

Infinitival Relative Clauses in English: A Syntactic Puzzle

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Infinitival relative clauses are untensed relative clauses which generally have a root modal value. The construction has a distinctive characteristic that makes it particularly interesting from a syntactic point of view: the impossibility to have a lexical wh-DP operator in initial position unless it is integrated in a prepositional phrase. In this paper I describe the structure and interpretation of infinitival relative clauses and discuss why such restriction, which is not present in tensed relative clauses, exists. The proposal I make is that the modal reading of these sentences and the DP/PP asymmetry they exhibit in CP are connected to the prepositional origin of particles to and for, and to the categorial features that they have retained in Present-Day English after a process of grammaticalization; the DP/PP asymmetry, in particular, will follow from the need to value the categorial features with which C is endowed here with some prepositional category under strict conditions of locality. The analysis provided thus explains the peculiarities of infinitival relative clauses with no need to resort to any construction specific mechanism, in line with the restrictive approach to linguistic facts of the Minimalist programme.

Keywords: *relative clause, infinitival clause, complementizer for, DP/PP asymmetry, Minimalist programme.*

1 Introduction

The syntax of relative clauses has received considerable attention in the relevant literature, both from a descriptive and from a theoretical point of view. Traditionally, a distinction is made between restrictive and non-restrictive clauses and the focus is put in what kind of antecedent each of these types modify, together with the syntactic and semantic relationship that they establish with that antecedent.¹ In this respect, restrictive relative clauses as (1) are always syntactically bound to a nominal antecedent, and they restrict the class of entities that can be denoted by this antecedent; non-restrictive relative clauses (2) also modify a nominal constituent (and other categories as well), but they simply add further qualifications to its reference (see Cinque 2020 for a comprehensive account of relative clauses):

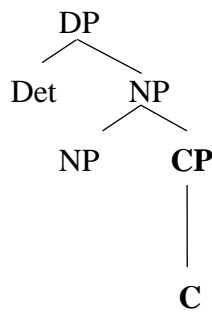
(1) That was the designer that she met in my birthday's party.

(2) She is now working with John, whom she met in my birthday's party.

In formal grammars this difference has been traditionally codified in terms of two different syntactic structures: while restrictive relative clauses are adjoined to the nominal part of the antecedent, non-restrictive clauses are adjoined to the maximal projection, i.e., DP, if the antecedent is nominal:

¹ Apart from these two canonical types, a language may also allow for relative clauses which have no lexical antecedent, at least apparently (e.g. *I spent what he gave me*). For different accounts of these *free relative clauses* see among others, Bresnan and Grimshaw (1978); Harbert (1983); Suñer (1984); Larson (1987); Ojea (1992; 2013); Grosu and Landman (1998); Citko (2002); Grosu (2003); van Riemsdijk (2017) and Šimík (2020).

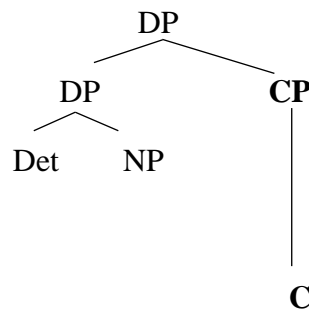
(3) Restrictive clauses



[-assertion]

[REL]

Non-restrictive relative clauses



[+assertion]

[REL]

The different syntactic configurations in (3) mirror in the structure the fact that restrictive relative clauses are semantically and structurally integrated in the DP, functioning as non-assertive predicates which fix the reference of the noun they modify; as for non-restrictive relatives, they constitute assertions which add some extra information. These semantic and syntactic differences between restrictive and non-restrictive clauses explain many of their distinctive properties. To mention just one, particularly relevant for the point at stake here, only in restrictive relatives can we find a non-finite verb, given the impossibility for untensed clauses to appear in assertive (quasi-)independent contexts:

(4) She was looking for a designer with whom to work.

(5) *She was looking for John, with whom to work.

As for the syntactic derivation involved in relativization, the standard assumption is that a relative operator, which originates in the relative clause, is attracted by the [REL] feature into the specifier of CP, leaving an unpronounced copy in its original position.² This operator must be coreferential with the antecedent, and can be lexical (*who*, *which*, *where*, *when*...) or null (Op_{REL}); it eventually shares the CP projection with the complementizer in C, giving rise to four possibilities (as is standard practice, strike-through represents the initial, unpronounced copy, of the displaced constituent):³

² Relative clauses have been basically analysed in three ways in the generative tradition: a) the *head raising analysis*, where the antecedent is generated inside the relative clause and raises to the matrix clause (see Vergnaud 1974; Kayne 1994; Bianchi 1999, among others); b) the *matching analysis*, where the antecedent is external but has a matching copy in the relative clause (Lees 1960; Chomsky 1965; Citko 2001; Pankau 2018, among others); and c) the more traditional *head external analysis*, with an external antecedent and internal merge (i.e., movement) of a lexical/null relative operator in CP. The latter analysis was initially proposed in Chomsky (1977) and is quite akin to standard descriptions of the process in traditional grammars; for simplicity, this will be the analysis adopted here.

³ The option (6d) is ruled out in standard Present-Day English as a violation of the Doubly-Filled Comp Filter (Chomsky and Lasnik 1977: 446), a constraint which excludes the co-occurrence of two lexical constituents in CP, one in its specifier and another in its head. This structure is nonetheless possible in other variants of English, such as Belfast English: *I wonder which dish that they picked* (example taken from Henry 1995: 107). The possibility to have a doubly-filled CP was also an option in previous stages of English; see Jang (2009: 140) for some examples of this configuration in the *Canterbury Tales*.

(6) a. [CP [lexical operator] [null complementizer]]

e.g. The designer_i [CP whom_i 0 [TP she met ~~whom_i~~ in my birthday`s party]]

The designer whom she met in my birthday`s party.

b. [CP [null operator] [lexical complementizer]]

e.g. The designer_i [CP Op_{REL*i*} that [TP she met Op_{REL*i*} in my birthday`s party]]

The designer that she met in my birthday`s party.

c. [CP [null operator] [null complementizer]]

e.g. The designer_i [CP [Op_{REL*i*} 0 [TP she met Op_{REL*i*} in my birthday`s party]]

The designer she met in my birthday`s party.

d. [CP [lexical operator] [lexical complementizer]]

e.g. The designer_i [CP [whom_i that [TP she met ~~whom_i~~ in my birthday`s party]]

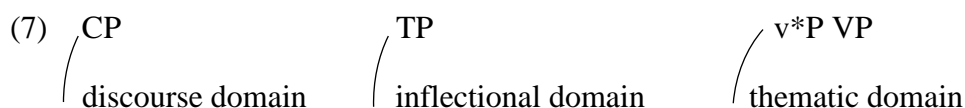
*The designer whom that she met in my birthday`s party.

In what follows I assume this process of relativization and address a sub-type of restrictive relative clause which has some peculiarities that make it particularly attractive: infinitival relative clauses. In section 2, I describe the syntactic and interpretative properties of these clauses, contrasting them with tensed restrictive relative clauses, and in section 3 I provide a principled explanation of one significant (and unexpected) difference between the two: the impossibility to have non-prepositional introductory *wh*-phrases in infinitival relatives. I propose that this restriction follows from a requirement to match the categorial features that C has in the construction as a result of the process of grammaticalization which changed *for* from a lexical prepositional category into a functional prepositional category. Section 4 offers some conclusions.

2 The syntax and interpretation of infinitival relative clauses

The structure of a sentence is said to comprise at least three domains, two of which are functional (i.e., encode grammatical information): the discourse domain, which serves to connect the sentence with other sentences and with the discourse (CP); the inflectional domain, which, among other pieces of grammatical information, hosts what Comrie (1976: 5) calls the “situation-external time” of the event (i.e. its tense), and its aspectuality or “situation-internal time” (TP); and the thematic domain, which articulates the structure of the verbal phrase (VP):⁴

⁴ After Larson`s (1988) work, the VP has adopted a shell-like structure, with at least two categories: v*P, in whose specifier the external argument of the verb is placed, and VP for the internal arguments.



In the latest years there has been a fruitful debate in terms of how many syntactic categories make up each of the three domains above, with two main approaches in the formal paradigm: a) the so-called Cartographic approach, which assumes that the syntactic representation employs a great number of functional categories, each of them encoding the relevant pieces of grammatical information that can be found in the sentence (see Rizzi 1997; Cinque & Rizzi 2008, and subsequent work); cartographic analyses also attempt to characterize the order of functional categories cross-linguistically, and the possibilities of linguistic variation they allow for, both within a language and across languages. And b) the more restrictive Minimalist approach (see Chomsky 1995 and subsequent work), where the number of categories is kept to a minimum (basically, those in (7)) and the emphasis is put on the formal features they host and on which of them drive the syntactic computation, under the assumption that internal merge (i.e., movement) is triggered by the need to value some of these features.

Independently of the approach one follows, it is clear that tensed clauses are full sentences where the relevant features (or categories) in the three domains above are fully specified, and in this they differ from non-finite (untensed) clauses, which are not full-fledged but defective in many respects. Therefore although, as argued above, infinitival relative clauses (IRs) are related to tensed relative clauses in their structural and semantic connection to the antecedent, important differences between the two are expected to follow from the syntactic consequences which come out of the defectiveness of the former. I will describe some of these differences below, just focusing on those aspects which are relevant to understand their reading and structural peculiarities as relative sentences.

2.1. *The inflectional domain: tense and mood in infinitival relative clauses*

As full clauses, tensed relatives have a tense of their own, which may not coincide with that of the matrix clause:

(8) The books which the children asked for yesterday are being sold today.

On the contrary, IRs are untensed, which means that their temporal reading is dependent on that of the main clause. The temporal reference of *to*-infinitives is generally simultaneous or posterior to the time expressed in the main clause; an equivalent sentence to that in (8) would then be ungrammatical in English:⁵

(9) *The best book to read yesterday is being sold today.

Note that, as is standardly assumed, to have a complete set of formal features in T allows for the possibility to have a lexical subject in the nominative Case in English. As a consequence, these subjects are forbidden in IRs, which can only have non-lexical subjects (i.e., PRO) or lexical subjects in the accusative Case if the relative clause is introduced by the lexical complementizer *for*:

⁵ It is possible to obtain a reading of anteriority in an IR by means of the perfect auxiliary *have*: *The man to have met is Wilson* (example taken from Quirk *et al.* 1985: 1267).

- (10) a. The best book to read is being sold today.
 b. The best book for them to read is being sold today.

As for modality, *to*-infinitives generally have a modal reading which seems to be connected to the infinitival marker *to* in them. On this point, I follow Ojea (2008: 73), who departs from the standard view that treats *to* as a “mere *empty* grammatical appendix to the infinitive” (Jespersen 1961: 154) and analyses it as a potential marker of root modality, an outcome of its origin as a preposition which signalled goal. According to Ojea (2008), this explains why in Old English *to*-infinitives competed with subjunctive clauses in non-assertive contexts which expressed facts that were intended, promised, permitted or ordered by the speaker (also vid. Los 1999), and why in Present-Day English this particle can be followed by a bare form of any verb, lexical or auxiliary, except a modal, (i.e., *to go/to be going/to have gone/*to can go*). In Ojea’s analysis, the original goal reading of *to* may also explain the future meaning infinitival clauses generally convey, since the future can be understood as the end point (i.e., the goal) of the temporal reference.⁶

IRs can therefore have a modal reading comparable to that expressed in tensed relatives by *can*, *could* or *should*.⁷ As Huddleston and Pullum (2002: 1068) note, this modal value of IRs makes them semantically close to purpose infinitives, even provoking ambiguous readings in those cases where the matrix verb is agentive in nature and can thus license a purpose modifier:

- (11) He got a video for the kids to watch.
 (= a video that the kids could watch) Infinitival relative
 (= so that the kids could watch it) Purpose infinitive

Given their modal reading, IRs are generally embedded in clauses headed by copular verbs, existential verbs and intensional context (creating) verbs, that is world-creating verbs which consider the truth value of the proposition at other moments of time or other possible worlds (such as *look for*, *want*, *wish*, *need*... vid. Táboas 1995, Girard and Malan 1999, and references therein). This combinatorial tendency, connected to the intrinsic modality of IRs, does not exist in the case of tensed relatives, which may appear as complements of any type of verbs.

Finally, the modal reading of IRs also conditions the type of antecedent they normally have in English: although subject infinitival relatives allow for strong determiners quite freely (12), in non-subject infinitival relatives this antecedent tends to be an indefinite DP (13) or a definite DP with some explicit or implicit evaluative modification which prevents it to have a specific reading (14):⁸

- (12) The/neither/both men (for John) to play against are in the next room.

⁶ Quirk *et al.* (1985: 687) also hold this view and claim that the infinitive marker *to* may be viewed as related to the spatial preposition *to* through metaphorical connection. See also Abe (1986) for a discussion of the prepositional properties of particle *to*.

⁷ As Huddleston and Pullum (2002: 1068) point out, those IRs in which the relativized element is the subject may allow for a non-modal meaning: *She was the first person to finish the job* (= the first person who finished the job); the antecedent of these non-modal IRs normally contains modifiers such as *only*, *next*, *last* or ordinals. See Bhatt (1999: 9-11) and Hackle and Nissenbaum (2010: 59) for explicit accounts of this non-modal interpretation in subject-gap infinitival relatives in English.

⁸ Example (12) is from in Hackle and Nissenbaum (2010: 62), who thoroughly discuss how the modal interpretation of IRs interacts with the semantic properties of the determiner in the antecedent.

(13) I am looking for something / a book / *the book to read during this break.

(14) I am looking for the ideal/best book to read during this break.

Obviously, no restriction on specificity holds in the case of tensed relatives (15):

(15) I am looking for a/the book which he recommended yesterday.

As I have just argued, the temporal and modal readings of IRs, together with the type of subject they allow for and the restrictions they have in terms of embedding verbs and antecedents, follow from their formal features in the inflectional domain, different in important respects from those in tensed clauses. Nonetheless, there is another difference between tensed relatives and IRs which has not received much attention in formal analyses but is particularly puzzling in that it does not seem to follow from the syntactic/semantic structure of these clauses: a categorial asymmetry which IRs exhibit in the lexical *wh*-phrases that they allow in CP. I will first describe here which relative phrases may introduce IRs and tensed relatives in English, to then offer, in section 3, a principled analysis of the relevant facts.

2.2. *The discourse domain: introductory elements in infinitival relative clauses*

Given that tensed relatives and infinitival relatives are both restrictive relative clauses, one would expect that the type of relative operators to be internally merged in CP would be the same in both cases, since the options here have nothing to do with the temporal or modal properties of the clause. Restrictive relative clauses can in principle be introduced by any lexical/null operator coreferential with the antecedent, which moves into CP from some argument position in the clause. In the case of IRs there is a restriction, though, which bans some lexical operators as introductory elements. I describe that restriction below.⁹

2.2.1. *Lexical wh-operators*

Relative clauses can be introduced by a lexical relative operator in the specifier of CP, an option which prevents the projection of a lexical complementizer in C (see (6), and footnote 3). When they are tensed, restrictive clauses allow for *wh*-DP relatives with any syntactic function: subject as in (16), direct object as in (17) or object of a preposition which remains stranded, as in (18):¹⁰

(16) The man [**who** 0 [~~wh~~ can help you]] is Mr. Johnson
The man who can help you is Mr. Johnson.

(17) The man [**whom** 0 [you should see ~~whom~~]] is Mr. Johnson
The man whom you should see is Mr. Johnson.

(18) She is not a person [**whom** 0 [you can rely on ~~whom~~]]

⁹ The examples of IRs in section 2.2. have been taken from Quirk *et al.* (1985: 1265-1269); I assume that their grammatical judgements mirror the competence of an ideal speaker-hearer of English.

¹⁰ As is well known, English allows two possibilities when the complement of a preposition is displaced in relative and interrogative clauses: the preposition can be left behind, as in (18) (i.e., *preposition stranding*) or move together with it, as in (26) or (27) (i.e., *pied-piping*).

She is not a person whom you can rely on.

Significantly, these DP relatives are forbidden when the restrictive relative clause is infinitival:

- (19) The man [**who** 0 [~~who~~ to help you] is Mr. Johnson
*The man who to help you is Mr. Johnson.
- (20) The man [**whom** 0 [PRO to see ~~whom~~] is Mr. Johnson
*The man who to see is Mr. Johnson.
- (21) She is not a person [**whom** 0 [PRO to rely on ~~whom~~]
*She is not a person whom to rely on.

The ungrammaticality in (19) could at first sight seem to result from the impossibility to have a nominative subject in infinitival clauses (recall the examples in (10)), but this explanation does not work in the case of (20) and (21), since the accusative Case of the relative is independently licensed in both sentences. One may then wonder if the impediment to have lexical operators introducing IRs is a general constraint that forbids lexical relatives in the construction or some prohibition that only affects lexical operators of a given type (for example, DPs, as in (19-21)). Note, in this respect, that having a lexical *wh*-operator of an adverbial category is also forbidden in IRs, and in this they again contrast with tensed relatives. In English, then, (22-23) are grammatical, whereas (24-25) are not:

- (22) The place [**where** 0 [you should stay ~~where~~] is the university guest house
The place where you should stay is the university guest house.
- (23) The time [**when** 0 [everybody should go ~~when~~] is July
The time when everybody should go is July.
- (24) The place [**where** 0 [PRO to stay ~~where~~] is the university guest house
*The place where to stay is the university guest house.
- (25) The time [**when** 0 [PRO to go ~~when~~] is July
*The time when to go is July.

This cannot lead to conclude that all lexical operators are forbidden in IRs, though, since English permits a possibility which is common to the two types of relative clauses: a *wh*-PP pied-piped into CP:

- (26) a. She is a person [**in whom** 0 [you could confide ~~in whom~~]
She is a person in whom you could confide.
b. The place [**at which** 0 [you should stay ~~at which~~] is the university guest house
The place at which you should stay is the university guest house.
- (27) a. She is a person [**in whom** 0 [PRO to confide ~~in whom~~]
She is a person in whom to confide.
b. The place [**at which** 0 [PRO to stay ~~at which~~] is the university guest house

The place at which to stay is the university guest house.

In sum, IRs can be introduced by a lexical operator provided it is prepositional, a restriction which is categorial in nature: it is not a ban on lexical operators in general but on lexical operators of a non-prepositional category. In those cases where this categorial requirement does not hold, that is, when the relativized position is nominal or adverbial, the result is ungrammatical in IRs but not in tensed relatives.

2.2.2. Null Operators

Together with lexical *wh*-phrases, English has an alternative option of relativization merging a null operator (Op_{REL}) in Spec-CP, where it can coexist with a lexical complementizer. In tensed relatives, a null operator can always be used in the process of relativization as an alternative to a lexical DP-operator.¹¹ When the null operator is the subject of the restrictive clause, the complementizer must necessarily be lexical (28); in all the other cases both, a lexical (*that*) or a null complementizer (\emptyset), are possible: (29) and (30) (vid. Bosque (1999: 7-13) for a principled account of this subject/object asymmetry in minimalist terms):

- (28) The person [**Op_{REL} that** [~~Op_{REL}~~ can help you]] is Mrs. Johnson
The person that can help you is Mrs Johnson.
- (29) The man [**Op_{REL} that/0** [you should see ~~Op_{REL}~~]] is Mr. Johnson
The man that you should see is Mr. Johnson.
The man you should see is Mr. Johnson.
- (30) She is not a person [**Op_{REL} that/0** [you can rely on ~~Op_{REL}~~]]
She is not a person that you can rely on.
She is not a person you can rely on.

In IRs null operators are also possible and they actually constitute the only possibility to relativise those syntactic positions which are not prepositional. All the ungrammatical examples with lexical operators ((19-21) and (24-25)) become then possible with the non-lexical counterpart:

- (31) The man [**Op_{REL} 0** [~~Op_{REL}~~ to help you]] is Mr. Johnson
The man to help you is Mr. Johnson.
- (32) The man [**Op_{REL} 0** [PRO to see ~~Op_{REL}~~]] is Mr. Johnson
The man to see is Mr. Johnson.
- (33) She is not a person [**Op_{REL} 0** [PRO to rely on ~~Op_{REL}~~]]
She is not a person to rely on.
- (34) The place [**Op_{REL} 0** [PRO to stay ~~Op_{REL}~~]] is the university guest house
The place to stay is the university guest house.

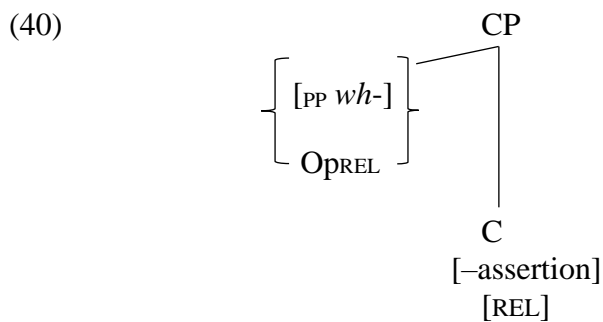
¹¹ Examples (26) and (27) have no corresponding equivalent with an empty operator since empty categories disallow pied-piping (Chomsky 2001: 28).

- (35) The time [**OpREL** \emptyset [PRO to go Θ_{pREL}]] is July
 The time to go is July.

As expected, when the operator is null, the lexical complementizer *for* can be optionally projected, thus allowing for a lexical subject in the accusative Case in the relative clause:

- (36) The man [**OpREL for** [you to see Θ_{pREL}]] is Mr. Johnson
 The man for you to see is Mr. Johnson
- (37) She is not a person [**OpREL for** [one to rely on Θ_{pREL}]]
 She is not a person for one to rely on.
- (38) The place [**OpREL for** [you to stay Θ_{pREL}]] is the university guest house
 The place for you to stay is the university guest house.
- (39) The time [**OpREL for** [you to go Θ_{pREL}]] is July
 The time for you to go is July.

Therefore, the possibilities in the CP of IRs after the operation of internal merge which drives the process of relativization are the following:



What is striking and makes the phrase structure of CP in infinitival relatives different from that in tensed relatives (apart from the potential complementizer in each of them) is the fact that the relative operator in IRs must be null except if it is the complement of a preposition which pied-pipes to the left periphery with it. The relevant question then is: what prevents non-prepositional *wh*-phrases to be internally merged in CP in these clauses?

There have not been many attempts to find a principled explanation for the asymmetry between *wh*-DP and *wh*-PP phrases in IRs in the relevant literature, probably because it is a topic which has a rather small empirical coverage. In the generative framework, Emonds (1976: 191-195) was the first to address this particular restriction of IRs and his account connects the DP/PP asymmetry with a local transformation labelled *for phrase formation*, and with the need to apply *wh*-fronting in accordance with the so-called *structure preserving constrain* in the resulting structures (under the assumption that Comp in those structures is prepositional). Chomsky and Lasnik (1977: 464) also use a construction particular filter to preclude *wh*-DP relatives in IRs. More recently, Law (2000) deals with the peculiarities of the construction in terms of the peculiarities of the process of relativization which, in his view, does not imply movement into CP but adjunction of the *wh*-phrase to IP in tensed relatives, and to VP in IRs. An alternative analysis is found in Gallego (2007: 85-87), who handles the contrast in terms of

economy conditions: an early valuation of the formal features of *wh*-DP relatives in English IRs would make attracting a PP the most economical alternative to delete the uninterpretable features in C.

One must admit that, empirically restricted though it is, the issue is theoretically compelling because in a restrictive approach to linguistic facts one should take it as a premise that the syntax of IRs is not exceptional. Conceptually it is then preferable not to treat the differences between IRs and tensed relative clauses as differences in the underlying structure/mechanism behind the constructions, but as differences in the feature specification of some functional category. Along these lines, my proposal is that the DP/PP asymmetry results from the categorial features that complementizer *for* transfers to C in IRs (very much in the spirit of Emond's 1967 conception of the issue), in the same way that the modal reading of IRs is connected to the modal features that particle *to* provides the inflectional domain with. I also assume that these categorial features of C will have to be valued by some matching category under strict conditions of locality so that CP can be fully interpreted. As I will show below, this proposal makes the right predictions and brings about interesting generalizations across constructions.

3 Solving the puzzle: head features in infinitival relative clauses

Summing up so far, tensed relatives and IRs basically differ in:

- a) their temporal reading: IRs are normally understood as simultaneous or posterior to the tense of the matrix clause.
- b) their modal reading: IRs tend to have a modal reading.
- c) the type of subject they can have: a lexical DP in the Nominative case in tensed relatives, and a non-lexical DP (PRO) or a lexical DP in the accusative Case in IRs.
- d) the lexical complementizer they allow for: *that* in the case of tensed relatives, *for* in IRs.
- f) the relative operators which may introduce the clause, with a restriction against non-prepositional lexical relatives in the case of IRs.

As argued in section 2, the first three differences above follow straightforwardly from the untensed nature of IRs and from the root modality they convey, which is connected to the role of the particle *to* in them. In this respect, I have maintained that the modal reading of these clauses follows from the modal features that *to* transfers to IP (or to one of the categories in the inflectional domain), features that *to* has retained from its origin as a goal preposition. Let's assume that something similar happens with the complementizer *for*, the lexical projection of C that English permits in (some) infinitival clauses. In the 11th century the infinitive marker *to* began to be accompanied by *for*, which reinforced the directional and purposive meaning carried by *to* (see Curme 1931 and Visser 1966). In Early Middle English, *for-to* infinitives were mainly employed as purpose adjuncts, although they could also appear in subject position or as a complement of certain matrix verbs:

- (41) Locrin & Camber: /to Ðon scipē comen. /**for to** habben al Ða æhte.
Locrin & Camber to the ship came / for to have all the property
'Locrin and Camber came to the ship to have all the property.'
(example taken from Nawata 2004: 87)

From Early Middle English through Late Middle English, they came to appear in other environments as well, such as the complement position of raising and exceptional Case-marking (ECM) verbs. In Late Middle English, this infinitive marker *for* could even coexist with the complementizer (i.e., subordinator) *for* which introduced infinitive sentences with overt lexical subjects:

(42)

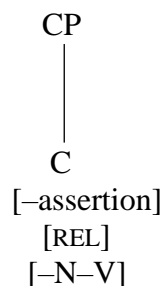
storyes ryght plesaunte and frutefull **for** all parsones **for to** pastyme with.
 stories right pleasant and fruitful for all persons for to pastime with
 ‘Right pleasant and fruitful stories for all persons to enjoy with.’
 (example taken from Nawata 2004: 91)

The *for-to* infinitive construction then gradually declined and finally became obsolete in the mid-16th century, except for certain fixed expressions (see Visser 1966 and Nawata 2004). Complementizer *for*, on the contrary, still remains in Present-Day English.

The origin of the complementizer *for* has been a frequent topic of discussion in diachronic studies of English. Nawata (2004: 107) contends that the complementizer *for* derives from the *for* in early *for-to* infinitives through a process of shifting in morphology. According to this author, examples as (42) show the coexistence of two instances of *for* which are indirectly related via a common ancestor. In this he opposes the traditional view that the complementizer *for* and the infinitive marker in *for-to* constructions had different prepositional sources (see, among others, Visser 1966 and Fisher 1988). Be it as it may, there is a general consensus that the complementizer *for* had an unambiguous origin as a preposition and then underwent a process of grammaticalization which changed it from a lexical category into a functional category. As argued in Roussou (2020), grammaticalized elements retain (or at least may retain) their categorial core, which makes it plausible to assume that *for* transfers its categorial features to C, that is, that CP is endowed with the features [-N-V] when prepositional *for* heads it.

For the point at stake here, my proposal then is that the feature specification of the CP in IRs represented in (40) should be implemented as in (43), given the fact that IRs are introduced, even if optionally, by *for* in English:

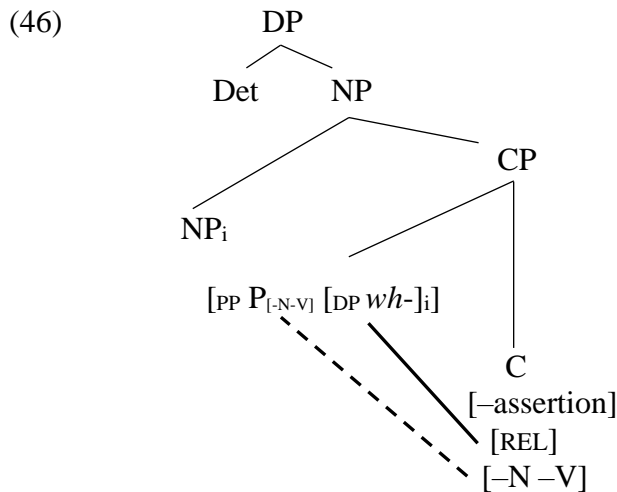
(43)



As is standardly assumed, infinitival clauses have a defective discourse domain, in the sense that it is not articulated, that is, that it lacks the necessary features (or categories) to host topicalized or focalized constituents, contrary to what happens in tensed clauses; hence the contrasts in (44) and (45) (for the impossibility to topicalize or focalize constituents in infinitive clauses see Hernanz 2011):

- (44) a. She told me that certain kinds of things I just shouldn't admit (them).
 b. *She told me certain kind of things not to admit (them).
- (45) a. He told me that on no account should I write such a book.
 b. *He told me on no account to write such a book.

Therefore, in IRs there is no other projection for the relative operator to merge but a category whose head (C) has prepositional features, and this explains why this operator must also be prepositional:



The derivation in (46) runs as follows: the relative clause acts as a predicate whose subject is the antecedent it modifies, and for this predicative relationship to obtain the criterial feature [REL] in C attracts to its specifier a *wh*-DP operator coreferential with the antecedent (the agreement relation between [REL] and the operator is represented in (46) with a continuous line).¹² This is the basis of the process of relativization and therefore what IRs have in common with tensed relatives. As for the DP/PP asymmetry in IRs, I propose that it follows from the [-N-V] features with which C is endowed in the construction as a result of the process of grammaticalization which changed *for* from a lexical prepositional category into a functional prepositional category. Note that functional categories are by definition the locus of grammatical or criterial features, not of categorial features, and therefore it seems plausible to speculate that the unexpected lexical features in C are the cause of the exceptional behaviour that CP has in the construction. These features need to be valued (i.e., identified by a matching lexical category), so that CP can be fully interpreted at the interfaces. They first seek for identification in the projection, which means that the prepositional complementizer (*for*) or a lexical preposition in Spec-CP may serve the purpose (the discontinuous line in (46) represents valuation in this latter case).¹³ Crucially, if relativization involved a lexical category different

¹² A criterial feature, in the sense of Rizzi (1997; 2004), is a scope-discourse feature in a functional head that attracts a phrase (bearing the same feature) into the specifier of that head.

¹³ As an anonymous reviewer points out, categorial features are not standardly subject to agreement. What I claim is that the fact that they force agreement here follows from their exceptionality in a functional category: some lexical category must spell them out for CP to be interpreted as a prepositional phrase at the interfaces, and the null option is that this lexical identification be done in the domain which requires minimal computation, that is, category-internally (if possible). For valuation of [-N-V] I therefore assume a minimal search algorithm that implies that the traditional licensing configuration in terms of Spec-head agreement is at play here (see Koopman

from PP, there would be a mismatch in CP between the categorial features of the head and the categorial features of the only lexical element in the projection and, therefore, CP would not be a legitimate syntactic object. This explains the ungrammaticality of examples (19-21) and (24-25), one of them repeated here as (47):

(47) *The man who to help you is Mr. Johnson.

Finally, when neither a lexical prepositional head or a lexical prepositional specifier are available in CP—in sentences where the relative is a null operator and *for* is not projected—the [-N-V] features will be valued from outside by the lexical infinitival marker *to*, which, as argued above, is also prepositional and acts as a last resort to save the derivation (examples (31-35), one of them repeated here as (48)):

(48) The man to help you is Mr. Johnson.

The syntax of restrictive relative clauses is then uniform across the different types. In my analysis, the defining properties that IRs have can be explained in terms of their defective tense (which, among other things, prevents lexical nominative subjects) and the features that particles *to* and *for* provide. In particular, I have proposed that the modal reading of these clauses and the DP/PP asymmetry they exhibit in Spec-CP are respectively connected to the origin of particles *to* and *for* and the features they have retained after the process of grammaticalization they have gone through.

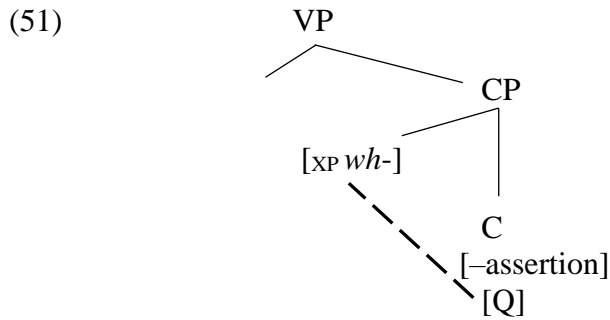
If this proposal is on the right track, it will predict that the DP/PP asymmetry will not hold when a *wh*-operator is attracted into Spec-CP in tensed relative clauses, given that the complementizer here does not endow C with prepositional features (cf. examples (16-18) and (22-23)). And it will not hold either when a *wh*-operator is attracted into the Spec-CP of an infinitival clause whose head lacks the [-N-V] features present in IRs. This is the case of infinitival questions (IQs), where *for* is never an option and the complementizer, if any, is *whether*. This, incidentally, explains why in English a subordinate statement in the infinitive as the one in (49) is grammatical, but the corresponding question (50) is not:

(49) I needed for them to stay.

(50) *I wonder for whom to stay.

If *for* is not a possible complementizer in IQs, the features [-N-V] are not present in C in these clauses. IQs will then have a feature specification as in (51), and, thus, no categorial restriction in the type of phrase that can be attracted to Spec-CP:

2006, for arguments in favour of this view of agreement, which has been abandoned in the current Minimalist programme in favour of Agree, an operation that requires matching between an agreement bearing probe and a goal in the c-command domain of the probe).



As a result, infinitival questions will be introduced in English not only by interrogative PPs (52) but also by interrogative DPs (53-54) or AdvPs (55):

(52) I wonder with whom to talk.

(53) I wonder whom to talk to.

(54) I wonder what to buy.

(55) I wonder where to go.

Therefore, the syntactic analysis behind IRs is not different to the one we find in the rest of relative clauses or in IQs, that is, in clauses where a *wh*-phrase is attracted into CP. There is no need for any exceptional mechanism to preclude *wh*-DP relatives in IRs since standard requirements of feature-matching disallow no prepositional relatives in those cases where the head of CP is endowed with prepositional features.

Interestingly, the possibility to have prepositional features in C is not restricted to English infinitival relatives. Note, in this respect, that Romance languages quite frequently have infinitival clauses with prepositional complementizers (vid. Kayne 1999; Roussou 2000, 2010; Borsley 2001 and Manzini 2014, among others) and, more significantly, they also allow for prepositional infinitival relatives like those in (56-60) (examples taken from Villalba and Planas-Morales 2020: 84):

(56) *Libros* *por/para* *leer* (Spanish)
 book.PL for read.INF
 ‘Books to read’

(57) *Les* *livres* *a* *lire* (French)
 the.M.PL book.M.PL for read.INF
 ‘The books to read’

(58) *Libri* *da* *leggere* (Italian)
 book.PL for read.INF
 ‘Books to read’

(59) *Căărțile* *de* *citit* (Romanian)
 book.PL for read.INF
 ‘Books to read’

(60) *Um* *libro* *por* *ler* (Portuguese)
 a.M.PL book.M.PL for read.INF
 ‘A book to read’

In Romance IRs the prepositional complementizer is always lexical (thus excluding a lexical operator in Spec-CP), and therefore the DP/PP asymmetry one finds in English never holds. Nonetheless, what is relevant for the point at stake here is that languages different from English also have infinitival relative clauses with [-N-V] features in C, something that provides additional empirical support to my proposal.

4 Conclusion

In this paper I have offered an analysis of infinitival relative clauses which connects their peculiarities with the origin and development of infinitival clauses in the history of English. Under this assumption, infinitival relatives have the same structure and modal reading than other infinitival clauses, and they are subject to the same syntactic operations than other restrictive relative clauses. I have proposed that the distinctive properties they have—as the otherwise unexpected DP/PP asymmetry in CP—follow from the features present in the relevant functional projections, not from any *ad-hoc* specification in the narrow syntax. My proposal therefore adheres to the minimalist premise that the narrow syntax is maximally uniform in and across languages, and it makes interesting empirical generalizations about the range of *wh*-phrases that can introduce three different types of sentences in English (i.e., tensed relative clauses, infinitival relative clauses and infinitival questions) without resorting to any construction particular mechanism.

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Abbreviations

IR = Infinitival relative clause

IQ = Infinitival question

OpREL = Covert relative operator

0 = null complementizer

PL = Plural

M = Masculine

INF = Infinitive

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