him; these words impacted on him in such a way that he became prodigal, helping the poor.' (17th c., CP)

Similarly, *o qual* and a DP can occur as the object of prepositions within conjoined PPs. See examples in (688) and (689).

- (688) pedindo-lhe usasse livremente dos poderes que
ask.GER-him.CL use.SBJV.3SG freely DE.PREP.the powers that

trazia de Sua Santidade, [com os quais e com sua doutrina
had from His Holiness with the which and with his doctrine
e exemplo] estava mui certo havia de fazer grandes
and example was very sure had DE.PREP do.INF great
serviços a Deus
services to God
'asking him to freely use the power that he was given by His Holiness; with
which and with his doctrine and example, he would certainly do great things
to serve God' (17th c., CP)

- (689) em que aponta as conveniências de se fazer a
in that points.out the advantages of SE.CL do.INF the
impressão antes em Madrid que em Lisboa, [com as quais e
printing rather in M. than in L. with the which and
com o partido que oferece] eu me conformei
with the advantage that proposes I myself.CL resigned
'in which he points out the advantages of doing the printing in Madrid rather
than in Lisbon; with which, and with the conditions he proposed, I agreed'
(17th c., CP)

Note that although there is a tendency for the occurrence of an additional internal head in these contexts (see (686)–(688)), the internal head need not necessarily be spelled out. This is illustrated in (689), where the *wh*-pronoun *as quais* lit. 'the-F.PL which-F.PL' occurs per se within the first PP.

4.4.7 Illocutionary force

A. Contemporary European Portuguese

Contemporary *o qual*-ARCs can be declarative, even if the matrix is interrogative or imperative. This is illustrated in (690) and (691). In both cases the ARC is declarative and the matrix is either interrogative (see (690)) or imperative (see (691)).

- (690) Será que o João, com o qual pudemos sempre
be-FUT.3SG that the J. with the which could.1PL always
contar, estará disponível desta vez?
count-INF be-FUT available DE-PREP.this time
'Will João, whom we have always counted on, be available this time?'
- (691) Telefona aos teus pais, os quais estarão certamente
phone.IMP.2SG to.the your parents the which be.FUT.3PL certainly
disponíveis para te ajudar!
available to you.CL help.INF
'Phone your parents, who will certainly be available to help you!'

The reverse does not hold, however. *O qual*-ARCs in CEP do not allow any clause types beyond the declarative, as shown by the unacceptability of the interrogative in (692) and the imperative in (693).

- (692) *O único que te apoiou foi o João, ao qual já
the only that you.CL supported was the J. to.the which already
agradeceste devidamente por tudo o que te fez?
thanked.2SG properly by all the which you.CL did.3SG
'The only person who supported you was John; have you already thanked
him properly for everything he did for you?'
- (693) *Acabou de chegar o João, ao qual vai já
has.just DE.PREP arrive.INF the J. to.the which go.IMP.2SG now
oferecer uma bebida!
offer.INF a drink
'João has just arrived; offer him a drink now!'

B. Cross-linguistic evidence

Unlike CEP, other contemporary languages allow the ARC to have a non-declarative illocutionary force. This is reported by Cinque (2008) for Italian *il quale*-ARCs (see (694)–(695)) and English ARCs (see (696)–(697)). In (694) and (696) the ARCs have interrogative force, whereas in (695) and (697) they have imperative force.

- (694) L'unico che potrebbe è tuo padre, il quale potrà,
the.only that can.COND is your father the which can
credi, perdonarci per quello che abbiamo fatto?
think-2SG forgive.us PER.PREP that that have.1PL done
'The only one who could is your father, by whom will we be forgiven, do you
think, for what we have done?' (Cinque 2008: 102; glosses mine)
- (695) Ci sono poi i Rossi, per i quali, ti prego, cerca
there are then the R. to the which you beg find.IMP
di trovare una sistemazione!
DI.PREP find.INF a accommodation
'There are then the Rossi's, for whom please try to find accommodation!'
(Cinque 2008: 103; glosses mine)
- (696) a. There is then our father, by whom will we ever be forgiven for what we
have done? (Cinque 2008: 111)
b. It may clear up, in which case would you mind hanging the washing out?
(Huddleston, Pullum, and Peterson, from Cinque 2008: 111)
c. She may have her parents with her, in which case where am I going to
sleep? (Huddleston, Pullum, and Peterson, from Cinque 2008: 111)

- (697) a. Please accept my check for \$3.69, which find enclosed! (Martin 1972, from Cinque 2008: 112)
- b. He said he'd show a few slides towards the end of his talk, at which point please remember to dim the lights! (Huddleston, Pullum, and Peterson 2002, from Cinque 2008: 112)
- c. My friend, who God forbid you should ever meet, ... (Werth 1974, from Cinque 2008: 112)

C. Earlier stages of Portuguese

Earlier stages of Portuguese, unlike CEP, allow *o qual*-ARCs with other clause types beyond the declarative. This is illustrated, for instance, in (698)–(700); in this case, the matrix is declarative and the ARC has imperative force.⁴⁹

- (698) e posto que hūuas pallavras sejam contra as outras, e todas em soma contra-digam aa verdade, nós porém creemos que suas erradas rrazoões nom foi per malicia dos autores mas per inorancia da verdade
'and although some information is contradictory and clearly far from the truth, we nevertheless believe that the mistakes result not from the author's malice but rather from ignorance of the truth'
a quall sabe que foi d'esta guisa.
the which know.IMP.2PL that was DE.PREP.this way
'which know that was as follows' (15th c., Macchi 1975: 377)
- (699) ho prior do moesteiro de uilarinho do dicto arcebispado me emviou dizer que sentindo por proueito do dicto mosteiro queria enprazar como de feito enprazou a quebrada de penellas que o dicto mosteiro tem sita na freguesia de sam frausto a fernam correa escudeiro morador em a villa de guimarães e a sua molher mjcía ffernandez
'the prior of the monastery of Uilarinho of the aforementioned archbishopric ordered me to say that, for the aforementioned monastery's benefit, he wanted to give in emphyteusis—as in fact he did—the land of Penellas, which the monastery has in the parish of Sam Frausto, to Fernam Correa, squire, inhabitant of Guimarães, and to his wife, Mjcia Ffernandez'
Os quaees aJam e pessuam a dicta quebrada Com
the which have-SBJV and possess.SBJV the mentioned land with
todas suas casas vinhas souts
all its houses vineyards thickets

⁴⁹ Note that in Portuguese, imperative sentences use the imperative mood for the second person. For other grammatical persons and for every negative imperative sentence, the subjunctive is used.

‘The which (Fernam Correa and Mjcia Fferrnandez) have and possess the aforementioned land with all its houses, vineyards, thickets’ (16th c., Martins 2001: 294)

- (700) Com o teor do qual mandei passar esta carta testemunhável ao dito Bento Henriques, à qual mando que seja dada tanta fé e autoridade, em juízo e fora dele, e onde quer que fôr apresentada, quanta por direito se lhe deve dar.
‘I ordered to send this letter, with the content of the aforementioned document, to Bento Henriques; I order that this letter be given all the faith and authority recognized by law, within our jurisdiction or outside of it.’
O qual uns e outros assim cumpram e al
the which some and others as.such obey.SBJV.3PL and another
não façais.
not make.SBJV.2PL
‘The which all the intervening parties should obey and not make differently’
(16th c., Pereira 1987: 44)

Furthermore, both the matrix and the ARC may have non-declarative force. See, for instance, example (701), in which the matrix and the ARC have imperative force.

- (701) E ponha ã corporall posissom della o dicto prioll de vilarinho. ou seu certo procurador scilicet per pedra terra telha altar ljuros calezes chaues vestimētas E per outros quaeesquer hornamentos e bēes que em ella forem achados,
‘And give the aforementioned prior of Vilarinho or his attorney the possession of the church, with its land, tile, altar, books, chalices, keys, vestments, and any other adornments and belongings that might be found there,’
dos quaees lhe seja facto Euentairo segundo Costume
of.the which him.CL be.SBJV made inventory as usual
‘of which should be made an inventory, as usual.’ (15th c., Martins 2001: 270)

4.4.8 Coordinator

A. Contemporary European Portuguese

In CEP, *o qual*-ARCs cannot be preceded by a coordinator. The example given in (702) illustrates this point: the sentence becomes ungrammatical if the ARC is preceded by the coordinator *e* ‘and’.⁵⁰

⁵⁰ In §4.4.8, the coordinator preceding ARCs is in bold for ease of reading.

- (702) Foi detectado um erro grave na prova de química, (*e)
was detected a error serious in.the exam of chemistry and
para o qual ainda não foi apresentada nenhuma explicação.
to the which yet not was provided no explanation
'A serious error was detected in the chemistry exam, for which no explanation has been provided yet.'

B. Cross-linguistic evidence

Interestingly, ARCs in English may occasionally exhibit a coordinator before the relative pronoun, as shown in (703)–(706); in these examples, the ARCs are introduced by the coordinator *and* (see (703)–(705)) or *but* (see (706)).

- (703) and the new capitol is here, of course, too, built five years before she was born, **and** which she has always associated with learning Latin. (COCA)
- (704) "I'm inept—how do you like that word?—at everything but my work and getting to and from it," was how he liked to phrase it whenever she asked him to do a chore, **and** which she said was his alibi for doing nothing around the house. (COCA)
- (705) Well, Pickering gave me an earful, not directed at me, **and** which I much enjoyed. (COCA)
- (706) Eventually I found one willing to sell me a camel at what would have been an exorbitant price under ordinary circumstances, **but** which I was all too willing to pay. (COCA)

On the basis of English data, it is possible to conclude that the coordinator may show up: (1) if the nominal antecedent is already modified (see example (706), in which the antecedent *price* is modified by *exorbitant*);⁵¹ and (2) when no such a modifier is present (see (704), which involves an ARC with a non-nominal antecedent).

⁵¹ Beatrice Santorini (p.c.) reports to me that earlier stages of English behave in a similar fashion. Consider, for instance, the sequences in (i)–(iii), from Early Modern English (1500–1700); in these examples, the ARC is preceded by a coordinator (and the antecedent is modified by one or more adjectives).

- (i) and hopes the Pope will not any longer delay gratifying him in so reasonable a request, **and** which his Majesty desires so earnestly from his Holinesse (17th/18th c., *PPCEME*)
- (ii) but the greater power and working of wine may be spied more plainly in colde and withered bodies, **and** wherein is lesse naturall heat, as in olde men, and in such as are amended of their sicknesse (16th c., *PPCEME*)
- (iii) That had been too wild and extravagant a supposition, **and** which it is likely in those days had never entered into any mans mind. (17th c., *PPCEME*)

C. Earlier stages of Portuguese

Earlier stages of Portuguese pattern with English in the possibility of having *o qual*-ARCs preceded by a coordinator; see (707)–(709).

- (707) *custumarõ dauer e ouuerom no dicto*
 used.3PL DE.PREP.have.INF and had.3PL in.the mentioned
Monsteiro bõa raçom e mâtijmêto de pam aluo boroa.
 monastery good ration and provisions of bread white corn.bread
carne e viho e o qual mâtijmêto os Piores [...] auiã
 meat and wine and the which provisions the priors had
e som theudos de dar ao dicto conuêto
 and are compelled DE.PREP give.INF to.the mentioned convent
 ‘they had in the aforementioned monastery good ration and provisions of white
 bread, corn bread, meat, and wine; and which provisions the priors had and were
 compelled to give to the aforementioned convent’ (14th c., Martins 2001: 215)
- (708) *me outorgo por biẽ pagada deste dicto herdamêto &*
 me.CL declare.1SG as well paid of.this mentioned land and
cousas que aqui en esta carta som en ella escriptos & cõteudos.
 things that here in this letter are in it written and contained
Et o qual herdamêto & cousas sobredictas hã jazença
 and the which land and things aforesaid have ±location
no logar que chama de Curraes
 in.the place that call.3SG of C.
 ‘I declare that I was paid for the aforementioned land and things referred to
 in this letter. And which land and things aforesaid are located in a place called
 Curraes’ (13th c., DCMP)
- (709) *E nos [...] outorgamos sse formos contra este prazo*
 and we declare if go.FUT.SBJV.3PL against this ±document
en todo ou en parte que peytemos aos sobredits
 in all or in part that pay.SBJV.1PL to.the aforementioned.persons
cen mr uelhos de pẽa. E a qual pẽa pagada
 one.hundred m. old of penalty and the which penalty paid
ou nõ, este prazo e as cousas que neel sson cõtehudas
 or not this ±document and the things that in.it are contained
fiquen en ssa firmydõe.
 stay.SBJV in its firmness
 ‘And we declare that, if we go against this document, we must pay to the
 aforementioned persons one hundred *maravedis* [currency] as penalty.
 Nevertheless, this document and the things contained in it should be valid
 independently of the payment of this penalty.’ (14th c., DCMP)

TABLE 4.5 Properties of *o qual*-appositive relatives: Different stages of Portuguese

	CEP	Earlier stages of Portuguese
Internal head	–	+
Generalized extraposition	–	+
Generalized pied-piping	–	+
Clausal antecedents	–	+
Split antecedents	–	+
Coordination of the <i>wh</i> -pronoun with another DP	–	+
Non-declarative illocutionary force	–	+
Coordinator preceding the <i>wh</i> -pronoun	–	+

4.4.9 Summary

I have shown that *o qual*-ARCs in CEP behave differently from *o qual*-ARCs in earlier stages of Portuguese with respect to a number of syntactic properties. The contrasting properties analyzed thus far are summarized in Table 4.5. Here a minus indicates that *o qual*-ARCs may display the relevant properties and a plus indicates that they may not.

Additionally, I have demonstrated that Italian *il quale*-ARCs and English ARCs pattern with *o qual*-ARCs in earlier stages of Portuguese with respect to the same syntactic properties.

4.5 Deriving the contrasting properties

The main claim of this section is that the contrasting properties of *o qual*-ARCs can be derived from a dual approach to the syntax of ARCs see (§4.2). Concretely, I submit that both the specifying coordination analysis (De Vries 2006b) and the raising analysis (Kayne 1994; Bianchi 1999) may derive ARCs (see §§1.3.2.5B and 1.3.2.5C respectively). However, the two structures may not be instantiated in all languages nor in all stages of the same language.

In §§4.5.1–8 I provide an explanation for the contrasting properties of *o qual*-ARCs in CEP and in earlier stages of Portuguese, which is summarized in (710).

(710) Dual approach to syntax of *o qual*-ARCs in Portuguese⁵²

- a. In earlier stages of Portuguese, *o qual*-ARCs are derived from the specifying coordination structure (and possibly by the raising structure).

⁵² Note that the formulation in (710) leaves open the possibility of having ARCs derived from raising both in earlier stages of Portuguese and in CEP (see §4.6.1).

- b. In CEP, *o qual*-ARCs do not involve specifying coordination, being derived from head raising.

I postpone the discussion of cross-linguistic contrasts until §4.6.

4.5.1 Internal head

O qual-ARCs in CEP differ from *o qual*-ARCs in earlier stages of Portuguese in that they disallow an additional internal head (see §4.4.1). Such a contrast can be easily explained under the dual approach to the syntax of ARCs displayed in (710).

Why cannot *o qual*-ARCs in CEP take an additional internal head? According to the raising analysis of relative clauses, the head NP originates as the complement of the relative determiner D_{rel} , as represented in (711). Thus, there is simply no room for an additional internal head because the only NP position available is already filled with the visible head.

$$(711) \quad [DP D [CP NP_i [DP_{rel} o qual t_i]_k C [IP...t_k...]]]$$

Why can *o qual*-ARCs in earlier stages of Portuguese take an additional internal head? Under the specifying coordination account, there are two NP positions in the appositive construction: the external antecedent in the first conjunct and the NP position within the second conjunct, as shown in (712). Because the antecedent is base-generated in the first conjunct, the NP in the second conjunct may be spelled out as an additional internal head.

$$(712) \quad [CoP [DP antecedent] Co [DP D [CP [DP_{rel} o qual [NP \underline{\text{internal head}}]]_k C [IP...t_k...]]]]]$$

Furthermore, the structure in (712) also explains why there may not be categorial, phonological, and semantic identity between the internal head and the antecedent. The eventual non-categorial identity between the antecedent (which may be non-nominal) and the internal head (which must be nominal) can be explained by the structure in (712): regardless of the category of the constituent at which the second conjunct is attached, the internal head is always nominal because it is the complement of D_{rel} . Moreover, nothing forces phonological or semantic identity between both elements because there is no movement chain between the antecedent and the internal head.

4.5.2 Extraposition

As already mentioned in §4.4.2, *o qual*-ARC extraposition is possible in all periods of the history of Portuguese. However, the restrictions on extraposition are less constrained in earlier stages of Portuguese than in CEP. I submit that this contrast can be explained by the hypothesis in (713).

- (713) Dual approach to *o qual*-ARC extraposition in Portuguese
- a. In earlier stages of Portuguese: (1) *o qual*-ARCs are derived from specifying coordination; and (2) extraposition of *o qual*-ARCs is generated by specifying coordination plus ellipsis (involving attachment at different levels of projection).
 - b. In CEP: (1) *o qual*-ARCs are derived from head raising; and (2) extraposed *o qual*-ARCs do not involve specifying coordination plus ellipsis (being instead derived from stranding).

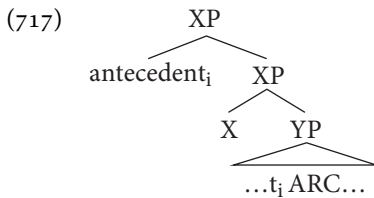
From (713), it becomes clear that there is a strict correlation between the syntax of ARCs and the syntax of ARC-extraposition. In earlier stages of Portuguese, *o qual*-ARCs already involve specifying coordination (see (714)). Thus, extraposition requires two distinct coordination-style structures (see (715)): a specifying coordination structure to derive ARCs (CoP₂) and an additional specifying coordination plus ellipsis structure to derive extraposition (CoP₁), as proposed by De Vries (2002: 279).

(714) $[_{CoP} DP Co [_{DP} D [_{CP} [o\ qual\ (internal\ head)]_k C [_{IP} \dots t_k \dots]]]]$

(715) $[_{CoP_1} [_{XP_1} \dots antecedent\ YP] [Co [_{XP_2} [_{CoP_2} [_{DP_1} antecedent] Co [_{DP_2} D [_{CP} o\ qual\ (internal\ head)]_k C [_{IP} \dots t_k \dots] YP]]]]]]]$

In turn, *o qual*-ARCs in CEP are derived from head raising plus covert IP movement (see Kayne 1994; Bianchi 1999), as in (716) (repeated from (77a)). The same basic structure is involved in extraposed *o qual*-ARCs: the antecedent is base-generated inside the ARC and undergoes leftward movement, stranding the ARC in situ, as schematically represented in (717).

(716) $[_{DP} D [_{CP} [_{DP_{rel}} NP_j [D_{rel} t_j]_i] C [_{IP} \dots t_i]]]$ (pre-LF)



Although the restrictions on *o qual*-ARC extraposition deserve more detailed study (parallel to that developed for RRC-extraposition in Ch. 3), I will show that the dual approach outlined in (713) can derive the contrasting properties of *o qual* ARC-extraposition (cf. §4.4.2), which I will consider in turn.⁵³

⁵³ I will only provide a brief explanation of the restrictions on *o qual*-ARC extraposition. For more technical details, see Ch. 3 (§§3.4.2 and 3.5.2).

A. The definiteness effect

Under the raising analysis, strong noun phrases are not constituents (excluding the ARC) and consequently cannot undergo leftward movement, stranding the *o qual*-ARC in its base position.

Under the specifying coordination analysis, however, strong noun phrases are detached from the relative clause and base-generated in the first conjunct of the coordinate structure. There is simply no movement chain between the antecedent and the position of the gap inside the relative CP; thus, no restriction on movement applies. This is illustrated in the simplified structure given in (718), where the extraposed *o qual*-ARC takes a strong noun phrase as antecedent (*o dicto herdamento* ‘the aforementioned land’).

- (718) [IP ficou [CoP₁ [VP [DP *o dicto herdamento*] [PP *ao dicto*
 went the mentioned land to.the mentioned
Moesteyro de suso nomeado]] [Co
 monastery DE.PREP above mentioned
 [VP [CoP₂ [DP *o dicto herdamento*] [Co [DP D [CP [DP *o qual*
 the mentioned land the which
*herdamento est...]]]]] [PP *ao dicto Moesteyro de*
 land is to.the mentioned monastery DE.PREP
suso nomeado]]]]]
 above mentioned*

B. Pre-verbal positions

Given the possibility of attaching the relative clause at different levels of projection, the specifying coordination analysis plus ellipsis predicts that an extraposed *o qual*-ARC can take any constituent as antecedent. This would be derived thus: when the antecedent is a subject in a pre-verbal position, the second conjunct would be attached at the IP-level projection; when the antecedent is a topic, the second conjunct would be attached at the Topic-level projection (assuming a split CP system). However, the actuality is not so simple because in the historical data considered thus far, extraposed *o qual*-ARCs can take pre-verbal subjects, but not topics, as antecedents.

B1. Pre-verbal subjects

The analysis of *o qual*-ARCs extraposition from a pre-verbal subject is schematically represented in (719).

- (719) [CoP [IP toda a outra cidade era devassa] [Co
 all the other city was opened
 [IP [CoP [DP ~~toda a outra cidade~~] [Co [DP na quall moravam muitas
 all the other city in.the which lived many
 gentes]]] ~~era devassa]]]]
 people was opened~~

Note, however, that according to the Interpretative Principle in (720) (adapted from (426)), extraposition from pre-verbal subjects should not be allowed because a constituent in [Spec, IP] can be semantically interpreted as topic or non-topic.

(720) Interpretative Principle

The antecedent of an extraposed *o qual*-ARC must occur in a position non-ambiguously interpreted as non-topic (in Kuroda's 2005 sense).

In line with the proposal put forward for Chapter 3, I tentatively submit that CEP and earlier stages of Portuguese may resort to different strategies to resolve the ambiguity expressed by the Interpretative Principle. Although 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 by prosody alone. In this case, a constituent in [Spec, IP] may be unambiguously interpreted as non-topic if it is prosodically marked by pitch accent. Further research is necessary in this domain to warrant the validity of this hypothesis.

B2. Restriction on extraposition from other pre-verbal positions

In the corpus of historical Portuguese inspected thus far, *o qual*-ARC extraposition can take place from preposed foci (see §4.4.2.3B2). In this case, the coordinate structure involves coordination of a dedicated functional projection (say, Focus) of the left periphery. Such a configuration satisfies the Interpretative Principle presented in (720) because the position occupied by the preposed constituent is non-ambiguously interpreted as non-topic.

In turn, extraposed *o qual*-ARCs with a topic as antecedent are not present in the corpus under consideration. Such a restriction follows from the Interpretative Principle in (720): under a split-CP system, a constituent in [Spec, TopicP] is non-ambiguously interpreted as topic.

C. Prepositional phrases

Under the raising analysis, prepositional phrases are not constituents (excluding the ARC) and consequently cannot undergo leftward movement stranding the

o qual-ARC in its base position. Under the specifying coordination analysis, such a restriction does not hold because there is no movement chain between the antecedent and the position of the gap inside the relative CP.

D. Extraposition across conjuncts

O qual-ARCs derived from specifying coordination can be attached at different projection levels. Therefore, they can be directly coordinated with the antecedent (see (721a)) or with a multiple coordinate structure including the antecedent in the first conjunct; see (721b), which schematically represents the coordinate structure in (722), repeated from (616).⁵⁴

- (721) a. DP Co [_{DP} ARC]
 b. (DP₁ Co DP₂ Co DP₃) Co [_{DP} ARC]

- (722) testemunhas que Eram presentes llopo martjz orjuez e alluaro
 witnesses that were present L. M. jeweller and A.
gomcalluez barbeJro e bento velloso ao **quall llopo martiz**
 G barber and B. V. to.the which L. M.
 a dita catarjna periz rrogou que asynasse por sy
 the mentioned C. P. asked that sign.SBJV.3SG POR.PREP him
 e por ella
 and POR.PREP her
 ‘witnesses that were present: Llopo Martjz, a jeweler, Alluaro Gomcalluez, a
 barber, and Bento Velloso, the which Llopo Martiz the aforementioned
 Catarjna Periz asked to sign in her place’ (16th c., Martins 2001: 307)

In contrast, *o qual*-ARCs in CEP are derived from head raising, which represents the relative CP as a complement of an external determiner. Under this approach, the configuration in (723) is not allowed because the external determiner and the NP head do not form a constituent excluding the ARC.

- (723) *DP₁ Co DP Co DP [_{DP} t_i ARC]

E. Extraposition across discourse

In earlier stages of Portuguese, *o qual*-ARCs may refer to an antecedent across the discourse, as in (724), repeated from (622). This configuration has been referred to in

⁵⁴ As for the referential link between the ARC and its antecedent, see §1.3.2.5B(b).

the literature by different labels, for instance, *relatif de liaison*, *connecting relative*, and *relative junction* (see §4.4.2.3).

(724) —Senhor, chegou ally o allmocadê, e parece-me que diz que lhe he necessário de vos fallar llogo amte que amanheça.

‘—Sir, the Moorish captain arrived there and it seems to me he is saying he needs to speak to you promptly, before it dawns.’

O qual o comde mamdou que viesse.

the which the count ordered that come.SBJV

‘The which (Moorish captain) the count ordered to come.’ (15th c., Brocardo 1997: 296)

It is not completely clear whether the clause introduced by *o qual* is syntactically connected. Bianchi (1999: 152) suggests that in these contexts there is simply no relative construction involved. Under that view, *o qual* is used as an anaphoric pronoun or determiner, and the clause is either coordinate to the main clause or parenthetical (see §4.2.3 for further details).

De Vries (2002), commenting on the sentence from German displayed in (725), emphasizes the apparently ambiguous status of the construction. On the one hand, the second sentence in (725) is verb-final, which is the clause structure of subordinate clauses in German. However, its intonation pattern differs from that in ARC constructions, and perhaps may equal the one found in main clauses. Equating these properties, De Vries (2002: 66) concludes, “The relative junction is a special case of a more general pattern whereby, for stylistic reasons, the junction between a main clause and a subordinate clause looks like one between main clauses.”

(725) Dieser Wagen ist nicht mehr verbesserungsfähig.
this car is not any.more improvable

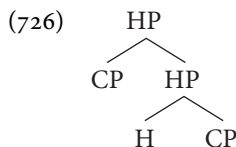
Weshalb wir ihn unverändert weiterbauen.

for.which.reason we it unchanged further.build

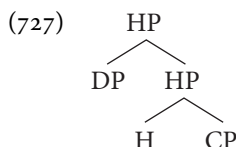
‘This car cannot be improved any further. Which is why we continue to build it without changes.’ (Lehmann 1984, from De Vries 2002: 66)

Cinque (2008: 117–19), in turn, claims that the head and the ARC may be separated across the discourse in *non-integrated* ARCs (cf. §4.2.3). Assuming Kayne’s LCA to hold for Discourse Grammar as well, the author argues that linear precedence in a discourse must also reflect asymmetric *c*-command. Under this view, a linearly preceding main sentence is placed in the specifier of an (empty) head, which, in turn, takes the main sentence as its complement (726).⁵⁵

⁵⁵ The structure represented in (726) is instantiated in a sequence such as *John is no longer here. He left at noon.* (Cinque 2008: 118).



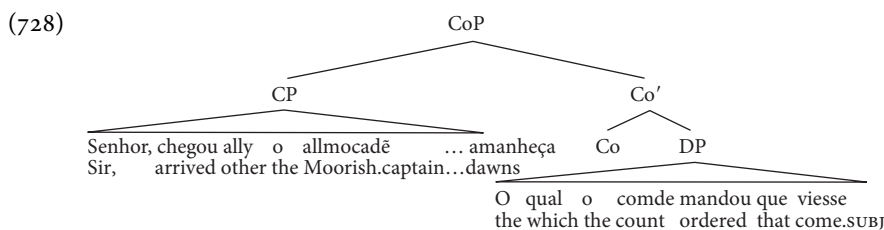
Another hypothesis is that a DP is placed in the specifier of an (empty) head, taking a sentence as its complement (727).⁵⁶



Cinque (2008) takes the configurations in (726) and (727) to underlie the non-integrated ARCs, (726) for the contexts of the *relatif de liaison*, and (727) for the anaphoric relations within a sentence.

In the present study, I propose that the so-called *relatif de liaison* introduces, in fact, an ARC that involves coordination at the discourse level (as opposed to the sentence level). Note that the same is true of regular coordination (see Matos 2003: 576), as in *She said, "Aren't you even curious?" And he looked at her with a strange expression on his face.*

This idea can be implemented by assuming that the discourse unit that contains the antecedent surfaces in the first conjunct of a specifying coordinate structure, while the *o qual*-ARC surfaces in the second conjunct. Under this analysis, a sentence like (724) corresponds to the simplified structure in (728).⁵⁷



⁵⁶ Recall from §4.2.3 that this configuration is found in sequences such as *A pink shirt? I will never wear any such thing in my life!* (Cinque 2008: 118).

⁵⁷ In the structural representation given in (728), I assume, following Moro (2003), that vocative phrases (such as *Senhor* 'Sir' in (724)) are located in the CP domain. Under Moro's (2003) proposal, vocative phrases are hosted in the specifier of the head projected by a Voc feature governing Force. Hence, the split Comp field is expanded thus:

Co° = ... Voc° > Force° > (Top° > Foc° > Top°) > Fin° ...

Given that the split CP has no direct bearing on the analysis at hand, in (728) I adopt a non-split representation, labeling the first conjunct simply as CP.

Observe that, given the E-type character of the referential link between the ARC and the antecedent, no adjacency requirement holds between the antecedent and the ARC (see §1.3.2.5B(b)). The abstract pronoun heading the second conjunct is able to pick up the right antecedent in the first conjunct, similarly to how definite anaphoric or demonstrative pronouns refer to a phrase across discourse.

Obviously, the *relatif de liaison* is not available in CEP because the raising analysis cannot derive a sentence like (724): it would involve leftward movement of the antecedent into a different utterance.

4.5.3 Pied-piping

In §4.4.3 I have shown that pied-piping in contemporary *o qual*-ARCs is subject to constraints that appear not to hold in earlier stages of Portuguese. The contrasts are summarized in Table 4.6 (repeated from Table 4.4).

The explanation I provide for these contrasts relies on the assumption that the restrictions on pied-piping found in relative clauses result from restrictions on NP movement.⁵⁸

Let me first consider *o qual*-ARCs in CEP, which are derived from the raising analysis. Recall that one of the basic tenets of the raising analysis is that the head NP is generated inside the relative clause as a complement of D_{rel} . Imagine now that D_{rel} is embedded in a PP, as in (729).

(729) $[_{DP} D [_{CP} [_{PP} NP_i [_{PP} P [_{DP_{rel}} DP_{rel} t_i]]] [C [_{IP} \dots t_j \dots]]]]$

In this case, the *wh*-movement does not only affect the constituent that bears the *wh*-feature (D_{rel}) but instead targets a phrase that properly contains the maximal projection of that item (the PP in (729)). But how is this configuration derived?

TABLE 4.6 Restrictions on pied-piping: Different stages of Portuguese

	DPs	APs	CPs	AdvPs	PPs	Partitives
CEP	–	–	–	+	+	+
Earlier stages of Portuguese	+	?	+	+	+	+

⁵⁸ The explanation for the pied-piping found in other structures (e.g. *wh*-exclamatives, questions) is beyond the scope of this book. Note, however, that the rationale behind my proposal is that the mechanism of *feature percolation* (see Chomsky 1973; Webelhuth 1992; and Grimshaw 2000; among others) applies irrespective of the categories involved. Different restrictions on pied-piping result from the different syntactic environment in which pied-piping takes place.

The standard answer to this question is that there is a mechanism, called *feature percolation*, that spreads the *wh*-features of the *wh*-word up to higher phrases. This proposal refers back to Chomsky (1973) and has been revived by many authors, such as Webelhuth (1992) and Grimshaw (2000). In addition to explaining the nature of this mechanism, these studies are concerned with identifying and explaining the restrictions on percolation. Among the questions that arise in this respect are: What prevents *wh*-feature percolation from occurring freely? Why is it sensitive to the category of the phrases involved?

This line of research does not, however, provide any clue to explain the contrast found in the history of Portuguese: if the same phrasal categories are involved, the same restrictions on percolation should hold in CEP and in earlier stages of Portuguese, which is contrary to the actual situation.

Additional evidence for the idea that feature percolation cannot be the whole story is provided by the fact that pied-piping exhibits construction-specific variation. For instance, pied-piping of DPs and CPs is possible in English ARCs but not in RRCs, as shown in (730)–(731).

- (730) a. Most students are interested in Prof. Rotestern, [the security file on whom] the government won't release.
b. *Most students are interested in any professor [a security file on whom] the government won't release. (Emonds 1985: 304)
- (731) a. Egbert, [α to hire whom] would be a real scoop, ...
b. *four consultants [to hire whom] would be a real scoop... (Heck 2008: 168)

Such contrasts seem to suggest that the restrictions on pied-piping cannot be simply derived by the restrictions on percolation. Pied-piping appears to be sensitive to the type of relative clause involved; therefore, the syntax of relativization might play an important role in this story.

The hypothesis that I want to put forward here is that percolation exists (or some equivalent of it, as is the case of *feature movement* proposed by De Vries 2006a) and that it applies irrespective of the categories/distance involved. Restrictions on pied-piping are, then, derived not from the restrictions on percolation but rather from the syntactic environment in which pied-piping occurs.

With these ideas in mind, let me show how the raising analysis can explain the restrictions on pied-piping found in CEP. As already mentioned in §1.3.2.4B, the raising analysis involves two basic movement steps: movement of the operator phrase DP_{rel} to the CP domain and subsequent movement of the head NP to the left of D_{rel} . The latter movement usually targets [Spec, DP_{rel}]. However, when DP_{rel} is embedded in another constituent, the head NP targets the highest specifier position within the pied-piped constituent.

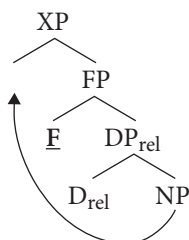
The hypothesis I would like to suggest is that the movement of the head within the pied-piped constituent is subject to the Lexical Projection (LP) Condition in (732).

(732) The LP-Intervention Condition on pied-piped constituents⁵⁹

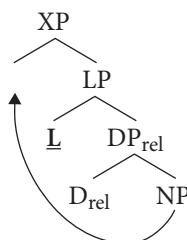
Within pied-piped constituents, NP movement to the highest specifier position cannot cross LPs.

This is illustrated in (733). In (733a), NP movement is allowed because the head does not cross any LP on its path to the highest specifier position; in contrast, in (733b), NP movement is blocked by an intervening LP.

(733) a. Intervening Functional Projection (FP) b. Intervening LP



NP movement: OK
 (no intervening LP)



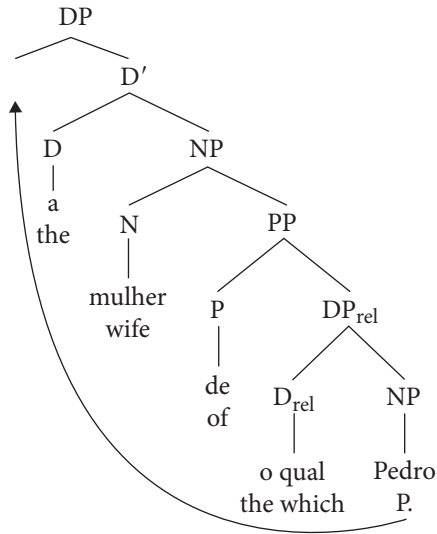
NP movement: *BLOCKED*
 (intervening LP)

Under the standard assumption that N, A, and V are lexical projections, the restrictions found in CEP can be derived from the LP-Intervention Condition in (732). Observe the schematic representation given in (734), where the constituents to be pied-piped are a DP ((734a)), an AP ((734b)), and a CP ((734c)).⁶⁰ The examples are from CEP.

⁵⁹ The idea that the intervention of lexical heads is relevant for constraining pied-piping has already been put forth in the literature by different authors; see Grimshaw (2000), among others. Here, I am inspired by the LP-Intervention Condition proposed by Cable (2007). Although I do not wish to review that proposal here, the basic idea is that *wh*-words are rendered interpretable through the help of a *Q*-particle, which heads its own projection—QP—and *c*-commands the *wh*-word. Hence, restrictions on pied-piping result from the fact that in some languages, an agreement relationship must be established between a *Q*-particle and the *wh*-word. According to Cable, languages showing more limited pied-piping structures are the ones that show *Q/Wh*-agreement. In technical terms, the *Q*-interpretable, unvalued instance of *Q* undergoes agreement with the *wh*-word, which has a valued instance of *Q*. The most important constraint that holds in these languages is the LP-Intervention Principle, whereby agreement holds between *Q/Wh* only if no lexical head intervenes between them.

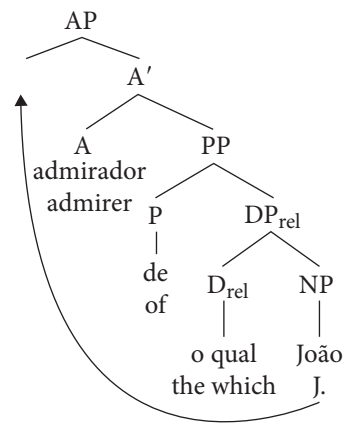
⁶⁰ To keep the representation simple, in (734) I abstract away from movement of the head NP to possible intermediate landing sites.

(734) a. Pied-piping of DP
 *(O) Pedro, a mulher do qual . . .
 lit. (the) P. the wife of.the which



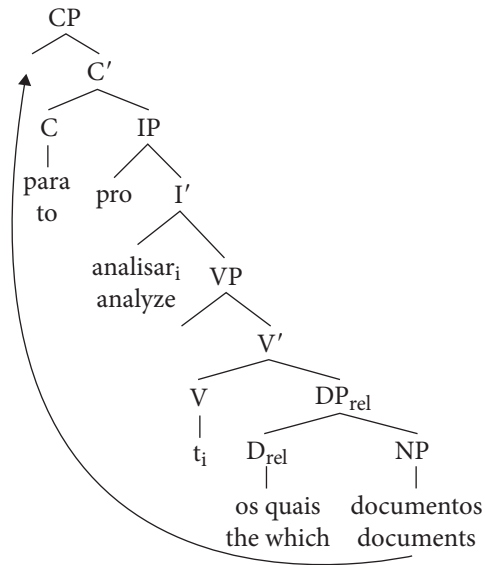
NP movement: *BLOCKED*
 (intervening LP: N)

b. Pied-piping of AP
 *(O) João, admirador do qual . . .
 lit. (the) J. admirer of.the which



NP movement: *BLOCKED*
 (intervening LP: A)

c. Pied-piping of CP
 *(os) documentos, para analisar os quais . . .
 lit. (the) documents, to analyze the which



NP movement: *BLOCKED*
 (intervening LP: V)

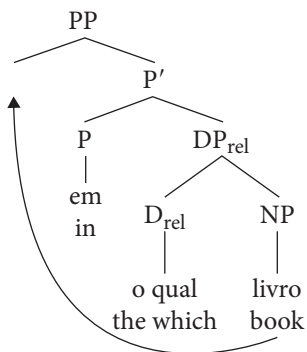
This approach explains the restrictions on pied-piping found in CEP. As shown in (734), pied-piping of DPs, APs, and CPs in CEP is blocked by the LP-Intervention Condition in (732) because the head crosses a lexical projection (N, A, V) on its path to the highest specifier position.

Consider now the pied-piping of PPs and AdvPs (see (735)). The LP-Intervention Condition straightforwardly derives the pied-piping of these phrasal categories: the head NP on its path to the highest specifier position only crosses functional projections. If a PP is involved (see (735a)), the head crosses D_{rel} and P; if an AdvP is involved (735b), the head crosses D_{rel} , P, and Adv.

(735)

a. Pied-piping of PP

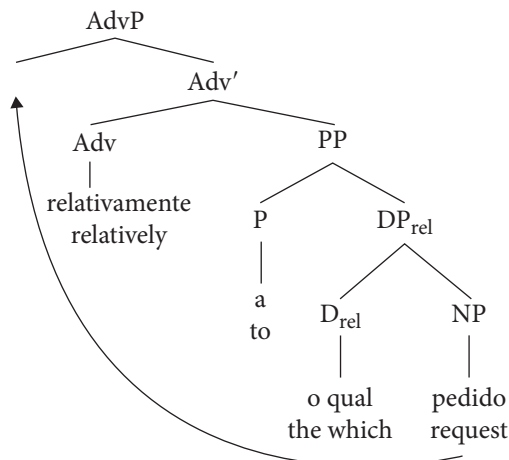
(este) livro, no qual . . .
 lit. (this) book, in.the which



NP movement: OK
 (no intervening LP)

b. Pied-piping of AdvP

(o) pedido . . . relativamente ao qual
 lit. (the) request relatively to.the which



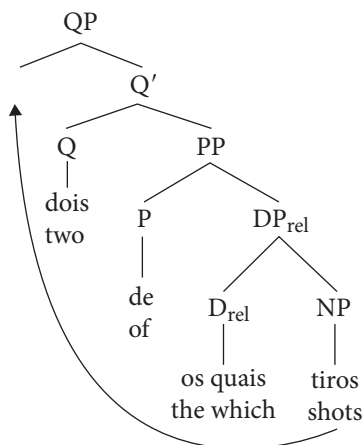
NP movement: OK
 (no intervening LP)

Additional evidence for this theory of pied-piping comes from the unexpected pied-piping of partitive constructions found in CEP. Recall from §4.4.3 that, unlike DPs, partitive construction may get pied-piped in *o qual*-ARCs, as shown in (736) (repeated from (628)).

(736) Este acto terá levado o industrial a disparar três tiros,
 this act have.FUT led the industrialist to fire.INF three shots
 [QP dois dos quais] terão atingido o filho no abdómen.
 two of.the which have.FUT hit the son in.the stomach
 ‘This act might have led the industrialist to fire three shots, two of which
 might have hit his son in the stomach.’ (CRPC)

Again, this possibility is derived from the approach adopted here: if pied-piping of partitive constructions is involved, the head only crosses functional projections on its way to the highest specifier position. See (737), where the head crosses D_{rel} , P, and Q.⁶¹

- (737) Pied-piping of partitive constructions
 (três) tiros, dois dos quais . . .
 lit. (three) shots, two of.the which



NP movement: OK
 (no intervening LP)

In sum, the restrictions imposed by the LP-intervention condition explain why PPs and AdvPs can get pied-piped in CEP, whereas DPs, APs, and clausal constituents cannot. Note that ultimately, this amounts to saying that the limitations on relative-clause pied-piping follow from a restriction on NP movement.

Consider now the situation in historical Portuguese. Recall from §4.4.3 that pied-piping of DPs, PPs, AdvPs, partitive structures, and clausal constituents occurs in earlier stages of Portuguese. Let me consider how the broader possibilities for pied-piping can be derived by the specifying coordination analysis.

⁶¹ In (737), I assume, along with López (2000), that partitive constructions: (1) do not involve an empty nominal head; and (2) involve a syntactic structure in which the quantifier directly selects a PP. One of the most convincing arguments provided by López (2000) in favor of this analysis is that it is not possible to find a counterpart of the null nominal head in partitive constructions (*several (*ones/units) of the students*); by contrast, elided pro-forms can always have an overt counterpart (*several (pictures) made in Canada*). It should be mentioned, however, that the earlier hypotheses proposing a structure of the type: [_{NP} [_{QP} several] [_{N'} \emptyset [_{PP} of the students]]] (see Jackendoff 1977 and Milner 1978, among others) are also compatible with the approach developed here; in this case, it would only be necessary to assume that empty N is not a blocker for NP movement.

Under the raising analysis, the head is base-generated as the complement of D_{rel} and then moves to the highest position within the pied-piped constituent. Recall from the previous discussion that this movement is subject to the LP-Intervention Condition. In the specifying coordination analysis, however, the NP head is null in the second conjunct because the overt antecedent is base-generated in the first conjunct. Proposing a minor change to the basic scheme of specifying coordination presented in §1.3.2.5B(b) (see (45)), I hypothesize that, similarly to the configuration of the ARC clause with an additional internal head (see (61)), the null NP in the second conjunct stays in the complement position of D_{rel} (see (738)), checking the phi-features of the external D (and DP_{rel}) via Agree. No restriction on pied-piping holds simply because there is no movement of the abstract NP head to the highest specifier position within the pied-piped constituent.

(738)

[_{CoP} DP Co [_{DP} D [_{CP} [_{DP} D [_{NP} N [_{PP} P [_{DP_{rel}} D_{rel} NP]]]]]]_j C [_{IP}...t_j...]]]
 o Pedro Ø a mulher de o qual Ø

4.5.4 Clausal antecedent

In §4.4.4, I have shown that *o qual*-ARCs in earlier stages of Portuguese, contrary to *o qual*-ARCs in CEP, can take a clausal antecedent. This contrast can be explained straightforwardly by the dual approach to the syntax of *o qual*-ARCs put forward in (710).

Why cannot *o qual*-ARCs in CEP take clausal antecedents? On the raising structure, the NP head originates as the complement of the relative determiner D_{rel} ; consequently, it has to be a nominal projection (see (739)).

(739) [_{DP} D [_{CP} NP_i [*o qual* t_i]_k C [_{IP}...t_k...]]]

Why can *o qual*-ARCs in earlier stages of Portuguese take clausal antecedents? On the specifying coordination account, the visible antecedent (i.e. XP in (740)) originates in the first conjunct. Hence, the second conjunct containing the ARC may be attached at different levels (including AP, VP, IP, CP, PP) simply because coordination at any structural level is independently allowed.⁶²

(740) [_{CoP} XP Co [_{DP} [_D D [_{CP} [_{DP_{rel}} *o qual* NP]_j C [_{IP}...t_j...]]]]]

⁶² Notice that if XP = CP, the coordination is syntactically unbalanced. However, De Vries (2006b) argues that this is permitted if the abstract D element that heads the second conjunct (possibly associated with the head) refers to CP, such that the two conjuncts are functionally equivalent (see §1.3.2.5B). According to De Vries, this is possible because a pronoun, in principle, can refer to any syntactic category.

4.5.5 Split antecedents

In §4.4.5, I have noted that *o qual*-ARCs in earlier stages of Portuguese can take split antecedents, in contrast to the situation found in CEP. Under the dual approach advocated in this chapter (see (710)), the question that arises is how the raising analysis can block split antecedents and how the specifying coordination analysis can account for them.

On the raising analysis, the head of the relative clause is considered to originate inside the relative clause. Hence, when split antecedents are involved, two different hypotheses can be formulated. The first one supposes that the antecedents are generated inside the relative clause as a conjoined noun phrase and are subsequently split and moved to different positions, as in (741).⁶³

- (741) [_{CoP} [_{CP} [A man]_k entered the room] and [_{CP} [a woman]_j went out [_{DP} D [_{CP} [_{DP_{rel}} who [_{CoP} t_k [_{Co} Co t_j]]]_i C [_{IP} t_i were quite similar]]]]]]

This hypothesis would explain the plural agreement found in the relative pronoun and the verb (in those languages that can morphologically manifest it). However, the movement of the two conjuncts in (741) violates the Coordinate Structure Constraint and, more precisely, the Conjunct Constraint (see Grosu 1973), which bars the movement of whole conjuncts of coordinate structures (see §3.6.1.2, n. 53). It is noteworthy that across-the-board raising cannot rescue this violation either because (1) it applies only to movement of constituents contained within a conjunct (as opposed to the conjunct itself); and (2) it involves extraction of the same element from all the conjuncts (and not extraction of two different constituents).

Another hypothesis states (in line with Suñer 2001) that two identical relative clauses modify each noun phrase, with the subsequent deletion of the first one, as in (742).⁶⁴

- (742) [_{CoP} [_{CP} [_{DP} D [_{CP} [a man]_i [_{DP_{rel}} who t_i]_k C [_{IP} t_k was/were quite similar]]]] entered the room] and [_{CP} [a woman]_i went out [_{DP} D [_{CP} t_i [_{DP_{rel}} who t_i]_k C [_{IP} t_k were quite similar]]]]]]

However, this analysis fails to explain the plural forms found in the relative clause (see Andrews 1975, among others). Consider first the plural agreement of the verb. In a relative clause taking split antecedents, the verb in the relative clause is plural

⁶³ Note that the hypothetical structure given in (741) involves extraposition, as none of the antecedents are adjacent to the ARC. Following Kayne (1994), in this representation I assume that extraposition is derived by VP-internal stranding and that weak determiners are located not in the external determiner but within the NP (see §3.4.2.1). For ease of exposition, in (741) I abstract away from eventual intermediate landing sites of the conjoined heads.

⁶⁴ Again, observe that the structure given in (742) involves extraposition of the relative clause modifying a woman. See n. 63 for more details of implementation.

(*who were quite similar*). However, the plural agreement is not derived from the structure given in (742); under this structure, the verb should be singular (*was*) because it agrees with a singular head.

The pluralization of the relative pronoun (and of the adjective) raises a similar problem. This can be seen in languages such as Portuguese, where the plural is morphologically visible in relative pronouns and in adjectives (this is evident in the glosses: *os quais eram bastante parecidos* lit. ‘the.PL which.PL were.PL quite similar.PL’). Again, the structure in (742) cannot explain the pluralization of the relative pronoun and of the adjective because these elements are supposed to agree with a singular head.

Given these facts, it is reasonable to conclude that split antecedents stand out as an obstacle to the raising analysis. Interestingly, this obstacle is highly desirable for the dual approach proposed here: it explains that *o qual*-ARCs cannot take split antecedents in CEP because they are derived from the raising analysis.

Regarding *o qual*-ARCs in earlier stages of Portuguese, a different scenario emerges. Under the approach adopted here, the specifying coordination analysis is expected to allow for ARCs with split antecedents. This is indeed the case. It is simply necessary to assume that split antecedents appear in the first conjunct, whereas the ARC occurs in the second conjunct. Observe that, in this case, the second conjunct is attached not to a noun phrase but to a higher level, which is schematically represented in (743).

(743) [_{CoP} [_{XP}...[]_i...[]_j] [_{Co'} Co [_{DP} D_{i+j} [_{CP}... D_{rel}...]]]] (XP=IP, CP,...)

Under the structure of specifying coordination in (45), with the minor change introduced in (738), I argue that the abstract D heading the second conjunct behaves as an E-type pronoun requiring co-reference with some objects. For this reason, it can be interpretatively linked to the two parts of the antecedent (see the referential indexes in (743)), similar to how a pronoun can refer to split antecedents across the discourse, as in (744).

(744) *A man_i entered the room and a woman_j went out. They_{i+j} were quite similar.*
 (Demirdache 1991: 166)

4.5.6 Coordination of the *wh*-pronoun with another Determiner Phrase

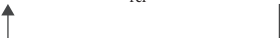
O qual-ARCs in CEP differ from the ones in earlier stages of Portuguese by not allowing coordination of the *wh*-pronoun with another DP. In accordance with the dual approach adopted here, the question that arises is how the raising analysis blocks the coordination of the *wh*-pronoun with another DP and how the specifying coordination analysis accounts for it.

One of the basic tenets of the raising analysis is that the antecedent is generated inside the relative clause as a complement of D_{rel} . As shown in §1.3.2.5C, there are two movement steps: movement of the operator phrase DP_{rel} to the CP domain and subsequent movement of the head NP to the left of D_{rel} . Usually, the head NP targets [Spec, DP_{rel}]. However, when pied-piping is involved, a larger constituent is dragged along with D_{rel} to the CP domain and the head NP moves to the highest position within the pied-piped constituent.

Let me start by showing how the raising analysis bans the coordination of the wh-pronoun with another DP in CEP (see (745), repeated from (683)).

- (745) *O presidente elogiou o João, o qual e a sua mulher
 the president praised the J. the which and the his wife
 têm desenvolvido um óptimo trabalho naquela instituição.
 have developed a great work in.that institution
 ‘The president praised João; he and his wife have been developing great work in that institution.’

In this construction, DP_{rel} is conjoined with the DP *a sua mulher* ‘his wife’. According to the first movement step mentioned earlier, the whole coordinate structure (CoP) is pied-piped to the CP domain. Then, the head NP undergoes movement to the highest specifier position within the pied-piped constituent, which in this case corresponds to the specifier of CoP, as shown in (746).

- (746) * $[_{CoP} João_i [_{CoP} [_{DP_{rel}} o \text{ qual } t_i] e [_{DP} a \text{ sua mulher}]]]$


However, note that this step constitutes a violation of the Coordinate Structure Constraint (see Ross 1967: 98–9), because it has to postulate the viability of movement of one conjunct alone. Crucially, this violation explains, as desired, why ARCs generated by the raising analysis fail to allow the property at hand.

Turning now to the specifying coordination analysis, the relevant contrasting fact is that there is no movement chain between the antecedent and the position of the gap inside the relative CP. Hence, the coordination of a wh-pronoun with another DP would involve the structure in (747).

- (747) $[_{CoP} \text{antecedent Co } [_{DP} D [_{CP} [_{CoP} [_{DP_{rel}} D_{rel} \text{ (internal head)}] Co } [_{DP} D \text{ NP}]]_k C [_{IP} \dots t_k \dots]]]$

Because in (747) there is no asymmetric extraction of the antecedent, the Coordinate Structure Constraint is not violated, and the possibility of having a wh-pronoun conjoined with another DP follows. According to this approach, the sentence in (686) above, from a fifteenth-century Portuguese text, has the (simplified) structure in (748).

(748)

[CoP DP	Co [DP D [CP [CoP [DPrel Drel	NP]
Dom Henrriquee...	o qual	dom Henrrique e hum seu tio
D. H.	the which D. H.	and a his uncle
[Co' Co DP]] _k C [[P...t _k ...]]]		

4.5.7 Illocutionary force

O qual-ARCs in earlier stages of Portuguese and *o qual*-ARCs in CEP behave differently with respect to the system of basic clause types: the former allow different clause types, whereas the latter do not allow any clause types beyond the declarative. In what follows, I will show that this divergent behavior with respect to the basic clause types can be interpreted as reflecting a functional difference between coordinate and subordinate constructions in terms of illocutionary force.

Several formal criteria have traditionally been used in the literature to distinguish coordinate structures from subordinate ones, for example, verb second, the possibility of topicalization/preposing, the occurrence of certain adverbs, scopal independence, and illocutionary force. Regarding illocutionary force, the basic claim is that coordinate constructions have independent illocutionary force, whereas subordinate clauses do not. As Verstraete (2005) puts it,

The basic idea is that coordinate constructions are characterized by the presence of illocutionary force in both clauses in the construction, either separately or shared, whereas subordinate constructions are characterized by absence of illocutionary force in the subordinate clause. In the case of coordination, the presence of illocutionary force in both clauses reflects the ‘equality’ and ‘independence’ that has traditionally been associated with coordinate constructions: the clauses are equal and independent in that each constitutes a speech act just like independent main clauses. In the case of subordination, the absence of illocutionary force in the subordinate clause reflects its status as a discursively presupposed or backgrounded proposition relative to the main clause which does have illocutionary force.

(Verstraete 2005: 613)

Let me consider what predictions these ideas make for the raising/specifying coordination analyses. Under the specifying coordination analysis, the ARC surfaces in the second conjunct of a coordinate structure. Recall that coordinate structures have independent illocutionary force, as illustrated in (749), from Verstraete (2005: 614).⁶⁵

⁶⁵ Note, however, that not all the coordinate constructions allow differing illocutionary types (see example (i) and (ii), from Ross 1967: 103). To account for these examples, I assume, following Verstraete (2005), that all coordinate constructions have an independent illocutionary force, and that the fact that not all of them allow the same range of illocutionary force types can be explained by the semantics of the interclausal relation.

- (i) *Sally’s sick and what did you bring me?
- (ii) *(You) make yourself comfortable and I got sick.

- (749) a. John was imprisoned, but did he really rob the bank?
b. John was imprisoned, but don't forget that he robbed the bank!

This fact straightforwardly captures the possibility of having *o qual*-ARCs with (non-declarative) illocutionary force in earlier stages of Portuguese: the second conjunct of the specifying coordination (just like the second conjuncts of the traditional types of coordination) have independent illocutionary force, which is expressible in terms of different clause types.

Let me now consider what the raising analysis predicts. Under the raising analysis, the relative clause is a complement of the external determiner; consequently, it is syntactically a subordinate clause. Given that no coordinate structure is involved, ARCs unambiguously pair with the subordinate constructions and, consequently, are characterized by the absence of illocutionary force. This explains why *o qual*-ARCs in CEP do not allow any clause types beyond the declarative.

There is, however, one possible complication that I wish to make explicit. As mentioned in §4.4.7, ARCs in CEP are declarative even if the matrix is interrogative or imperative. This is illustrated in (750)–(751) (repeated from (690)–(691), for ease of exposition).

- (750) Será que o João, com o qual pudemos sempre contar,
be.FUT.3SG that the J. with the which could.1PL always count.INF
estará disponível desta vez?
be.FUT available DE.PREP.this time
'Will João, who we have always counted on, be available this time?'

- (751) Telefona aos teus pais, os quais estarão certamente
phone.IMP.2SG to.the your parents the which be.FUT.3PL certainly
disponíveis para te ajudar!
available to you.CL help.INF
'Phone your parents, who will certainly be available to help you!'

This might suggest that *o qual*-ARCs in CEP are characterized by the presence of illocutionary force. However, as also mentioned in §4.4.7, ARCs in CEP do not allow any clause type beyond the declarative type found in (750)–(751). This is shown by the unacceptability of (752) and (753) (repeated from (692) and (693)), where the matrix is declarative and the ARC is, respectively, interrogative or imperative.

- (752) *O único que te apoiou foi o João, ao qual já
the only that you.CL supported was the J. to.the which yet
agradeceste devidamente por tudo o que te fez?
thanked.2SG properly by all the which you.CL made.3SG
'The only person who supported you was John; have you yet thanked him properly for everything he did for you?'

- (753) *Acabou de chegar o João, ao qual vai já
 has.just DE.PREP arrive.INF the J. to.the which go.IMP.2SG now
 oferecer uma bebida!
 offer.INF a drink
 'João has just arrived; offer him a drink now!'

The divergent behavior of (750)–(751) and (752)–(753) with respect to the different clause types casts some doubt on the presence of illocutionary force in *o qual*-ARCs in CEP. In fact, and in line with Verstraete (2005), if the *o qual*-ARCs in (750)–(751) were genuinely assertive, the assertive force would be expressible with non-declarative clause types, such as interrogatives and imperatives, which is contrary to fact. Therefore, following Verstraete (2005), I submit that the declarative in (750)–(751) should be regarded not as a marker of assertive illocutionary force but rather as the unmarked option that emerges in contexts of neutralization of the illocutionary force.⁶⁶

In sum, the theoretical apparatus adopted here derives the divergent behavior of *o qual*-ARCs from the coordinate/subordinate dichotomy; *o qual*-ARCs in earlier stages of Portuguese involve a coordinate structure and, consequently, are characterized by the presence of illocutionary force; *o qual*-ARCs in CEP do not involve a coordinate structure and, consequently, are characterized by the absence of illocutionary force.

4.5.8 Coordinator

As mentioned in §4.4.8, *o qual*-ARCs in CEP differ from the ones in earlier stages of Portuguese by not allowing a coordinator preceding the relative clause.

⁶⁶ This line of reasoning is put forward by Verstraete (2005) to account for the contrast between the coordinate construction in (i) and the subordinate construction in (ii). Note that the *but*-clause in (i) structurally allows different clause types beyond the declarative in (ia), such as the interrogative in (ib) and the imperative in (ic). In contrast, the *after*-clause in (ii) does not allow any clause types beyond the declarative in (iia).

- (i) a. John was imprisoned, but he didn't rob the bank.
 b. John was imprisoned, but did he really rob the bank?
 c. John was imprisoned, but don't forget that he robbed the bank!
- (ii) a. John was imprisoned after he robbed the bank.
 b. *John was imprisoned after didn't he rob the bank?
 c. *John was imprisoned after do keep in mind that he robbed the bank! (Verstraete 2005: 614)

Given these contrasts, Verstraete concludes that the divergent behavior of (i) and (ii) can be interpreted as reflecting a functional difference in terms of illocutionary force: the declarative in (ia) functions as a marker of illocutionary force, whereas the declarative in (iia) should be analyzed in terms of "a typical instance of a switch to the unmarked option of a paradigm in contexts of neutralization, in this case neutralization of illocutionary force (comparable to the switch to the unmarked member of the paradigm in contexts of phonological neutralization, as discussed by Trubetzkoy, 1939: 77–9, 81)." (Verstraete 2005: 614).

This contrast can be easily explained by the dual approach adopted here. The presence of a coordinator in earlier stages of Portuguese is straightforwardly derived by the specifying coordination analysis; it corresponds to the spelling out of the specifying coordination position Co, as shown in (754).

- (754) [CoP [DP antecedent]
 e.g. bõa raçom e mātijmêto de pam aluo boroa. carne e vīho
 good ration and provisions of bread white corn.bread meat and wine
 Co [DP D [CP [DP_{rel} D_{rel} NP]]_i C [IP...t_i...]]]
 e o qual mātijmêto
 and the which provisions

On the other hand, the impossibility of having such an element in CEP is straightforwardly explained by the raising analysis; if the relative CP is the complement of the external determiner, and there is no coordinate structure involved, there is simply no room for a coordinating head in the structure.

4.5.9 Summary

The major goal of §4.5 has been to show that the contrasting properties of *o qual*-ARCs in CEP and in earlier stages of Portuguese can be explained by the dual approach to ARCs. In particular, it was argued that *o qual*-ARCs in earlier stages of Portuguese are derived from specifying coordination, whereas *o qual*-ARCs in CEP do not involve specifying coordination, being derived from head raising.

The comparison between different stages of the same language proved to be precious empirical grounds for testing the syntax of ARCs. By controlling important variables (e.g. ARCs introduced by the same relativizer, attested in different periods of the same language), this study offers challenging evidence for the idea that ARCs do not constitute a uniform syntactic phenomenon.

In §4.6, I will show that the non-uniform approach to ARCs can be independently confirmed by synchronic evidence, within a single language and across languages.

4.6 Some comparative remarks

This section is devoted to some comparative remarks on the syntax of ARCs. In light of the dual approach to ARCs advocated in this chapter, it offers an integrated account of the diachronic and synchronic variation found within the same language and across languages. The diachronic change affecting *o qual*-ARCs is discussed in §4.6.1, whereas the synchronic variation within the same language and across languages is considered in §§4.6.2 and 4.6.3 respectively.

4.6.1 Diachronic path

In this section I investigate the diachronic change that affected the syntax of *o qual*-ARCs. Concretely, I will offer two different hypotheses grounded in the dual approach to the syntax of *o qual*-ARCs advocated in this chapter (see §§4.6.1.1–2). The analysis is developed mainly within the model proposed by Lightfoot (see Lightfoot 1991, 1999, and subsequent work), but it also benefits from insights of the competing grammars hypothesis proposed by Kroch (1989, 1994, 2001) (see §1.3.4).

4.6.1.1 Hypothesis I The first hypothesis that I would like to formulate is that *o qual*-ARCs were reanalyzed from a specifying coordination structure to a raising structure (see Lightfoot 1979, 1991). Concretely, I hypothesize that *o qual*-ARCs have undergone the diachronic path sketched in Table 4.7.

(a) Step o

The input of the change is the specifying coordination structure proposed by De Vries (2006) for ARCs (see (755)). In this configuration, the visible antecedent occurs in the first conjunct of a coordinate structure. The second conjunct includes a full RRC with an empty external D and an empty NP head (see §1.3.2.5).

(755) [_{CoP} DP Co [_{DP} D [_{CP} [_{DP_{rel}} D_{rel} NP]_k C [_{IP} t_k]]]]
 ocasalde mudelos ø ø o qual ø ø he do Monsteiro de vilarão
 the hamlet of M. the which is of.the monastery of V.

TABLE 4.7 Extraposition of *o qual*-appositive relatives: Diachronic path

Steps	Description	Result	Date (ca.)
0	<i>o qual</i> -ARCs derived from the specifying coordination structure		until 16th c.
1	Loss of extraposition derived from specifying coordination (plus ellipsis)	Decrease in frequency of configurations generated by the specifying coordination structure	after 16th c.
2	Reanalysis of <i>o qual</i> -ARCs from the specifying coordination structure to the head raising structure	Decrease in frequency of configurations generated by the specifying coordination structure	
3	Loss of the abstract specifying coordinator	No configurations derived from specifying coordination in CEP	

Note: The shading indicates that the line contains a description of an independent change that took place in the history of Portuguese.

As already noted in §4.5, this approach explains why *o qual*-ARCs in earlier periods of Portuguese can have an additional internal head, allow for generalized extraposition and pied-piping, take clausal and split antecedents, allow for the coordination of the *wh*-pronoun with another DP, have illocutionary independence, and co-occur with a spelled-out coordinator.

(b) Step 1

After the sixteenth century, extraposition generated by specifying coordination (plus ellipsis) ceases to be available in the diachrony of Portuguese (see §3.6.1). Two main consequences of this change are: (1) extraposition is reanalyzed from specifying coordination (plus ellipsis) to stranding (e.g. extraposition of RRCs and possibly PPs); (2) extraposition of some specific constituents (e.g. conjuncts) ceases to be allowed. As for (1), I posit, somewhat tentatively, that the reanalysis of the former specifying coordination (plus ellipsis) structure might have involved the steps represented in (756) (repeated from (491)).⁶⁷ First, the two conjuncts are reanalyzed as XP₂ without the application of deletion (see (756b)). Then the visible antecedent is taken to originate in an RRC-internal position, the extraposition being concomitantly derived from stranding (see (756c)). Technically, stranding involves partial movement: the head noun undergoes leftward movement stranding the RRC in situ.

- (756) a. [_{CoP} [_{XP1} [_{DP} antecedent]_i YP t_i] Co [_{XP2} [_{DP} antecedent RRC]_i YP t_i]] →
 b. [_{XP} [antecedent]_i YP [_{DP} t_i RRC]]

Although extraposed *o qual*-ARCs involve a more complex structure with two different coordinate phrases (to derive extraposition and apposition), they are expected to have followed a similar path, contrary to fact.

This can be explained by the emergence of conflicting grammatical options. As shown in (757),⁶⁸ the output of the reanalysis (see (757b)) is not compatible with a derivation of extraposition in terms of stranding because the raising of the first conjunct (and the stranding of the second conjunct) would violate the Coordinate Structure Constraint and, more precisely, the Conjunct Constraint (see Grosu 1973), which bars the movement of whole conjuncts of coordinate structures.

- (757) a. [_{CoP1} [_{XP1} [_{DP} D NP]_i YP t_i] Co [_{XP2} [_{CoP2} [_{DP1} ~~DP~~] Co [_{DP2} D [_{CP} NP *o qual*-ARC]]]_i YP t_i]] →
 b. [_{XP} [_{CoP} [_{DP1} D NP] Co [_{DP2} D [_{CP} NP *o qual*-ARC]]]_i YP t_i]

⁶⁷ In Ch. 3 I show that the diachronic path of RRC-extraposition can be framed in terms of the competing grammars hypothesis originally proposed by Kroch (1989, 1994). For more details see §3.7.1.2.

⁶⁸ In order to distinguish the abstract categories (which are independently available in the derivation of *o qual*-ARCs under the specifying coordination structure) from the deleted material, I represent the abstract categories in gray (see (757) and (759)). For more details about the coordinate-style account adopted for ARCs, see §1.3.2.5B.

Therefore, if no additional change had taken place, *o qual*-ARCs would no longer display an extraposed variant, just like conjuncts, which have lost the possibility of being extraposed in the diachrony of Portuguese (see Chapter 3, Section 3.7.1.1(e)).

(c) Step 2

With the loss of *o qual*-ARC extraposition, the frequency of contexts expressing positive evidence for the derivation of *o qual*-ARC in terms of the specifying coordination structure gradually decreases. Following Lightfoot (1991, 1999), I suggest that such evidence was found in the cue provided in (758), which involves a strong noun phrase or the object of a preposition as the antecedent of an extraposed *o qual*-ARC. In earlier stages of Portuguese, children knew that the antecedent of *o qual*-ARCs was generated in an external position because no movement chain could be established between the antecedent and a position inside the *o qual*-ARC.⁶⁹

(758) [strong noun phrase/embedded noun phrase] XP [*o qual*-ARC]

When the expression of the cue drops below the learnability threshold, *o qual*-ARCs are reanalyzed from a specifying coordination structure to a raising structure. A tentative representation of this process is given in (759).

(759) a. [_{CoP} DP₁ Co [_{DP₂} D [_{CP} NP_i [_{D_{rel}} t_i]_k C [_{IP...t_k...}]]]] →
 b. [_{DP} D [_{CP} NP_i [_{D_{rel}} t_i]_k C [_{IP...t_k...}]]]

The starting point is the specifying coordination structure in (759a) (cf. De Vries 2006): the first conjunct contains the visible antecedent and the second conjunct involves a raising configuration in which the abstract D selects the relative clause as its complement and the abstract NP head is generated in a position internal to the *o qual*-ARC (see §1.3.2.5).

The change might have involved the reanalysis of the two conjoined DPs (DP₁ and DP₂) as DP₂ (see (759b)). In this configuration, the former abstract elements D and NP are spelled out and the antecedent is generated in a position internal to the *o qual*-ARC. The raising configuration, which was independently available in the second conjunct in (759a), involves two movement steps: movement of the operator phrase DP_{rel} to the CP domain, and movement of the head NP to the left of D_{rel}.⁷⁰

Moreover, in line with Kayne (1994), I assume that the non-restrictive interpretation of *o qual*-ARCs results from LF-movement of the relative IP to [Spec, DP], as represented in (760).⁷¹

(760) [_{DP} [_{IP...t_k...}]_j [_{D'} D [_{CP} NP_i [_{D_{rel}} t_i]_k C t_j]]] (LF)

⁶⁹ A more detailed discussion of the cue is provided in §4.7.1.1(e).

⁷⁰ For more details about this derivation see Ch. 1 (§1.3.2.4B).

⁷¹ For more details about the raising analysis of ARCs, see §1.3.2.5C.

Importantly, the fact that *o qual*-ARCs after the sixteenth century are exclusively derived from raising explains why these relatives do not display an additional internal head, generalized extraposition or generalized pied-piping, clausal antecedents, split antecedents, coordination of the *wh*-pronoun with another DP, independent illocutionary force, and a spelled-out coordinator.

(d) Step 4

Given that the specifying coordination structure ceases to be involved not only in extraposition configurations but also in *o qual*-ARCs, I tentatively suggest that children lost evidence for the use of this structure and might have converged on a new grammar that lacked the abstract specifying coordinator &: Further research is, however, necessary to confirm the validity of this proposal.⁷²

A. Excursus

A potential problem with the diachronic path proposed for *o qual*-ARCs is that it does not explain why learners take extraposition and not utterances expressing other unambiguous cues as evidence for the acquisition of the specifying coordination structure. One possible unambiguous cue for this structure is the sequence *o qual N*, which is found in *o qual*-ARCs with an additional internal head. As already observed in §4.5.1, this configuration can only be generated by the specifying coordination analysis; in the raising structure there is simply no room for an additional internal head because the only NP position available is already occupied by the antecedent of the relative clause (see (761)). Such a position is, however, available in the specifying coordination analysis (see (762)): as the antecedent is base-generated in the first conjunct, the complement of D_{rel} may be spelled out as an additional internal head.

(761) $[DP D [CP \underline{NP}_i [DP_{rel} o qual t_i]_k C [IP \dots t_k \dots]]]$ [raising analysis]

(762) $[CoP [DP antecedent] Co [DP D [CP [DP_{rel} o qual [\underline{NP} internal head]]_k C [IP \dots t_k \dots]]]]$

Hence, at this point, the question that arises is why utterances manifesting the cue in (758) were more relevant for learners than utterances exhibiting, for instance, the cue *o qual N*. Under a cue-based model of acquisition, the most likely answer to this question is that it depends on the robustness of the cue, that is, on the frequency of utterances that unambiguously express the different cues (see Lightfoot 1999). However, quantification of the degree to which these two cues are expressed in

⁷² In fact, there are still some questions that remain to be answered, such as: What structure derives regular appositions in CEP? Assuming that regular appositions might involve an implicit relative clause in the second conjunct, is it possible to generate them by raising? Which typology of specifying coordinators needs to be established in order to account for the changes affecting extraposition and apposition in the diachrony of Portuguese? How is it explained that parenthetical constructions have presumably been available throughout the history of Portuguese?

TABLE 4.8 Frequency of appositive relatives with *o qual* (N)

<i>o qual</i>	<i>o qual N</i>	Total
207 (42.3%)	282 (57.7%)	489

TABLE 4.9 Frequency of appositive relatives with *o qual* (N) broken down by century

	<i>o qual</i>	<i>o qual N</i>	Total
13th	30 (39.5%)	46 (60.5%)	76
14th	73 (39.2%)	113 (60.8%)	186
15th	68 (47.6%)	75 (52.4%)	143
16th (first half)	36 (42.9%)	48 (57.1%)	84

earlier texts does not permit the drawing of any firm conclusions. In the corpus edited by Martins (2001), the total number of *o qual*-ARCs is 489 but, as illustrated in Table 4.8, no significant contrast is found in the frequency of relative clauses with and without an internal head.⁷³

Moreover, no substantial contrast is found between different periods. The frequency of *o qual N*-ARCs (broken down by century) is displayed in Table 4.9.

Additionally, in the corpus edited by Martins (2001), the total number of *o qual*-ARCs with nominal antecedents is 446. As illustrated in Table 4.10, the cases of extraposed *o qual*-ARCs correspond to 36.5% of the total instances of *o qual*-ARCs.

Again, no significant contrast arises across the thirteenth to sixteenth centuries. The frequency of *o qual*-ARCs (broken down by century) is displayed in Table 4.11.

Although more texts must be inspected to confirm these tendencies, I would like to tentatively suggest that the explanation might rely upon the different types of register in which the different cues are expressed. As mentioned in §4.4.1, the presence of an additional internal head is mainly used as a strategy to avoid ambiguity when the relative and the antecedent are non-adjacent, as a way of conferring more precision on the utterance. Recent studies have shown that there are good reasons for assuming that ambiguity avoidance determines syntactic choices (see Temperley 2003), and that this might happen more frequently in written language than in spoken language (because writing allows more time for such considerations to be brought to bear). If this is so, then the explanation for the non-relevance of the cue *o qual N* may rely upon the low frequency of *o qual*-ARCs with an internal head in the spoken language that a child is exposed to during the process of language acquisition.

⁷³ Only *o qual*-ARCs with a nominal antecedent are considered in these figures.

TABLE 4.10 Frequency of (non-)extraposed appositive relatives with *o qual N*

extraposed <i>o qual</i> -ARCs	non-extraposed <i>o qual N</i>	Total
163 (36.5%)	283 (63.5%)	446

TABLE 4.11 Frequency of (non-)extraposed appositive relatives with *o qual (N)* (broken down by century)

	extraposed <i>o qual</i>	non-extraposed <i>o qual N</i>	Total
13th	19 (32.8%)	39 (67.2%)	58
14th	58 (35.4%)	106 (64.6%)	164
15th	44 (32.8%)	90 (67.2%)	134
16th (first half)	39 (48.1%)	42 (51.9%)	81

4.6.1.2 *Hypothesis II* The second hypothesis that I would like to raise is an attempt to integrate the theory of competing grammars originally proposed by Kroch (1989, 1994) with the diachronic path outlined in §4.6.1.1. It is not my aim to provide a detailed explanation of the change under this scenario, but rather outline how the change affecting *o qual*-ARCs could globally be understood in the light of this model.

The starting point of the diachronic path would involve two variants in competition to generate *o qual*-ARCs in earlier stages of Portuguese: the specifying coordination structure and the head raising structure. The specifying coordination structure would be used in configurations that cannot be derived from the raising structure, namely *o qual*-ARCs with an additional internal head, generalized extraposition and pied-piping, clausal and split antecedents, coordination of the *wh*-pronoun with another DP, illocutionary independence, and a spelled-out coordinator. The remaining configurations would be derived from the raising structure. Under this hypothesis, the change affecting *o qual*-ARCs would consist in the loss of *o qual*-ARCs generated by specifying coordination. No reanalysis needs to be postulated because the stranding structure was independently available in the grammar.

4.6.2 Synchronic variation

There are some indications in the literature that seem to support the view that *o qual*-ARCs in CEP are subject to synchronic variation. With regard to the presence of an

additional internal head, Brito (1991) considers that an internal head is (marginally) possible in CEP, as in (763).

(763) A falta de monitores na Faculdade de Direito de Lisboa não permitiu ainda que começassem as aulas das subturmas, allowed yet that start.SBJV the lessons of.the subclasses as quais aulas funcionam em regime de avaliação contínua de the which lessons function in regime of evaluation continuous of conhecimentos.

knowledge

‘The lack of tutors in the Faculty of Law of Lisbon did not yet allow the lessons of the subclasses to start; the lessons function in a system of continuous evaluation of knowledge.’ (Brito 1991: 133)

The same point is made in Bechara (1961/2001), who provides the example in (764).

(764) Ao livro ninguém fez referência, o qual livro merece a maior consideração, no meu entender.

best consideration in.the my opinion

‘Nobody made any mention of the book, which deserves the best consideration, in my opinion.’ (Bechara 1961/2001: 488)

Nevertheless, it is worth reiterating here that I do not share these judgments, and that the same is true of the other native speakers I consulted. To support these introspective judgments, I have also inspected a large written corpus of CEP: *CPúblico* (the first million words). This corpus contains some one million words that are taken from the daily newspaper *Público*. In this corpus, there is no occurrence of *o qual*-ARCs with an additional internal head. Moreover, in order to check if this construction is attested in legal documents with a degree of formality comparable to the notarial documents edited by Martins (2001), I have also inspected the subcorpus Law (*CRPC*, Portuguese language), which includes legal processes and decisions of the supreme court of justice, amounting to a total of 2,927,953 words. The results are straightforward, and corroborate my judgments: no occurrence of *o qual*-ARCs with an internal head is found in the subcorpus.

As far as extraposition is concerned, it is possible to find (in written CEP) extraposed *o qual*-ARCs with strong noun phrases as antecedents in a pre-verbal position, as illustrated in (765). Again, according to my intuitions and those of the speakers I consulted, this sentence is ungrammatical.⁷⁴

⁷⁴ I did not perform any systematic search of extraposition configurations because it would require the availability of a large corpus of CEP with syntactic annotation. At this moment, only *CORDIAL-SIN* is

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- (765) Na região da Trofa, dos quatro fogos registados, o mais
in.the region of.the T. of.the four fires registered the most
difícil de combater ocorreu em S. Mamede do Coronado,
difficult DE.PREP fight.INF occurred in S. M. d. C.
o qual implicou ainda a ajuda dos bombeiros da Maia,
the which required also the help of.the firemen from.the M.
Matosinhos e Santo Tirso.
M. and S. T.

'In the region of Trofa, four fires took place. The most difficult fire to fight occurred in S. Mamede do Coronado, which also required the help of the firemen from Maia, Matosinhos, and Santo Tirso.' (CETEMP)

Regarding pied-piping, Brito (1991) and Peres and Mória (1995) claim that the pied-piping of DPs and the pied-piping of clausal constituents are possible in CEP.⁷⁵ To support this claim, the authors provide built examples; (766)–(767) involve the pied-piping of DPs and (768)–(769) the pied-piping of non-finite clauses.⁷⁶

- (766) O João, [DP a amiga do qual] tu conheces,
the J. the friend of.the which you know
telefonou agora mesmo.
called now right
'João, the friend of whom you know, called right now.' (Brito 1991: 132)
- (767) Foram apresentados vários filmes portugueses muito interessantes,
were presented various movies Portuguese very interesting
[DP os realizadores dos quais] o Estado deveria apoiar.
the directors of.the which the state should support
'Various interesting Portuguese movies were presented, the directors of
which the state should support.' (Peres and Mória 1995: 278)
- (768) Foram descobertas novas provas, [CP para analisar as quais]
were found new proofs to analyze.INF the which

available for CEP, but it contains only one occurrence of the relativizer *o qual* (see (770)). Nevertheless, given that conflicting judgments seem to arise, it may be worth testing the grammaticality of relative clause extraposition experimentally, which I leave for future research.

⁷⁵ I leave aside here the special case of pied-piping of participial clauses. For more details, see §4.4.3A, n. 39.

⁷⁶ Costa, Fiéis, and Lobo (2013) mention that in CEP there are *o qual*-ARCs with pied-piped adverbial (non-finite) clauses. Note, however, that the empirical evidence provided for the piped-piping of infinitival clauses includes examples taken from 19th-century literary texts. Moreover, excluding the context in which a participial clause behaves as a fixed expression (see n. 39 above), these authors provide one built example to illustrate the pied-piping of participial clauses. Needless to say, for me and the speakers I consulted these examples are ungrammatical (with the exception of the pied-piped participial clause used as a fixed expression).

o tribunal precisa de muito tempo.

the court needs of much time

'New proofs were found, to analyze which the court needs much time.'

(Peres and Mória 1995: 279)

(769) Foram descobertas novas provas, [CP considerando as quais] o
were found new proofs consider.GER the which the
tribunal mudou de opinião.

court changed DE.PREP opinion

'New proofs were found, considering which the court changed its

opinion.' (Peres and Mória 1995: 279)

Note, however, that for me and the informants I consulted, the examples (766)–(769) are ungrammatical. These introspective judgments are corroborated by corpus evidence: in the subcorpus Law (CRPC, Portuguese language) no occurrence of *o qual*-ARCs with these pied-piped constituents is found.

As for *o qual*-ARCs with a clausal antecedent, for me and the informants I consulted the ungrammaticality is sharp (see §4.4.4A). Interestingly, the use of *o qual*-ARCs with a clausal antecedent is found in the *Syntax-oriented Corpus of Portuguese Dialects*; see (770). However, it is completely excluded from the standard variety.

(770) e era tudo pregado com cravetes, o qual desta
and was everything nailed with \pm metal.slivers the which of.this

forma é mais fácil, com menos despesa

way is more easy with less expense

'and everything was nailed with metal slivers, which (way) was easier and less expensive' (CORDIAL-SIN)

For split antecedents, Brito (1991) asserts that *o qual*-ARCs in CEP can take split antecedents, as in (771) and (772) (see §4.4.5). However, for me and the informants I consulted, the ungrammaticality of these sentences is sharp.

(771) Como a Maria_i não se estava a dar muito bem com o
as the M. not SE.CL was A.PREP get.INF very well with the

António_j, os quais_{i+j} de facto não têm muito em comum, ele

A. the which in fact not have much in common he

resolveu aceitar o emprego em Lisboa.

decided accept.INF the job in L.

'Since Maria was not getting along with António, who in fact do not have much in common, he decided to accept the job in Lisbon.' (Brito

1991: 133)

- (772) Como a Maria_i veio ao Porto com o Henrique,
 as the M. came to.the P. with the H.
 com os quais_{i+j} eu já não estava há muito tempo,
 with the which I already not was has much time
 fui jantar com eles.
 went.1SG dine.INF with them
 ‘As Maria came with Henrique to Porto, with whom I was not for long time,
 I had dinner with them.’ (Brito 1991: 133)

The examples provided in (763)–(769) manifest “theoretically inconvenient variation” (in the sense of Lightfoot 1991: 98). As the reader may have already noticed, in these sentences *o qual*-ARCs display a range of syntactic properties that are unexpected if *o qual*-ARCs are generated by the raising analysis. As shown in §4.5, the raising analysis cannot derive *o qual*-ARCs with an additional internal head or extraposed *o qual*-ARCs with strong noun phrases as antecedents; it also fails to derive generalized pied-piping and *o qual*-ARCs with clausal or split antecedents.

There is another aspect that is worth mentioning here: the sentences outlined in this section (maybe with the exception of (770)) have a prestigious flavor, in the sense that they would never be used in “normal” CEP. This means that they are somewhat artificial and unnatural, even for people who apparently accept/produce them.

Note additionally that in CEP there are no attestations for most of the properties listed in §4.4. This situation contrasts sharply to what happens in earlier stages of Portuguese, where *o qual*-ARCs displaying the relevant properties can be easily found.

Under this scenario, non-trivial questions arise, namely: What structure is involved in these *o qual*-ARCs? What is the source of the synchronic variation? Clearly, more research is needed to answer these questions. For example, it is important to determine whether the speakers who accept/produce the prestige *o qual*-ARCs also accept/produce generalized RRC-extraposition. However, by capitalizing on the investigation already developed in the domain of language change and variation, at least two hypotheses can be raised to explain the synchronic variation.

4.6.2.1 Hypothesis I A possible line of explanation is to assume the competing grammars hypothesis (or *syntactic diglossia*) put forth by Kroch (1989, 1994, 2001). This approach rests on the assumption that individuals may synchronically instantiate several grammars in a kind of internalized diglossia. The competing grammars emerge when individuals are exposed to linguistic data that lead to incompatible analysis; a case in point is the competition between a vernacular language and a superposed prestige language. I quote: “it could easily be the case that the forms in competition in syntactic diglossia represent an opposition between an innovative

vernacular and a conservative literary language. Since the former would have both a psycholinguistic advantage and the advantage of numbers, it should win out over time, even in written texts” (Kroch 2001: 723). Crucially, the competing grammars do not have the same acquisitional status. The vernacular grammar is subject to L1 acquisition, whereas the prestige language is learned a bit later in life for the purpose of reading and writing. In light of this view, it seems plausible to assume that Portuguese children have a grammar that generates *o qual*-ARCs with a raising structure. Later in life, upon exposure to a wider range of language, children may be exposed to *o qual*-ARCs of the type illustrated in (763)–(772), which for them have the status of a prestige construction. Given that this sequence has a structure grammatically incompatible with the one generated by their own grammar, the children may develop a diglossic capacity, becoming able to interpret and eventually use the new construction in their own writing.

Under this scenario, it can be assumed that those individuals who replicate the prestige *o qual*-ARCs resort to a grammar that generates *o qual*-ARCs with an alternative structure (e.g. a specifying coordination structure). This hypothesis predicts that the individuals who were not exposed to prestige *o qual*-ARCs or who were exposed to them without sufficient linguistic evidence to develop diglossic grammars would not produce or accept prestige *o qual*-ARCs. Most of the speakers I consulted belong to this latter group, as do I.

4.6.2.2 Hypothesis II Another hypothesis is to assume that prestige *o qual*-ARCs are not part of the core Portuguese grammar but rather the result of extra-grammatical rules for producing prestige forms, which may be cataloged among what Sobin (1997) and Lasnik and Sobin (2000) have termed *grammatical viruses*. One of the central ideas of these proposals is that sometimes speakers use forms that are not generated by the grammar they acquired during the process of language acquisition. The motive for going against the initial system is the desire to employ (or the need to interpret) prestigious forms. Thus, forms licensed by grammatical viruses have a prestige status and are not typical of child language, and intuitions about their use are strikingly different from intuitions about the use of other grammatical forms.

For the formal implementation of this idea, Lasnik and Sobin (2000) propose that prestige forms are derived from a set of extra-grammatical rules that apply externally to the central computational system in a post-syntactic component. Thus, these rules may change output only at a very superficial level: they may take into account the linear sequence of elements in a sentence, but they can never involve hierarchic arrangement.⁷⁷

⁷⁷ Lasnik and Sobin (2000) postulate a *virus theory* to account for the use of the wh-pronoun *whom* in English. It is commonly assumed that this wh-pronoun is parallel to *him* and *them* in manifesting the

A possible solution along these lines could be to assume that the computational system generates the structure underlying prestige *o qual*-ARCs in other syntactic environments (for instance in other relative constructions). Later on, this system can be superficially changed to reproduce prestigious *o qual*-ARCs. In this case, individuals would resort to an extra-grammatical rule, which has the task of expanding the use of *o qual* to other syntactic environments.

Clearly, these speculations require a great deal more work before they can really be considered as established hypotheses. Nevertheless, depending on the results obtained, two possible scenarios can be imagined a priori. If contemporary speakers who accept/produce prestige *o qual*-ARCs come to consistently accept *o qual*-ARCs in all of the possible contexts generated by the specifying coordination analysis, then the competing-grammar hypothesis is more promising. By contrast, if speakers come to accept prestige *o qual*-ARCs only in very specific environments, then the virus theory may be favored. However, for now, these scenarios remain mere speculations.

4.6.3 Cross-linguistic contrasts

Throughout this chapter, diachronic evidence is presented that points to the existence of two different types of ARC in the history of Portuguese. Whenever possible, cross-linguistic evidence is also considered, showing that *o qual*-ARCs in earlier stages of Portuguese systematically pattern with ARCs in other languages. In this comparison, particular attention is given to *il quale*-ARCs in contemporary Italian and to ARCs in English. In this section, I tentatively provide an integrated account of the facts of cross-linguistic variation considered in this chapter. In doing so, I show how the findings of this study can be integrated into the typological approach to ARCs put forth by Cinque (2008).

As already mentioned in §4.2, Cinque (1982, 2008) proposes a dual approach to ARCs, according to which there are two different types of structure that can generate ARCs (integrated and non-integrated types). These two structures are not, however,

pronominal case. Lasnik and Sobin challenge this traditional treatment and claim that *who* is the basic form of the *wh*-pronoun, which can check either the nominative or accusative case. The suffix *-m* of *whom* is assumed to be associated with an additional accusative feature and has to be checked independently of the accusative feature associated with the stem *who*. This additional feature is checked by rules that have the status of a grammatical virus. These rules are argued to be the product of extra-grammatical devices and are entirely independent from ordinary case-marking mechanisms. Just to give an idea of what a virus rule might look like, see the rule in the example below, from Lasnik and Sobin (2000: 354), which licenses the occurrence of *whom* as object of a verb or preposition:

If: [V/P]	who-	-m
	[ACC]	[ACC]
1	2	3
then: check ACC on 3.		

instantiated in all languages. From a cross-linguistic perspective, three different types of languages can be identified:

- (773) Type I. Languages that display the integrated and the non-integrated types (e.g. Italian and French).
Type II. Languages that display only one construction (e.g., English and Romanian display the non-integrated type; Northern Italian dialects and, possibly, Chinese display the integrated type).
Type III. Languages that lack ARCs (e.g. Gungbe, Bunun, and Mixtecan).

Assuming this tripartite classification, I would like to suggest that CEP may belong to Type-I or to Type-II languages. The present research has demonstrated that *o qual*-ARCs belong to what Cinque (2008) calls the integrated type but has not confirmed that all ARCs found in CEP are derived the same way. Further research is necessary in this domain to clarify this point. Earlier stages of Portuguese (until the sixteenth century) may belong to Type-I or Type-II languages, depending on the theory of language change adopted. Under the reanalysis hypothesis, earlier stages of Portuguese would be paired with Type-II languages of the non-integrated type (see §4.6.1.1). Under the competing grammars hypothesis, earlier stages of Portuguese would be paired with Type-I languages without further ado because *o qual*-ARCs per se can be derived by the integrated and the non-integrated types (see §4.6.1.2).

Importantly, the investigation presented in this chapter provides an important cue to an alternative typology of ARCs based on the presence/absence of the abstract specifying coordinator &:

- (774) Type I. Languages that lack the specifying coordinator &: (e.g. CEP).
Type II. Languages that have the specifying coordinator &: (e.g. English, Dutch).

To elaborate on this proposal it may be crucial, for instance, to conduct a grammaticality judgment experiment on “prestige” *o qual*-ARCs (CEP) and *il quale*-ARCs (Italian) in order to determine if these relatives are derived from grammatical or extra-grammatical rules. In this context, it would be important to test if individuals consistently accept *o qual/il quale*-ARCs with all the properties detailed in §4.4. This is an important move because the corpora inspected do not support the view that these constructions are productively used in CEP.

The dual approach adopted here, combined with Cinque’s typological proposal, also provides us with a useful insight to understand the cross-linguistic variation reported throughout this chapter. First, it straightforwardly explains that *o qual*-ARCs in earlier stages of Portuguese exhibit the same syntactic properties as English ARCs and Italian *il quale*-ARCs because all of them are generated by specifying coordination. Second, it explains that *o qual*-ARCs in CEP differ from *il quale*-ARCs

in contemporary Italian because *o qual*-ARCs have undergone a syntactic change that apparently did not affect their Italian counterpart.

I believe, however, that the dual approach developed in this chapter, which can be cataloged as a generalized constituency approach, is empirically superior to the approach put forward by Cinque (2008). Whereas, according to the Cinque approach, “integrated” and “non-integrated” *o qual*-ARCs have two completely different derivational stories, under the approach developed here both constructions basically involve one structure: the raising structure. Differences among languages and within the same language result from the possibility of having this raising structure in the second conjunct of a coordinate structure.

From a theoretical point of view, the similarity between the two constructions is highly desirable because it shows that it is still possible to pursue the ideal goal of linguistic theory, according to which variation across languages and within the same language can be reduced to some different parametric choices. According to this view, an interesting line of research may be to assume that in the languages of the world the concept of apposition can be syntactically expressed in two different ways: complementation and/or coordination. Languages will then differ in the ways they instantiate these two options.

Importantly, the findings of this chapter also show that a generalized constituency analysis (although not uniform) can account for the dual behavior of ARCs across languages without resorting to a version of the orphanage approach. This is highly desirable because, as De Vries (2006b) notes, proposals involving radical orphanage (see Fabb 1990, among others) or the attachment at some grammatical level beyond LF (see Safir 1986) cannot be easily accommodated in the standard assumptions about the organization of the grammar. ARCs are interpreted and pronounced; therefore, they must be present at the LF interface and the PF interface. The only way to get at these interfaces is via the overt syntax; if ARCs were to be added at or after the LF interface (i.e. after Spell Out in Chomsky’s terms), they would not be pronounced.

4.7 Conclusion

This chapter investigates a case of micro-variation in the syntax of ARCs. It shows that different stages of the same language turn out to be precious empirical grounds for testing the syntax of ARCs. In particular, it is possible to demonstrate that within the same language, when dealing with the same construction introduced by the same relativizer, it is still necessary to adopt a dual approach to ARCs. Given the constrained nature of diachronic variation, such an approach is particularly attractive, because it allows the control of important variables that may incidentally interfere with the results obtained in other studies that involve, for instance, the comparison of languages historically and typologically quite distant from each other.

Specifically, this study focuses on Portuguese ARCs introduced by the relativizer *o qual*. The main claim is that *o qual*-ARCs have undergone a change from one syntactic type to another at some point in the history of Portuguese.

From an empirical point of view, I show that *o qual*-ARCs in CEP differ from *o qual*-ARCs in earlier stages of Portuguese with respect to a number of syntactic properties. The contrasting properties discussed in this chapter are as follows: (1) the possibility of having an additional internal head; (2) restrictions on extraposition; (3) restrictions on pied-piping; (4) the possibility of taking clausal antecedents and (5) split antecedents; (6) coordination of the *wh*-pronoun with another DP; (7) illocutionary force; and (8) the presence of coordinator.

From a theoretical point of view, I show that a single syntactic analysis cannot account for the contrasts found in the history of Portuguese. For this reason, I argue for a dual approach to ARCs, according to which *o qual*-ARCs in CEP use the raising structure, proposed by Kayne (1994) and Bianchi (1999), whereas *o qual*-ARCs in earlier stages of Portuguese use the specifying coordination structure, proposed by De Vries (2006b).

The dual approach adopted here provides us with a useful insight to understand the variation in the syntax of ARCs found within a language and across languages, both in the synchronic and diachronic dimensions. In this respect, I have shown that (1) ARCs may undergo a change from one syntactic type to another in the diachronic dimension; (2) two different syntactic structures for ARCs may coexist synchronically within the same language; and (3) languages may differ synchronically with respect to the syntactic types of ARC they display.

This chapter was not intended to establish the chronology of the change affecting ARCs in earlier stages of Portuguese; instead, it focuses on the identification of the change (not yet properly identified in the literature) and on the exploitation of its empirical and theoretical consequences. One important task for future research is to identify the chronology of the change and investigate whether the proposal put forth for *o qual*-ARCs in earlier stages of Portuguese can be extended to other ARCs.