Relative clauses in the diachrony of Italian

Abstract
This paper aims to shed light on the syntactic derivation of relative clauses (RCs) by investigating the case of RCs in the diachrony of Italian. Building on Sauerland's (2003) claim that RCs involve two non-distinct heads, Cinque (2008, 2013) unifies all RCs under a single derivation, proposing that the two heads can either be both lexical or both null elements in syntax. When the two heads are lexical expressions, the RC will be lexically headed, whereas when the heads are null elements, the RC will be headless, and thus free. Languages differ as to which heads or portions of heads they spell out; according to Cinque (2013: ch. 17), this is due to different respective requirements at the phonological form (PF). In some languages the internal head is always deleted at PF; in others it is spelled out, and in some of these both heads are fully spelled out whereas in others only portions of the heads can be spelled out. In this paper we argue that this variation is not due to PF requirements, but depends on the syntactic derivation. We claim that the usual typology of RCs has to be enriched to include another type in which the two heads enter the derivation as distinct elements. The testing ground for our proposal is provided by the history of Italian. We show that, whereas in Modern Italian the two heads must be non-distinct, Old Italian allowed a configuration where the two heads differed such that the RC-external head could be a lexical expression and the RC-internal head a null element analogue to a free RC. We argue that this difference is linked to the version of the matching relation involved in the Agree relation between the two heads. Whereas in Modern Italian the matching relation is strict, and thus results in identity between the two heads, in Old Italian matching involved an inclusion relation, thus allowing the possibility of two non-identical heads.

Keywords: lexically headed relative clauses, free relative clauses, Old Italian, Modern Italian, Agree

1. Introduction

This paper investigates the relative clause (RC) system in the diachrony of Italian, aiming to shed light on the syntactic derivation of the RCs available in a language. It does this in light of the recent syntactic literature on RCs, in particular Cinque's (2008, 2013) proposal that two non-distinct phrases, usually labelled heads of the RC, are involved in all RC derivations. According to Cinque (2008, 2013), lexically headed RCs and free RCs have one and the same derivation. The RC is merged in the specifier of a DP, in a position similar to that occupied by adjectives. Two heads are present in the derivation: a) an RC-external head located inside the DP modified by the RC (following Sauerland 2003); b) an RC-internal head base-generated inside the RC (following Kayne 1994, Bianchi 1999). These two heads are non-distinct in syntax, being either both lexical nominal expressions in lexically headed RCs or both null elements in free RCs. Languages differ as to which head they spell out. Some languages spell out the internal head, giving rise to so-called head-internal RCs, whereas others realize only the external head. Other languages delete only portions of the two heads, whereas others spell out both heads entirely (Kayne 1994, Bianchi 1999, Hulsey & Sauerland 2006). It has been claimed that these differences are due to different languages' respective PF requirements, similarly to copies of a chain (Cinque 2013: ch. 17). This explanation remains rather vague, however. We argue that the observed variation is not due to the PF requirements of a language, but depends on the syntactic configuration; we thereby distinguish the mechanism involved in copy deletion from that behind the deletion of an RC head (or portion

of one). Thus, four configurations are allowed by the grammar, which can be arranged in two groups depending on the matching relation between the probe and the goal involved in Agree. In the strict matching relation the two heads are completely identical, that is, they are either both lexical or both null. On the contrary, in an inclusion relation, where the features on the probe include those on the goal, the two heads may be distinct. In this paper, we show that the two heads can enter the derivation as distinct elements such that the RC-internal head is null, whereas the RC-external head is a lexical expression. The empirical testing ground for this claim is provided by the diachrony of Italian.[1]

We investigate and compare the distribution of two series of relativizers – those introducing lexically headed RCs, that is, *che* 'that', P (*il*) *qual*(*e*) 'the which', and (P) *cui* 'that.OBL', and those introducing free RCs, that is, *chi*/*cui* 'who' – throughout the history of Italian. Building on previous work by Poletto and Sanfelici (2018, 2019), we claim that Old Italian tolerates RC configurations that involve heads of RCs that are non-distinct from the RC-external nominal, as well as heads of RCs that are distinct from the RC-external nominal. In the former configuration, which is similar in Old Italian to Modern Italian, both heads are identical in being lexical expressions, giving rise to lexically headed RCs, or in being null elements, deriving free RCs. The wh-item is a determiner-like element paired with a lexical nominal in lexically headed RCs and with a null nominal classifier-like PERSON/THING in free RCs. In the latter configuration in Old Italian the two heads are distinct, that is, the RC-internal head is a null classifier and the RC-external head is lexical, giving rise to a lexically headed RC introduced by the wh-item found in free RCs. In this case, the wh-item is a determiner-like element paired with a null nominal, exactly as in free RCs. This second configuration, that is, the one of non-total identity but inclusion, was lost in the change from Old to Modern Italian, for independent reasons.

In other words, the change from Old to Modern Italian consists in the loss of the second derivation, namely the one involving a free RC, where the wh-item is paired with a null nominal and the RC-external head is a lexical element. The disappearance of this configuration relates to the Agree operations involved in the two stages of the language. More precisely, the matching relation between the two heads underwent a diachronic change. Whereas in Old Italian it was understood as an inclusion relation, in Modern Italian matching is strict, that is, there is identity between the two heads.[2] This proposal can nicely account for the presence in Old Italian of (i) *che* headed by prepositions, as shown in Poletto and Sanfelici (2019), and (ii) *chi*/*cui* in NP-RCs in lexically headed RCs, and the lack of both in Modern Italian. Moreover, we show in the following that a number of predictions arising from this proposal are in fact borne out.

The paper is structured as follows. In Section 2 we outline the typology of RCs proposed in Cinque (2008, 2013), according to which, starting from a unique underlying derivation, the RC-internal head and the RC-external head are non-distinct and can either be both lexical or both null elements in syntax. Thus, the superficial differences observed in natural languages between the two heads, such that one is null and one is lexical, result from PF deletion rules. In Section 3 we describe the Old and Modern Italian systems of relativizers, and discuss their similarities and differences. Section 4 spells out our hypothesis. We show that the superficial differences between the two heads which have been accounted for as a PF phenomenon must be derived in syntax. Hence, we argue

[1] Throughout the paper we use the term 'Old Italian' to refer to Medieval Florentine and 'Modern Italian' to refer to the standard language spoken in Italy today. We follow the spirit of the *Grammatica dell'italiano antico* (Salvi & Renzi 2010) in contrasting Medieval Florentine and Standard Modern Italian as distinct stages of Italian.

[2] One reviewer noticed that our proposal implies that, within the diachrony of Italian, there should be a stage in which we can find both inclusion and strict identity relations. We believe this to be the case. For instance, certain Old Italian texts, for example the *Libro degli ordinamenti della Compagnia di Santa Maria del Carmine*, only exhibit a strict identity relation, showing no lexically headed RCs introduced by the wh-pronoun confined to free RCs, whereas others, such as those quoted in the examples in Section 4, exhibit an inclusion relation.

that the two heads can be distinct and that the degree of distinctness is constrained by the matching relation involved in the Agree operation. In so doing we demonstrate that, besides having two non-distinct heads in the RC derivation, the grammar allows for at least one other possibility, in which the RC-internal head is a null classifier-like nominal while the RC-external one is a lexical element. We then test our claim on Old and Modern Italian RCs in Section 5. We conclude this section by proposing that the crucial point of the diachronic variation in the RC configuration between Old and Modern Italian lies in the version of the matching relation adopted by the language. In Section 6 we draw conclusions and mention some of the issues that remain open.

2. The typology of RCs

Cinque (2008, 2013) and Poletto and Sanfelici (2014, 2018) propose that all RCs have the same underlying structure. In this respect, restrictive and free RCs are merged as CPs in the specifier of a prenominal functional projection above the projections hosting attributive adjectives and numerals and below the projections which host determiners and demonstratives (Kayne 1994, Cinque 2013: 172, 197).[3]

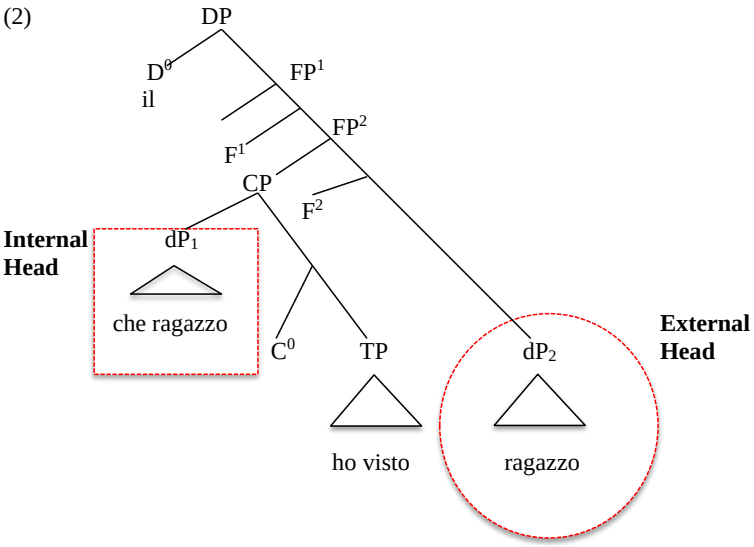
(1) [DP D° [**RC** X° [NumP Y° [AP. . . Z° [dP [NP]]]]]] → restrictive and free RCs

Kommentiert [TO1]: Or "DP" as above? Please review for consistent capitalisation throughout.

Kommentiert [ES2R1]: Thank you. dP without capital "d" is correct here.

All RCs are double-headed: an external head is base-generated as the complement of the functional projection that hosts the RC in its specifier, dP_2 in (2); an internal one is base-generated inside the RC, dP_1 in (2) (Hulsey & Sauerland 2006, Cinque 2008, 2013). These two heads are non-distinct copies, or in other words exact matches of each other (as in Sauerland 2003). Hence, the phrase *il ragazzo che ho visto* 'the boy that I saw' will have the structure shown in (2).[4]

(2)

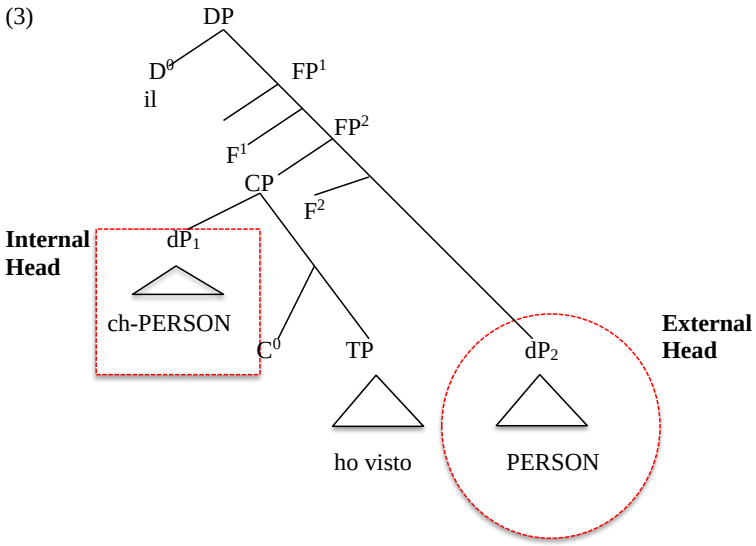


[3] By contrast, appositive RCs are merged above the determiner layer (Cinque 2008). For the time being, we leave aside the derivation of appositive RCs.

[4] On the status of FP^1 and FP^2, we refer the reader to Cinque (2008, 2016). These are functional projections in the spine of the DP which host in their specifiers adjectives (most probably ordinals in Spec,FP^1) and restrictive and free RCs (in Spec,FP^2).

The free RC *chi ha vinto la gara* 'who won the competition' has the same structure, with the only difference being the nature of the two nominal heads: whereas in (2) the two nominals are lexical expressions, in free RCs the nominals are classifier-like elements as shown in (3).

(3)



Instead of the RC-internal head, dP_1, *che ragazzo* 'which boy', a free RC has a wh-item paired with the null nominal classifier PERSON; instead of the external head, dP_2, *ragazzo* 'boy', it has again a null nominal classifier PERSON. In free RCs, the external head is a silent classifier: THING, PERSON, TIME, PLACE (cf. Kayne 2005, Cinque 2008, 2016). Similarly, the nominal element associated with the wh-item, that is, the internal head, is a null nominal noun, non-distinct from the external one.

Building on Kayne's version of c-command, according to which an XP in Spec,ZP can c-command out of the ZP (Kayne 1994: 16, 25–26),[5] Cinque (2008) proposes that the spelled-out head will be the dP that c-commands the other head: it surfaces at PF and controls the PF deletion of the other dP. If the internal head rises higher than the external one, the former c-commands the latter; the external head is then deleted. Hence, dP_1 is spelled out. If the external head moves higher than and thus c-commands the internal one, the external head, dP_2, receives spell-out and the internal one is deleted at PF.[6]

Under this approach, raising and matching operations are in principle both available. In a raising derivation, the internal dP_1 must move from the complement of the wh-item to its specifier: being the specifier of the phrase which in turn is the specifier of the CP, the internal dP_1 can c-command the lower external dP_2 and meet the requirements for deletion proposed in Sauerland (2003),

[5] Kayne's (1994: 16, 25–26) definition of c-command is the following: 'X c-commands Y iff X and Y are categories, and X excludes Y and every category that dominates X dominates Y' (p. 16); furthermore: 'a specifier c-commands out of the phrase that it is the specifier of' (p. 25).

[6] Applying Kayne's definition of c-command to (2), no segment of the category dP_1 *che ragazzo* dominates the category dP_2 *ragazzo*. Hence, the former excludes the latter, meaning that dP_1 *che ragazzo* asymmetrically c-commands dP_2 *ragazzo* and everything dominated by it. *Vice versa*, if dP_2 *ragazzo* moves higher than dP_1 *che ragazzo*, the former asymmetrically c-commands the latter.

namely a) non-distinctness and b) c-command. Under a matching derivation as in Sauerland (2003), after the raising of the internal head dP_1 in (2), the external head dP_2 moves to a position higher than that of the RC, say Spec,FP^1. From this position, dP_2 c-commands dP_1 and regular deletion of the lower copy, that is, dP_1, applies. Languages can have both operations available in their grammar or only one (Cinque 2013, 2016).

Cinque (2008, 2013) shows that, from the derivation in (2), all types of RCs attested in natural languages can be accounted for simply by modularizing whether the external or the internal head ends up c-commanding the other in the course of the derivation. He further observes that the postulation of two non-distinct heads finds its empirical justification in those languages where both heads are spelled out, in the so-called double-headed RCs (Cinque 2013: ch. 17). This can be observed for instance in Kombai (Dryer 2005, Cinque 2013: ch. 17). In (4), notice that the two heads are exact matches of each other: they are both *doü* 'sago'.

(4) Kombai (Trans-New Guinea Papuan language; Cinque 2013: 223–224)
[[**doü** adiyano-no] **doü**] deyalukhe
[[sago give.3PL.NONFUT-CONN] sago] finished.ADJ
'The sago that they gave is finished.'

However, Cinque (2013: ch. 17) notices that, despite being exact matches of each other in syntax, the two heads can be superficially different. Besides having available structures like that in (4), where the two heads are identical, Kombai also displays RCs where the two heads differ. The external one is a general, superordinate term, *ro* 'thing' in (5a) and *mogo* 'person' in (5b), whereas the internal head is a specific term, *gana* 'bush knife' in (5a) and *kho* 'man' in (5b).

(5) Kombai (Cinque 2013: 223–224)
a. [[**gana** gu fali-kha] **ro**] ...
[[bush.knife 2SG carry-go.2SG.NONFUT] thing]
'The bush knife that you took away, ...'

b. [[**kho** khumolei-n-o] **mogo**] ...
[[man die.3SG.NONFUT-TR-CONN] person]
'The man who died ... .'

Other languages also display RCs where the two heads differ, but in the opposite direction to what is exhibited in Kombai. In Japanese, the internal head is a superordinate term and the external one is a more specific term, as exemplified in (6): respectively, *ito* 'person' and *okyaku-san* 'guest'.

(6) Japanese (Altaic language; Cinque 2013: 230)
[[watakusi ga sono **ito** no namae o wasurete-simatta] **okyaku-san**]
[[I NOM that person 's name ACC have-forgotten] guest]
'a guest whose name I have forgotten'

The fact that languages can spell out both heads as identical, or comprise portions of each other is taken by Cinque to suggest (i) that a DP is always associated with a functional noun behaving like a classifier, such as [[man] PERSON]] (on this see also Kayne 2005), and (ii) that the variation in the realization of the two heads is due to the conditions on the pronunciation of the different portions of the internal and external heads (Cinque 2013: 237). In most languages the functional nouns associated with the lexical expression are left unpronounced, whereas in others they can be spelled out while deleting the associated nominal expression. Although the two RC heads enter the

derivation independently, whereas traces are expressions derivationally related to a single element of the lexical array that feeds the derivation, Cinque seems to equate the null lexicalization of an RC head (or portion of one) to that of traces. In fact, both RC heads and copies of a chain are in principle pronounceable and subject to the pronunciation rules of a given language. Echoing Cinque's observations on RCs, the literature has reported wide cross-linguistic variation in the pronunciation of the copies of a chain involved in movement (Bobaljik 1995, Brody 1995, Pesetsky 1998, Nunes 2004, Landau 2006, Sichel 2014, among many others). Languages can spell out the higher copy of a chain and delete the lower one, or *vice versa*. Moreover, some languages spell out one copy and delete a portion of the lower one, lexicalizing another portion via, for instance, the clitic pronoun. Although it may well be the case that, in the languages investigated by Cinque, the variation in the nature of the two heads is a reflex of the PF requirements available in those languages, here we would like to explore another possibility, namely that this variation is in fact rooted in syntax, and thus that the deletion of a (portion of a) head is not due to the same mechanism at work for copies of a chain. If we consider (2–3) and the variation reported in Cinque (2013), a logical possibility arises, namely that the internal head and the external head can differ in their lexical portion such that one can be a null element and the other a lexical one. Establishing whether null elements are null because they are inserted as such into the derivation or because they are the result of PF deletion rules is never an easy task; in many accounts, it ends up as a theoretically predetermined, that is, rather stipulative choice. This tension is clearly represented when dealing with pronouns.

Throughout the history of Italian, RCs offer a neat empirical test to address this issue. In languages where lexically headed RCs and free RCs have different wh-items introducing the RC, we expect to find the wh-item found in free RCs introducing lexically headed RCs as well, if the internal head is a null element. Suppose that English has two wh-items: *that* for lexically headed RCs and *who* for free RCs. If our claim is on the right track, we expect to find 'the boy who did this', namely a lexically headed RC introduced by the wh-item typical of free RCs. This prediction is borne out, as we will show in Section 4.

3. Relativizer systems in Old and Modern Italian

Before turning to our analysis, this section briefly summarizes the relativizer systems of Old and Modern Italian, as outlined in Benincà and Cinque (2010). We start with the systems for lexically headed RCs and then address those for free RCs.

In Modern Italian, three different elements can introduce a lexically headed RC: a *wh*-element, namely (*il*/*la*) *quale* lit. 'the which', which is inflected for number, an invariant *wh*-element *cui* 'that:OBL', and an element that also serves to introduce complement clauses, namely *che* 'that'. Their distribution is sensitive to two factors: the type of relative clause, that is, whether it is restrictive or appositive, and the argumental function of the relativized phrase.

Limiting our survey to restrictive RCs, we observe that only *che* can relativize subjects and complements not selected by prepositions, as in (7a,b),[7] while the forms (*il*) *quale* and *cui* are only admitted with PPs (7c,d), with no apparent difference with respect to the type of prepositions.[8]

(7) a. *La ragazza* ***che/*la quale*** *ho incontrato ieri mi ha*
the girl that/the which have.1SG met yesterday CL.1SG.DAT have.3SG
parlato di te
talked of you

[7] On the other hand, in appositives (*il*) *quale* can always be used independently of the thematic role and the morphological case of the relativized element.

[8] Data on Modern Italian are taken from our introspection as native speakers.

'The girl that I met yesterday talked about you.'
b. *Il libro* ***che/*il quale*** *è su-l tavolo parla di clitici*
the book that/the which be.3SG on-the table talks of clitics
'The book that is on the table is about clitics.'
c. *La ragazza* ***con la quale/*che/cui*** *ho parlato ieri si*
the girl with the which/that/that.OBL have.1SG talked yesterday CL.3SG
chiama Maria
call.3SG Maria
'The girl with whom I talked yesterday is called Maria.'
d. *Il libro* ***de-l quale/*di che/di cui*** *tutti parlano è interessante*
the book of-the which/of that/of that.OBL all talk.3PL be.3SG interesting
'The book about which everybody talks is interesting.'

Similarly to Modern Italian, in Old Italian lexically headed RCs can be introduced by *che* 'that', (*il*) *quale* 'the which' or *cui* 'that.OBL'. *Che* is used when subjects and complements not selected by prepositions are relativized, as in (8a), whereas (*il*) *quale* and *cui* occur in PP-RCs (8b,c).

(8) a. *Andò a-lli altri giovani* ***che*** *stavano a ricevere l' acqua*
Went.3SG to-the other.PL young.PL that stayed at receive the water
'He went towards the other young people that were receiving the water.'
(*Novellino*, 4, l. 16–17)

b. *A-l valente segnore, /* ***di cui*** *non so migliore / su-lla terra trovare*
to-the gifted lord of whom not know.1SG better on-the earth find.INF
'To the gifted lord, of whom I cannot find any better on the earth.'
(*Tesoretto*, 175, v.2)

c. *è rettorica quella scienzia* ***per la quale*** *noi sapemo*
be.3SG rhetoric that science for the which we know.1PL
ornatamente dire ...
in_adorned_way say.INF
'rhetoric is that science due to which we can speak in an adorned way.'
(*Rettorica*, 4, l. 19)

Benincà and Cinque (2010: 472) further notice that *che* can introduce DP-RCs, as in (6a), not showing any sensitivity to the [+animate] distinction; but differently from Modern Italian, it can also be combined with prepositions. In these contexts, *che* is sensitive to the [+animate] distinction: when preceded by prepositions it exclusively refers to a [–animate] antecedent, as in (9).

(9) *uno bastone* ***con che*** *s' apogiava perch' era debole*
a stick with that CL.3SG rested.3SG because be.3SG weak
'a stick on which he rested because he was weak.' (*Fiori e vita di filosafi*, 9, 4–5)

Table 1 summarizes the relativizer system in the two stages of Italian.

Table 1. Paradigm of wh-pronouns in Modern and Old Italian lexically headed RCs

	Modern Italian	Old Italian

NOMINATIVE	*che*	*che*
ACCUSATIVE	*che*	*che*
OBLIQUE	*P cui*/*il quale*	*P cui*/*il quale*
		P che

On the basis of Table 1, we can conclude that Modern and Old Italian lexically headed RCs pattern alike, with the only difference being the occurrence of *che* with prepositions only in the old stage of Italian.

The situation differs when it comes to free RCs. Modern Italian has one single wh-item to introduce free RCs, that is, *chi* 'who', which can only be used for [+animate] referents, while free RCs with inanimate referents are not a legitimate option because Modern Italian uses light headed relatives.[9] *Chi* is used in DP-RCs, as in (10a), whereas P *chi* occurs in PP-RCs, as in (10b).

(10) a. ***Chi*** *arriva* *tardi non trova* *posto*
who arrive.3SG late not find.3SG seat
'Who arrives late does not find a seat.'

b. ***A chi*** *avevo dato il libro di Cinque ho* *poi consegnato*
to whom had.1SG given the book of Cinque have.1SG then given
anche un suo articolo
also a his article
'To whom I had given Cinque's book, I also gave him one of his articles.'

Old Italian has a wider range of relativizers. For [+animate] referents, the wh-item is *chi* if the relativized XP is nominative (11a), *cui* if it is accusative (11b), and P *cui* if it is oblique (11c). For [–animate] referents, the form of the wh-item is *che* in DP-RCs, as in (11d), and P *che* in PP-RCs, as in (11e).

(11) a. ***chi*** *l'* *uccidesse* *avesse* *da-l* *comune di Pisa*
who.NOM CL.3SG.M kill:3SG have.3SG from-the city of Pisa
diecimila *fiorini d' oro*
ten_thousand florins of gold
'Who killed him would have 10,000 gold florins from the city of Pisa.'
(*Cronica*, L9, ch. 230)

b. *e* ***cui*** *egli riceve per figliuolo, sì 'l* *gastiga*
and whom he receives for son so CL.3SG punishes
'And whom he receives for son, thus he punishes him.'
(*Libro de' Vizi e delle Virtudi*, ch. 7, p. 19, l. 24)

c. *Donna, invano labora* ***in cui*** *non è dirittura*
Madam in_vain work.3SG in whom not is rectitude
'Oh madam, the person in whom there is no rectitude works in vain.'
(Monte Andrea, *Rime*, v. 25–26)

d. *Morte non ha* ***che*** *fare di ventura*

[9] We leave for future research the questions of free RCs in modal existential constructions and free RCs with the wh-pronoun *–unque* (see Šimík 2011).

Death not have.3SG what do.INF of fortune
'Death does not consider the earthly fortune.'

(*Tesoro*, ch. 36, p. 355, l. 7)

e. *e i farisei stavano attenti s' egli il curasse in sabato, a-cciò che*
and the Pharisees stay. 3PL careful if he CL.3SG care.3SG in Saturday at-that that
*avessero **di che** l' accusare.*
have.3PL of what CL.3SG accuse.INF
'and the Pharisees paid attention as to whether he took care of him on Saturday, so that they could have something to accuse him of.'

(*Diatessaron*, ch. 70, p. 249, l. 4)

Table 2 summarizes the relativizer paradigms of Modern and Old Italian found in free RCs.

Table 2. Paradigm of wh-pronouns in Modern and Old Italian free RCs

	Modern Italian		Old Italian	
Morphological case	**Animacy** +	–	**Animacy** +	–
NOMINATIVE	*chi*	*0*	*chi*	*che*
ACCUSATIVE	*chi*	*0*	*cui*	*che*
OBLIQUE	*P chi*	*0*	*(P) cui*	*P che*

Whereas Modern Italian *chi* has extended its use to all morphological cases, Old Italian wh-items differ with respect to case. Moreover, whereas Modern Italian does not have the option of free RCs on [–animate] referents, Old Italian does have this option.
On the basis of this overview, we can conclude that the wh-items introducing lexically headed RCs and those introducing free RCs differ between Old and Modern Italian, at least when the antecedent is a [+animate] referent.

4. Our analysis

This section is organized in three parts. In subsections 4.1 to 4.3, we outline our basic assumptions for the structure of RCs. We propose that the two heads involved in RC derivation can actually be at least partially different in their nature, and that their distinctness is a syntactic effect and does not depend on PF requirements as proposed by Cinque (2013: ch. 17). Building on the idea that features are arranged in an incremental, hierarchical fashion, as demonstrated in the nanosyntax approach to phenomena like case (cf. Starke 2001, 2004, Caha 2009, Starke 2009, Caha 2014; but see also Smith et al. 2018 for a similar view), we further formalize the notion of distinctness on the basis of a refinement of the mechanism of Agree. In particular, we argue that the RC-internal and RC-external heads can still be considered as non-distinct when the matching relation between the features of the two can be defined as an inclusion relation. Finally, we apply this formalization to the RC derivation described in Section 2 and arrive at a quadripartite typology of RC configurations.

4.1. Assumptions about RC derivation

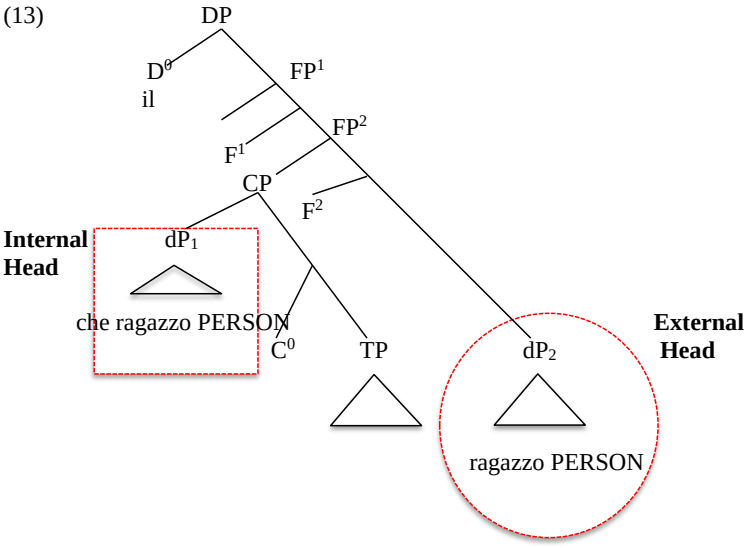
We assume a derivation of RCs as proposed in (2) in Section 2, based on Cinque (2008) and refined in Poletto and Sanfelici (2018), where all RCs have two heads: one RC-internal and one RC-external. Consequently, we further assume Kayne's (1994) version of c-command (see Section 2). The two heads must be identified as the same object, and hence they should be similar enough to

meet the identification requirement; but the point is: how similar do they need to be? According to Sauerland (2003), the two heads are exact matches in the lowest NP-segment. Cinque (2008) proposes that the internal and the external head are non-distinct in the portion up to cardinals. If nominal expressions are associated with a null functional noun classifying them in a Spec-Head configuration, as proposed by Kayne (2005) and Cinque (2008, 2013), then the two heads are at least a phrase like (12), where the lexical expression is the specifier of a null element in a kind of possessive-structure.

(12) [$_{NP}$ [Lexical expression] NULL ELEMENT]

Hence, the lexical nominal *boy* will be the specifier of the null element PERSON, whereas the lexical nominal *table* will be the specifier of the null element THING; in turn, the lexical nominal *London* will be the specifier of the null element PLACE, and so on. Given that the two heads must be identified as similar, they need to enter a relation in syntax that guarantees this identification requirement. Following Sanfelici (2019), we propose that this relation is guaranteed by Agree. Following Chomsky (2000), we define Agree as a syntactic operation taking place between a probe P and a goal G, between which a matching relation holds. As Chomsky writes: 'Not every Matching pair induces Agree. To do so, G must (at least) be in the domain D(P) of P and satisfy locality conditions. The simplest assumptions for the probe-goal system are [...]: a. Matching is feature identity. b. D(P) is the sister of P. c. Locality reduces to "closest c-command"' (Chomsky 2000: 122).
Looking at the derivation in (2), reproduced here as (13) and refined according to (12), in a raising derivation the internal head dP_1 c-commands the external head dP_2 (under Kayne's definition of c-command) after being moved to Spec,CP. Hence, dP_1 enters a matching relation with the external head dP_2. This head dP_2 is the goal of this matching relation; it does not c-command the internal head dP_1.

(13)



In a matching derivation, the external head dP_2 moves to a position higher than that of the RC. For the time being, we assume that the external head moves to Spec,FP^1. From this position, the

external head dP_2 c-commands the internal head dP_1, moved to Spec,CP (under Kayne's definition of c-command). Hence, dP_2 enters a matching relation with the internal head dP_1. In this derivation, the internal head is now the goal of the matching relation; it does not c-commanding the external head.

4.2. (Non-)distinctness of the heads: a new typology

In Section 2, we summarized Cinque's proposal that all RCs involve two non-distinct heads, one merged in the RC, the internal head, and one merged outside the RC, the external head. Although in the syntax these two heads are exact matches of each other, languages differ in which heads and portions of heads they spell out. As mentioned in Section 2, there are languages in which the two heads are lexically realized but not identical: one head is a functional nominal of the type PERSON, THING, and so on, whereas the other is lexically restricted by a nominal expression. Diverging from Cinque (2008, 2013), we propose that when the two heads enter the derivation, they can be different in nature: one can be a null classifier element and the other a full-fledged lexical nominal expression. Hence, we formulate a quadripartite typology of RC derivation as outlined in Table 3.

Table 3. Typology of RC heads

	NON-DISTINCT HEADS			**DISTINCT HEADS**	
	Internal head	*External head*		*Internal head*	*External head*
TYPE 1	Null	Null	**TYPE 3**	Null	Lexical
TYPE 2	Lexical	Lexical	**TYPE 4**	Lexical	Null

When the two heads are both null elements, free RCs are derived. Lexically headed RCs can be derived in the non-distinct situation when the two heads are both lexical, as proposed in Cinque (2008, 2013). The question is what happens in TYPE 3 and TYPE 4. We propose that the outcome is a lexically headed RC. The lexical portion of the head in fact needs to be spelled out in order to ensure recoverability, as argued by Sauerland (2003), and therefore needs to be interpreted at the logical form (LF).[10] Lexically headed RCs can then be derived in three ways: (i) in non-distinct heads configurations when both heads are lexical; (ii) in distinct heads configurations when the internal head is a null element and the external head is lexical; (iii) in distinct heads configurations when the internal head is lexical and the external head is a null functional noun. Hence, collapsing Table 3 with the types of RCs, we conclude that whereas free RCs are the output of one single configuration, lexically headed RCs can be the output of three configurations. Table 4 summarizes our claim.

Table 4. Typology of RCs

	INTERNAL HEAD	**EXTERNAL HEAD**	**OUTPUT OF THE DERIVATION**
Non-distinct Heads	Null	Null	Free RCs *Lexically headed RCs
	Lexical	Lexical	*Free RCs Lexically headed RCs
Distinct Heads	Null	Lexical	*Free RCs Lexically headed RCs
	Lexical	Null	*Free RCs Lexically headed RCs

[10] Spell-out and deletion of either the external or the internal head of the RC are subject to recoverability. Put differently, the external head may only be deleted if its content is recoverable from the copy inside the RC, and *vice versa* (see e.g. Munn 1994, Sauerland 2003).

4.3. Agree relations involved in RC derivation

We propose that the contrast between the non-distinct and distinct heads configurations depends on the Agree operations involved in a language. More precisely, we claim that it depends on the version of the matching relation implied in Agree, that is, whether it is strict, deriving identical heads configurations, or relaxed, giving rise to non-distinct heads configurations.

According to Tables 3 and 4, languages either require complete identity between the external and the internal head or tolerate the non-identity between them. Chomsky (2000: 122) argues that the matching relation between a probe and a goal requires, among other things, feature identity between the probe and the goal. If this were the case, configurations where the two heads differ could not exist. In order to account for this pattern, following Sanfelici (2019), we propose that matching is a relation established under c-command, but that the probe and the goal need not be completely identical in their featural endowment. Our claim (similar to that made in Béjar 2003 and Béjar & Řezáč 2009: 45) is that they can also stand in a superset–subset relation in terms of features. This relation implies a view on features as incremental, such that feature α is a portion of feature αβ (cf. Starke 2001, 2004, Caha 2009, Starke 2009, Smith et al. 2018). The superset–subset relation may also be rephrased as an inclusion relation, following the terminology proposed by Rizzi (2004) and Friedmann, Belletti and Rizzi (2009). Notice that feature identity is also accounted for in adopting the inclusion relation, since it can be defined as the strictest version of such a relation. The modification of the matching relation in terms of an inclusion relation not only accounts for the existence of both distinct and non-distinct heads configurations, but also constrains the degree of distinctness between the two heads.

The features on the c-commanding head must be a superset of those specified on the c-commanded one. Notice that this formalization rules out the derivation in which the c-commanded head is bigger in terms of features than the c-commanding one. If the features on the c-commanded head contain those on the c-commanding head, the derivation crashes. Our proposal straightforwardly derives the typology in Table 4. Assuming that the heads involved in lexically headed RCs are at least as big as the phrase in (12), the c-commanding head must be the entire phrase, whereas the c-commanded one can either be the complete phrase or just the null classifier, since the c-commanding head contains it plus the lexical expression. In the former case, the inclusion relation is strict and gives rise to non-distinct heads configurations. In the latter case, the inclusion relation is relaxed and distinct heads configurations arise. With free RCs, the only possible configuration is the one involving non-distinctness between the two heads, since the null nominal is the smallest portion of the heads, so nothing can be included or include any other portions.

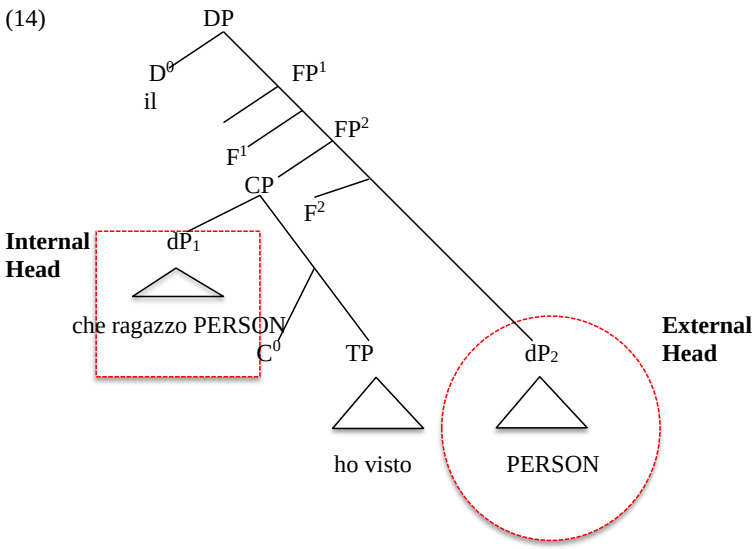
4.4. Applying the new typology to RC derivation

The next problem to be solved is how we can account for the two types of derivation involved in the distinct head configurations. We follow Poletto and Sanfelici (2018), diverging from Cinque (2008, 2013), in assuming that all wh-items, including *che* 'that', are determiner-like elements and are part of the internal head. Hence, the internal head is made up of the lexical/null nominal expression paired with the determiner-like wh-item, similarly to what is found in interrogative clauses. Following Sauerland (2003) and Cinque (2008), we further assume that both raising and matching are possible operations and that the highest c-commanding head will receive spell-out. Finally, like Cinque (2008), we assume Kayne's (1994) version of c-command.

We now derive the non-distinct heads configuration where the external head is a null functional noun and the internal head is lexical. In the lexically headed RC *il ragazzo che ho visto* 'the boy that I saw' in (14), the internal head dP_1 is *che ragazzo* PERSON, the wh-item plus the lexical expression paired to the null nominal as in (12). The external head, dP_2, is a null functional nominal; following Kayne (2005), we propose that it is just PERSON, given the nature of the internal head

ragazzo 'boy'. Given that the lexical portion is spelled out, and given the assumption that the c-commanding head receives spell-out, it follows that the internal head receives spell-out.

(14)

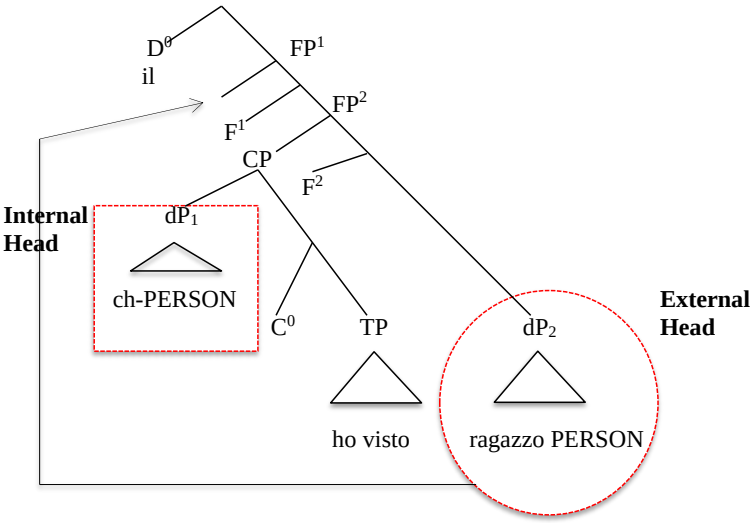


As it is located in the Spec,CP of the RC, which is merged in the specifier of a functional projection inside the DP (i.e. FP^2), the internal head c-commands the lower dP_2 and receives spell-out. This means that when the internal head is lexical and the external one is a null classifier, what is involved is a raising derivation. Let us apply the matching relation, as formalized above, to (14). Being the Spec,CP, the internal head dP_1 c-commands the external head dP_2, and can thus enter a matching relation with the external head. The internal head, which is the c-commanding one, is specified for both the lexical expression and the null functional nominal, whereas the external head, that is, the c-commanded one, contains only the null functional nominal. The inclusion relation holds since the internal head contains more feature specifications than the external one, and thus the internal head receives spell-out.

In the other locally possible distinct heads configuration, the internal head is a null classifier and the external one is a lexical expression. Hence, in the lexically headed RC *il ragazzo che ho visto* 'the boy that I saw' in (15), the internal head dP_1 is a null functional nominal paired with the wh-item; following Kayne (2005), we propose that it is PERSON, similarly to (14).[11] The external head, dP_2, is the full-fledged lexical expression *ragazzo* paired with the null nominal PERSON, as in (12). Given that the lexical portion is spelled out, and given the assumption that the c-commanding head receives spell-out, it follows that in this case the external head receives spell-out. This means that, as independently proposed in Cinque (2008), the external head should rise to a position where it can c-command the internal head, since from its base position it does not. Hence, we conclude that the external head rises to Spec,FP^1.

(15) DP

[11] It should be noted that, as assumed in Cinque (2008), the RC-internal head undergoes the Kaynian type of raising after being moved to Spec,CP, which means that the null nominal PERSON rises to Spec,dP1. We thank the two anonymous reviewers for pointing this out. For simplicity, the step is not shown in (15), but it is nonetheless assumed.



As it is located in Spec,FP^1, the external head c-commands the internal head, which sits in the specifier of the RC, that is, the lower dP_1; thus, it is the external head that receives spell-out. This means that when the internal head is a null element and the external one is lexical, what is involved is a matching derivation.

Finally, let us apply the matching relation, as formalized above, to (15). The external head dP_2, after being moved to Spec,FP^1, c-commands the internal head dP_1 and thus can enter a matching relation with it. The external head, which is the c-commanding one, is specified for both the lexical expression and the null functional nominal, whereas the internal head, that is, the c-commanded one, contains only the null functional nominal. The inclusion relation holds since the external head contains more specifications than the internal one; thus, it receives spell-out. Notice that the movement to Spec,FP^1 is necessary in order to meet the matching relation. Otherwise, the external head, specified for more features, would not c-command the internal one, which is specified for a subset of the features on the external head, and the superset–subset relation would not be met, leading the derivation to crash.

In sum, we propose a formalization to account for the possibility of deriving syntactically the differences in the spell-out of the two heads involved in RCs. The next step is to empirically justify our claim, more specifically to prove that in non-distinct configurations the null elements are null because they are inserted as such into the derivation, that is, as functional classifier-like elements which are generally null in languages like Italian, and not because they are the result of PF deletion rules. While we are unaware of any existing diagnostics to determine whether derivation (14) differs from derivation (13), where both heads are exact matches of each other, derivation (15) can be tested since it makes different predictions from those that arise under derivation (13).

5. Testing our hypothesis

In subsection 5.1, we test our hypothesis with data from Old and Modern Italian. Only Old Italian RCs support the claim that the two heads enter the derivation as distinct elements; Modern Italian requires the two heads to be non-distinct in syntax. Subsection 5.2 solves this tension by proposing that the matching relation between the two heads underwent a diachronic change. Whereas in Old Italian it is understood as an inclusion relation, in Modern Italian the matching relation is strict and

thus results in identity. Consequently, whereas Old Italian tolerates distinct heads in the derivation of RCs, Modern Italian only allows for non-distinct ones.

5.1. An investigation into Old Italian

The crucial point of difference between the two derivations lies in the form of the wh-item introducing the RC. The derivation in (15) postulates that the RC-internal head is the same one found in free RCs. In derivation (13), the internal head is made up of the wh-item, the lexical expression and the null classifier paired to it; thus, it is not the type of head occurring in free RCs. Under derivation (13), the lexical expression, and probably the null nominal associated with it, is deleted, so the only element receiving spell-out is the wh-item.

In languages where the wh-items in free RCs differ from those found in lexically headed RCs, derivation (15) and derivation (13) make two distinct predictions. If derivation (15) is involved, so that the null element enters the syntactic derivation, we should find RCs that have a lexical head and are introduced by the wh-item used for free RCs. If, on the contrary, derivation (13) is involved, so that the null element(s) is such because of PF deletion, we should find no lexically headed RCs introduced by the wh-item used in free RCs. In Section 3, we demonstrated that both Modern and Old Italian are languages where the form of the wh-item differs with respect to the RC type. The context in which the two wh-items unambiguously differ is when the referent is [+animate]. In such a context, in Modern Italian the wh-item in lexically headed RCs is *che*/P *cui*, whereas it is *chi*/P *chi* in free RCs. In Old Italian, the wh-item in lexically headed RCs is *che*/P *cui*, whereas it is *chi*/*cui*/*P cui* in free RCs.

Hence, in lexically headed RCs, under derivation (2) we predict the form of the relativizer to be *che*/P *cui*, whereas under derivation (15) we expect the form of the relativizer to be *chi*/P *chi* in Modern Italian and *chi*/*cui*/*P cui* in Old Italian. Since P *cui* is ambiguous, being the output of both derivations, the real testing ground is the comparison of *che* vs. *chi*/*cui*.

That derivation (15) is indeed a syntactic option can be proved by Old Italian, where we find lexically headed RCs introduced by the relativizers *chi* as in (16), when the extracted phrase is nominative, and *cui* as in (17), when the extracted phrase is accusative (cf. Rohlfs 1966: §483, De Roberto 2008).[12]

(16) Lexical head + *chi*

a. *lo simigliante* *divenne* *d' Adamo e* *di* ***tutti quelli chi*** *peccano*
the similar became.3SG of Adam and of all those that sin.3PL
'(Lucifer) became similar to Adam and to all those who commit a sin.'
(*Natura animali*, V, p. 437)

b. *E* *l' altra mainera si è* *de* ***tutti quelli chi*** *sono* *luxuriosi* *e*

[12] The form *cui* is quite frequent in lexically headed RCs: in the parsed corpus of Old Italian, out of 129 lexically headed RCs in which an animate direct object is extracted, 46 show the wh-pronoun *cui*. The occurrence of *chi* is much more restricted. A total of 11 examples out of 1068 lexically headed RCs in which an animate subject is extracted were introduced by *chi*. The heads of these 11 examples consist of both a bare distal demonstrative, for example *quello*/*quelli*, or a distal demonstrative modified by the universal quantifier, as in (16). It should be noticed that only two texts stably contain *chi* in lexically headed RCs: the *Flore de parlare* and the *Libro della natura degli animali*, which may have been influenced by the Northern and French models, respectively, for which *chi* is well attested. However, the presence of *chi* is attested in some editions of the *Rime* and *Commedia* by Dante, as well as in Andrea da Grosseto (see Noordhof 1937: 13–14). Although it might seem that *chi* is at best disappearing from the RC system of Old Italian, there is a hidden philological issue here. In the great majority of the critical editions, for example Marti and Segre (1959), all the *chi* forms have been levelled to the more Tuscan-like *che.* Hence, a proper evaluation of the frequency of *chi* is problematic.

and the other way CL be.3SG of all those that be.3PL lascivious and
ardenti de-l carnale amore
consumed of-the physical love
'And the other way is that of all those who are lascivious and consumed by the physical love.'

(*Natura animali*, XVIII, p. 446)

(17) Lexical head + *cui*

a. *esso è* ***quella persona cui*** *questo libro appella sponitore*
he be.3SG that person whom this book call.3SG presenter
'He is that person whom this book calls rhetor.'

(*Rettorica*, p. 6, l. 15)

b. *da quella donna,* ***cui*** *voi amate, siete voi amato?*
by that woman whom you.PL love are.2PL you.2PL loved
'Are you loved by the woman that you love?'

(*Filocolo*, 3, ch. 17, p. 268, l. 4)

As expected under derivation (15), when the internal head is a wh-item plus a null classifier, as in free RCs, the form of the relativizer is the same as that found in free RCs. Examples (16–17) do not receive an account under derivation (13), where both heads are non-distinct and lexical. Hence, we can conclude that besides the pronunciation rules governing the spell-out of the heads or their portions, null elements can enter the derivation not only when both heads are non-distinct but also when the external head is a lexical expression. This justifies the typology in Table 4.
Notice that under this analysis the Old Italian cases in which lexically headed RCs are introduced by the wh-item P *che* (18) (cf. Section 3) also receive an account.

(18) *come gli altri artefici cognoschino quelle cose che sono da fare*
as the other.PL authors know those things that be.3PL to do
e ***a che*** *sono costretti*
and to that be.3PL bound
'as the other authors would know those things that are to be done and to which they are bound' (*Statuto dell'Arte degli oliandoli*, ch. 15, p. 26, l. 24)

As briefly reported in Benincà and Cinque (2010) and analyzed in detail in Poletto and Sanfelici (2019), P *che* can appear in lexically headed RCs only when the antecedent is a [–animate] referent. Given that sensitivity to animacy is a property of the wh-items in free RCs but not of the wh-items introducing lexically headed RCs, Poletto and Sanfelici (2019) propose that P *che* is in this case the output of a free RC modifying a lexical head. Here, we formalize this intuition and can interpret the examples in Poletto and Sanfelici (2019) as implying derivation (15).
Our analysis also makes a more general prediction with respect to Old Italian RCs: if a wh-item is used in Old Italian free RCs, it should also occur in lexically headed RCs derived as in (15). Old Italian free RCs can be introduced besides *chi*/*cui* by the wh-item *quale*, which unlike the wh- found in lexically headed RCs does not have the determiner.

(19) *Dico,* ***qual*** *vuol gentil donna parere / vada con lei*
say.1SG who want.3SG gentle lady seem.INF go.3SG with her
'I say, who wants to look like a gentle lady should go with her'.

(*Vita Nuova*, ch. 19, v. 31)

(20) *sì che **quale** mi vede / dice* […]
so that who CL.1SG see.3SG say.3SG
'so that who sees me says […]'.
(Cavalcanti, *Rime*, 9, v. 24, p. 501, l. 2)

From our under-construction parsed corpus of Old Italian, we extracted 12 examples of lexically headed RCs in which the relativizer *qual-* is not preceded by the definite article.

(21) *Se tu sei fuori de' suoi gastigamenti **di quali** sono partefici tutti i figliuoli*
if you be.2SG out of-the his punishments of which be.1SG responsible all the children
'If you are not aware of his punishments, for which all children are responsible.'
(*Libro de' Vizi e delle Virtudi*, VII, 11, p. 19)

(22) *A guise d' una bulla cui manca l' acqua **soto qual** si feo*
to way of a bubble that.DAT lack.3SG the water under which CL.3SG formed.3SG
'like a bubble to which the water under which it formed is lacking.'
(*Commedia, Purgatorio*, XVII, 31–3)

Examples (21–22) have gone unnoticed in the syntactic literature; the philological studies mention them but treat them as unexplainable forms (cf. De Roberto 2008). According to our analysis, these examples receive an explanation: they are the output of derivation (15), similarly to (16–18).
In conclusion, we have demonstrated that the non-distinct heads configuration is a viable option in the syntax and that a null RC-internal head can enter a matching relation with a lexically restricted RC-external head.
However, more needs to be said on Old and Modern Italian RCs. Our claim has been empirically proved by Old Italian RCs, but we have not yet mentioned what happens in Modern Italian. We now address this last aspect. As stated above, if (15) is a possible syntactic configuration, we expect the wh-item found in free RCs to be able to introduce lexically headed RCs as well. Looking at Modern Italian, in lexically headed RCs under derivation (15) we expect the form of the relativizer to be *chi*/P *chi*. Hence, example (23) should be grammatical, but it is not.

(23) ***Il ragazzo chi** ho visto ieri è tuo fratello*
the boy who have.1SG seen yesterday be.3SG your brother
'the boy that I saw yesterday is your brother.'

On the contrary, Modern Italian lexically headed RCs can only be introduced by *che*/P *cui*, as predicted under derivation (13). So, the difference between Old and Modern Italian amounts to the loss of derivation (15), where the two heads can be in an inclusion configuration.

5.2. The diachronic change from Old to Modern Italian
In order to disentangle the impasse we arrived at in subsection 4.2, we propose that a change occurred from Old to Modern Italian. Recalling Table 4, we claim that whereas Old Italian tolerates RC configurations where the two heads enter the derivation as distinct elements, Modern Italian does not. In other words, while derivation (15) was a viable option in Old Italian, only derivation (13) is available in the modern stage of the language. That is why those wh-items introducing free

RCs can also introduce lexically headed RCs in Old Italian, but cannot in Modern Italian. This is summarized in Table 5. Since we found no empirical proof of the distinct heads configuration when the internal head is lexical and the external one is a null nominal, we leave the slot empty.

Table 5. Typology of RCs through the history of Italian

	INTERNAL HEAD	EXTERNAL HEAD	STAGES OF ITALIAN	
Non-distinct Heads	Null	Null	Old Italian	Modern Italian
	Lexical	Lexical	Old Italian	Modern Italian
Distinct Heads	Null	Lexical	Old Italian	*Modern Italian
	Lexical	Null	?	

Table 5 shows that the two languages pattern alike in the non-distinct heads configuration. Assuming that the (non-)distinctness of the head depends on the matching relation between the two heads and that the matching should be viewed as an inclusion relation, as stated in subsection 4.1, we conclude that when the matching relation is strict, resulting in identity between the two heads, both Old and Modern Italian RCs can be derived. Table 5 further shows that the two languages differ in the distinct heads configuration. We have assumed that the (non-)distinctness of the head depends on the matching relation between the two heads, that is, that the matching should be viewed as an inclusion relation (cf. subsection 4.1): when the inclusion relation is relaxed, the c-commanding element can stand in a superset–subset relation with the c-commanded one. Old Italian was such a language allowing for a relaxed version, but Modern Italian is not. Hence, non-entirely-matching RCs can be derived in Old Italian, but not in Modern Italian. Since matching is the relation involved in Agree, we claim that the crucial point of linguistic variation lies in the Agree operation between the two heads. Whereas in Modern Italian Agree implies strict matching, in Old Italian it implies an inclusion relation, as outlined in (24).

(24) *Agree between the two heads in the diachrony of Italian*

Old Italian		Modern Italian
matching as an inclusion relation	>	strict matching, i.e. identity

For the time being, we leave aside the deeper reasons for the change in the Agree operation in the diachrony of Italian. We speculate that this change has to do with the properties and thus the distribution of null classifier-like elements in the two stages of the language. On the one hand, the null classifier THING in RC is lost; and in fact, in Modern Italian, inanimate free RCs, that is *che*/*che cosa* 'what', are not grammatical anymore. On the other, the distribution of the null classifier PERSON is more restricted in Modern Italian than it was in the older stage.

In fact, Old Italian licenses null classifiers in contexts where Modern Italian would require the lexicalization of a head. For instance, the null classifier THING had a wider distribution in Old Italian: free RCs on [–animate] referents could be derived, but they are not possible in Modern Italian (Poletto 2014).

That the distribution of the null nominal THING changed from Old to Modern Italian can be further supported by the distribution of its lexical counterpart *cosa*, which was different and broader in the old stage of the language as compared to Modern Italian (cf. Garzonio & Poletto 2012); it was found in negative polarity item contexts (25) and a whole series of cases in which it would be ungrammatical in Modern Italian (26).

(25) *Ragione è quella che contiene la causa, la quale se ne fosse*
reason be.3SG that that contain.3SG the cause the which if CL were
tolta non rimarrebbe ***alcuna cosa*** *in contraversia*
removed not remain.3SG any thing in controversy
'Reason is the part that contains the cause, without which nothing would remain in the controversy.'

(*Rettorica* 132)

(26) *E que' risponde che ciò era loro* ***agevole cosa*** *d' impara-llo*
and this reply.3SG that this was CL.3PL.DAT easy thing to know- CL.3SG.ACC
'And he replied that this would have been easy for them to know'

(*Fiore di rettorica* 46–47)

The same holds for the lexical counterpart of PERSON, namely *persona*, which has a wider distribution in the older stage than in Modern Italian. In (27), whereas Modern Italian would have the wh-item *chi* 'who' or the light-head *quello* 'that one', Old Italian has *persona*. In (28), *persona* stands for the Modern Italian negative quantifier.

(27) *cose non convenevoli a-lla* ***persona*** *di colui che l' adomanda*
things not appropriate to-the person of that that CL.3SG.ACC ask.3SG
'Things that are not appropriate for the one who asks that […].'

(*Libro de' Vizi e delle Virtudi*, 147)

(28) *perché* ***persona*** *non può trovare lo loro nido*
because person not can.3SG find.INF the their nest
'Because no one can find their nest.'

(*Tesoro*, b158)

Since *cosa* and *persona* were lexical classifiers occurring in broad contexts in Old Italian, we speculate that the change from Old and Modern Italian in the matching relation between the two heads involved in RCs is actually connected with the properties of their null counterparts, that is, THING and PERSON, which had properties in Old Italian that are lost today.

6. Conclusion

This paper refined the typology of RC derivation proposed in Cinque (2008, 2013) by including two further configurations in which the two heads are distinct. Besides having two non-distinct heads, either both null elements or both lexical expressions, we argued that the two heads involved in RC derivation can differ: (a) the RC-internal head can be a null element and the RC-external one a lexical nominal; (b) the RC-internal head can be a lexical nominal and the RC-external one a null element. We constrain this variation by means of Agree and more precisely by the type of matching relation available in a language. The two heads can enter the derivation being specified for different features, but RCs can be derived if the matching relation between the two heads holds. We formalized the matching relation in terms of inclusion, such that the features specified on the c-commanding head must include those on the c-commanded one. We further proposed a diagnostic to discriminate – at least in the (a) cases – whether the distinctness between the heads should be ascribed to syntax or PF as proposed in Cinque (2013: ch. 17). If the distinctness is syntactic, in languages where the wh-items in free RCs differ from those found in lexically headed RCs, when the RC-internal head is a null element and the RC-external one is a lexical expression, that is, in

the (a) cases, we expected to find lexically headed RCs introduced by the wh-items of free RCs. The prediction was borne out. Old Italian indeed displays such RCs. Modern Italian, on the contrary, does not. In order to account for this fact, we argued that the matching relation between the two heads underwent a diachronic change from Old to Modern Italian. Whereas in Old Italian the matching relation is viewed as an inclusion relation, in Modern Italian it is strict, thus resulting in identity. Consequently, whereas Old Italian tolerates both distinct heads configurations and non-distinct heads configurations, in Modern Italian only non-distinct heads configurations are available, where the two heads are exact matches of each other.

Some questions remain open. These relate to (i) the realm of the (b) cases, and (ii) the deeper reasons for the change in the matching relation. As for the (b) cases, for the time being we have no diagnostics to establish whether the null RC-external head is null because it is inserted as such into the derivation or because it is the result of PF deletion rules. Hence, we leave the existence of this type of configuration as a theoretical proposal, which we hope to justify empirically in the future. As for (ii), we concluded subsection 4.3 by speculating that the change in the matching relation from Old to Modern Italian is connected with the properties of the null classifier in the two languages. Although further research is needed, it is clear that null classifier-like elements have a wider distribution in Old than in Modern Italian.

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