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Doubly-filled COMPs (which aren't) in northern Italo-Romance

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This article examines *Doubly Filled COMP* (DFC), i.e. the co-occurrence of WH elements and finite complementizers in embedded and, to a lesser extent, main interrogatives. The study is based on data from northern Italo-Romance varieties, drawn from the *Syntactic Atlas of Italy* (ASIt) database. An exploratory quantitative analysis is conducted on a corpus of 2546 embedded WH interrogatives and 9583 main WH interrogatives elicited in 169 datapoints in northern Italy. The study tests and revises previous descriptive generalizations and proposes a formal analysis capitalizing on Cecchetto & Donati's 2010 labeling algorithm. The analysis confirms Bayer's 2015 hypothesis that DFC results when WH elements do not carry a {C} feature.

1 Introduction

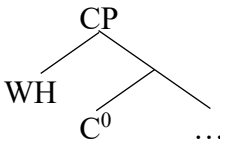
Most northern Italian varieties,[1] unlike languages such as English or Italian in (1a), allow the co-occurrence of WH elements and complementizers, especially in embedded questions such as (1b).

(1) a. Mi chiedo **chi** (***che**) verrà alla nostra festa. (It.)

b. Me domando **chi** **che** vegnarà a la nostra festa. (Ven.)
me= wonder.1SG who that come.FUT.3SG to the our party
'I wonder who will come to our party.'

The co-occurrence of complementizers and WH elements (for short, WHs) within the same functional projection, as shown in (2), was dubbed *Doubly-Filled COMP* (DFC) by Chomsky & Lasnik (1977), who proposed a language-specific *Filter* to explain why DFC is barred in languages such as (1a).

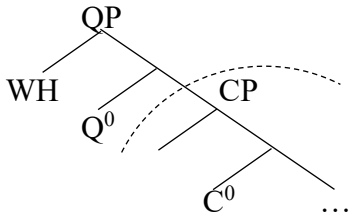
(2)



Evidence from sluicing in (3) suggests that WHs and Cs are not merged in the same functional projection (Lobeck 1995; Baltin 2010) as Cs must be deleted along with the rest of the clause, as illustrated in (4).[2]

(3) I= me= ga ciamà, ma no so **chi** ~~**che …**~~ (Ven.)
They= me= have.3SG call.PTCP.PST, but NEG know.1SG who that …
'Somebody called me, but I don't know who.'

(4)



[1] Northern Italian varieties/dialects/languages (the terms *variety*, *dialect*, and *language* will be used interchangeably throughout the paper) are spoken in the basin of the river Po and surrounding areas, between the Alps and the northern Apennine range (for a linguistic overview, see Benincà, Parry & Pescarini 2016). Historically, these varieties are not variants of Italian, but sister languages that developed out of Latin along with other Romance languages, including Italian.

[2] Q(uestion) in (4) is a null head attracting WH elements. Q corresponds to Rizzi & Bocci's (2017) Q_{emb} (Q in embedded contexts).

The analysis in (4)—or any variant thereof—is confirmed by evidence from DFC-dialects that marginally allow the occurrence of functional elements, such as question particles or subject pronouns, between WH and C (Poletto & Vanelli 1995: 153; Dagnac 2018: 10–11; Manzini & Savoia 2005, vol. I: 520).

This evidence challenges the syntactic representation of DFC in (2), but it does not necessarily contradict the DFC-Filter hypothesis, as neither the QP nor the CP in (4) is doubly filled. However, by general consensus, the DFC-Filter hypothesis—understood as a generalized condition on syntactic structures—should be abandoned in favor of a model where DFC arises from the featural endowment of functional items.

This paper will suggest an analysis of embedded DFC that relies on Bayer's (2015) hypothesis that WHs can carry a {C} feature. Departing from Bayer & Brandner's (2008a; b) and Bayer's (2015) analysis of Bavarian varieties, I will account for the Italo-Romance data in light of a slightly revised version of Cecchetto & Donati's (2010) labeling algorithm.

To lay the groundwork for a principled account, we must first clarify the following aspects, as misinterpretations could lead to erroneous conclusions:

- Is DFC one and the same phenomenon in every clause type and in every variety? More specifically, what is the relationship between embedded and root DFC? Are they independent phenomena? Does root DFC originate from a reanalysis of embedded DFC?
- Is there any significant association between the incidence of DFC and the type of WH? Should we analyse the complementiser in DFC as part of the WH item?
- What is the relationship between DFC and clefts? Can DFC result from the reanalysis of clefts? Are clefting and DFC independent or mutually-exclusive phenomena?
- Subjunctive clauses often display distinctive phenomena involving complementizers, such as complementizer deletion or recomplementation. Does mood influence the incidence of DFC? Can DFC be analyzed in parallel with recomplementation phenomena?

The above research questions will be answered through a quali-quantitative analysis of data extracted from the Syntactic Atlas of Italy (ASIt, see http://svrims2.dei.unipd.it:8080/asit-maldura/pages/search.jsp [last viewed: 30.11.24]).

The article has a bipartite structure. The first part presents some quantitative data on the distribution of DFC across Northern Italian regions[3] and elaborates on the interplay between DFC and other syntactic phenomena: Section 2 contains some preliminary remarks on the nature of microvariation data and on the dataset; Section 3 focuses on the distribution of DFC in main and

[3] In the following sections, data will be aggregated by region, although the boundaries of administrative regions do not always correspond to isoglosses.

embedded interrogatives; Section 4 examines the incidence of DFC with respect to various types of WHs; Section 5 compares the distribution of DFC and clefts; Section 6 shows that there is no association between DFC and mood; Section 7 examines the distribution of DFC in adjunct and relative clauses; Section 8 resumes the findings of the previous sections. The second part of the article deals with the analysis of DFC. Section 9 elaborates on the role of Light-Headed Relatives (Citko 2004) in the emergence of DFC (Munaro 2000[2001]; Garzonio 2007; Poletto & Sanfelici 2019; 2021); Section 10 entertains the hypothesis that DFC results from the feature endowment of WH elements. Section 11 concludes.

2 Microvariation data: handle with care

According to Kayne (1996: xiii): "the technique of examining a large number of very closely related languages promises to provide a broad understanding of parameters at their finest-grained (microparameters)." In this respect, big collections of existing data, such as atlases and databases, are a valuable source of information. The material contained in such primary sources, however, should be handled with care. Ideally, linguists should rely on a significant sample of data that are elicited with a mixed methodology from a group of speakers that is representative of a specific datapoint. In practice, microvariation analysis is based on limited evidence, often drawn from a small sample of speakers or, in some cases, a single speaker. Additionally, most linguistic atlases and databases contain data that were collected mainly through questionnaire-based interviews, by eliciting out-of-context examples. Lacking any insight into the pragmatic and discourse conditions that the subject-speaker had in mind while translating the questionnaire, we are not entirely sure whether the elicited material is a faithful translation or not. Interrogatives are a case in point: given the same item of the questionnaire, some speakers may have produced an information-seeking question, while others may have produced a special question with a flavour of surprise, disbelief or reproach. It is well known that special questions may differ from information-seeking questions in syntactic respects (Obenauer 2004; 2006), but pragmatic factors were seldom controlled for.

Furthermore, the data may be biased by the language of the questionnaire. This holds particularly true for phenomena, such as DFC, that are attested in the dialects, but not in the language of the questionnaire. Translations may be *primed* by the language of the questionnaire, resulting in the underrepresentation of DFC in the dialect translations.

Task-related biases are not the only source of unsystematic variability in the sample. Consider that Italian, i.e. the official language, and Italian varieties are not clearly distinct linguistic systems in the competence of speakers. Speakers always mix or switch from one language to the other and the reliability of elicited data varies depending on the metalinguistic awareness of subjects. This leads to a certain degree of inter-subjective variation, which is particularly

evident in major cities, where the bilectal competence of speakers is more endangered than in the rural areas. Take for instance the data in (5) and (6), elicited in the city of Vicenza, where two informants differ with respect to DFC. Patterns of this kind are rather common, in particular across generations of speakers.

(5) a. No so **chi** **che** lava i piati (Vicenza – speaker A)
NEG know.1SG who that wash.3SG the dishes
'I do not know who washes the dishes.'

b. No so **cosa** **che** l fa Giani
NEG know.1SG what that he= do.3SG Giani
'I do not know what Giani does.'

(6) a. No so **chi** _ broa su (Vicenza – speaker B)
NEG know.1SG who wash.3SG up
'I do not know who washes the dishes.'

b. No so **cosa** _ fasa Giani
NEG know.1SG what he= do.SUBJ.3SG Giani
'I do not know what Giani does.'

The main issue when dealing with microvariation data is precisely how to distinguish structural/systematic variation from sociolinguistic/unsystematic variation, given the limited empirical evidence at our disposal. In my view, a combined qualitative and quantitative analysis is the best approach to examining data from existing atlases and databases, as it helps filter out idiosyncratic variation. As previously mentioned, certain examples may contain code mixing/switching, certain speakers are untrustworthy (namely, their degree of linguistic self-awareness is not sufficient to undertake a translation task), certain data are collected with more attention than others, certain interviewers have a better knowledge of the surveyed variety than others, certain questionnaires are better designed than others, etc.

Notice that quantitative analyses are not supposed to replace more traditional qualitative research, which remains the best way to examine single varieties or specific phenomena, if the documentation is thorough and fine-grained. However, I believe that some quantitative analysis is needed to (re)exploit the data that have been collected so far.

This work focuses on the data contained in the database of the Syntactic Atlas of Italy (ASIt, formerly ASIS, Benincà & Poletto 2007). A corpus of direct and indirect interrogatives was extracted from the ASIt database in November 2023. The corpus contains 2546 embedded WH interrogatives and 9583 main interrogatives elicited in 169 datapoints from seven regions, see **Table 1**. The corpus is formed by dialect translations of Italian questions (16 indirect questions

and 59 direct questions) contained in the ASIt questionnaires. The distribution of the datapoints across regions is not homogeneous, as shown in the following table.

Region	Datapoints	Indirect wh clauses	Direct wh clauses
Liguria	22	291	741
Piemonte	12	165	515
Lombardia	23	410	1461
Emilia Romagna	7	91	289
Veneto	78	1277	5369
Trentino Alto Adige	11	128	601
Friuli Venezia Giulia	16	184	607

Table 1: Number of indirect and direct interrogatives in the ASIt database per Region [November 2023].

Comparisons are made with the data contained in Manzini & Savoia (2005, Vol. I: 388ff) on approximately 200 datapoints.

The examples stored in the ASIt database were collected since the early 80's by a team of linguists and their research associates. Some ASIt questionnaires were distributed by mail and completed in written by trained linguists. The ASIt data were transcribed by adapting the grammatical conventions of Italian. Despite its variability, the transcription system does not undermine the value of these data for syntactic analysis.

For the purposes of the present study, the data contained in the ASIt were first mapped into numerical variables, which were organized into two spreadsheets, one containing main interrogatives, the other containing indirect questions (see Annex 1 and 2). Spreadsheets contain three kinds of metadata: 1) Source: sentence and datapoint identifiers, geographical coordinates, region/province; 2) Dependent variable: presence/absence of C in interrogatives; 3) Factors (independent variables): WH type, mood, presence/absence of clefting.

The main patterns that emerge from an exploratory analysis of this corpus are discussed in Sections 3–8.

3 DFC in main *vs* embedded clauses

The main goal of this section is to show that DFC is a feature of embedded WH clauses. The occurrence of the phenomenon in main clauses can be considered as an extension of the original pattern, probably triggered by the loss of subject-clitics inversion in main interrogatives (Section 3.1), and/or as a discourse-related phenomenon. This claim is crucial for the analysis proposed in Sections 9–10, which focuses on the conditions leading to the emerge of DFC in embedded WH interrogatives and free relatives.

First of all, it is worth noting that northern Italo-Romance DFC is a feature of finite WH clauses. DFC occurs neither in non-finite nor in in yes/no questions; the latter pattern is found, in embedded WH clauses, in Ibero-Romance and Picard varieties (Gallo-Romance; Dagnac 2012) exemplified in (7a) and (7b).[4]

(7) a. Me= preguntaron (**que**) **si** había vuelto de Barcelona. (Sp.)
me= ask.PST.3PL that if AUX.PST.1sg come_back.PTCP.PST from Barcelona
'They asked me whether I was back from Barcelona.'

b. Jé= n' sus pon, in m'sure d' dir' **si** **qu'** i' met d' l' argint d'côté (Ternois)
I= NEG= BE.1sg NEG able to say.INF whether that he= put.3SG of the money aside
'I am not able to tell whether he saves money'

The geographical distribution of DFC across northern Italy is shown in **Figures 1** and **2**. Different shades of gray represent the incidence of DFC in, respectively, direct and indirect questions (the darker the dot on the map, the higher the percentage of examples featuring DFC).

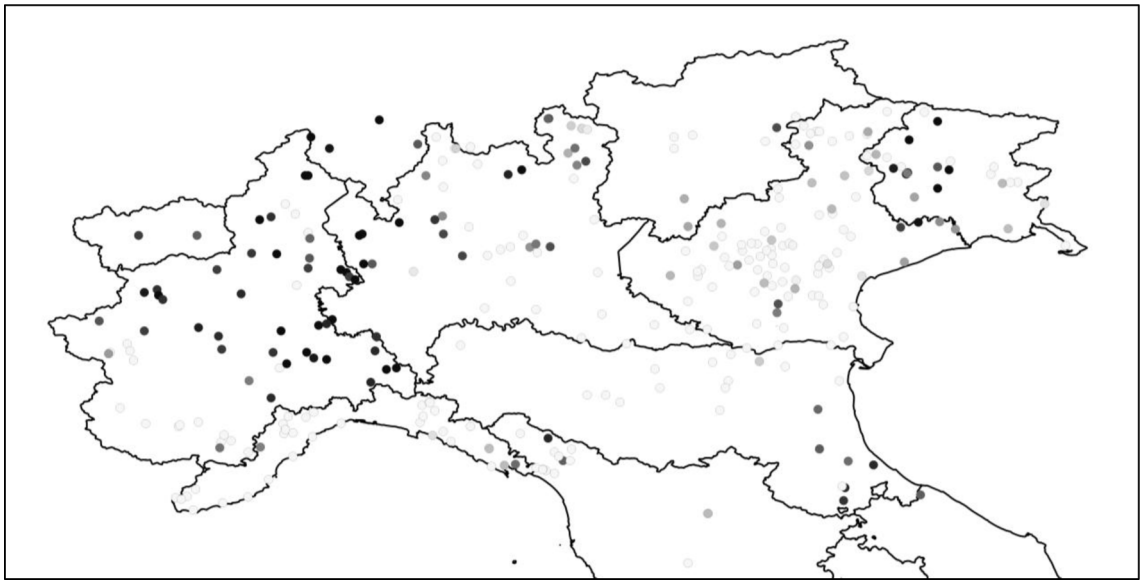


Figure 1: Incidence of DFC in direct interrogatives in 358 datapoints. Source: ASIt [November 2023] and Manzini & Savoia 2005, vol I.

[4] Complementizer doubling is indeed found whenever the complementizer is a WH-like element, as in locative and temporal adjunct clauses, which, however, are better analysed as free relatives (more on this in Section 8).

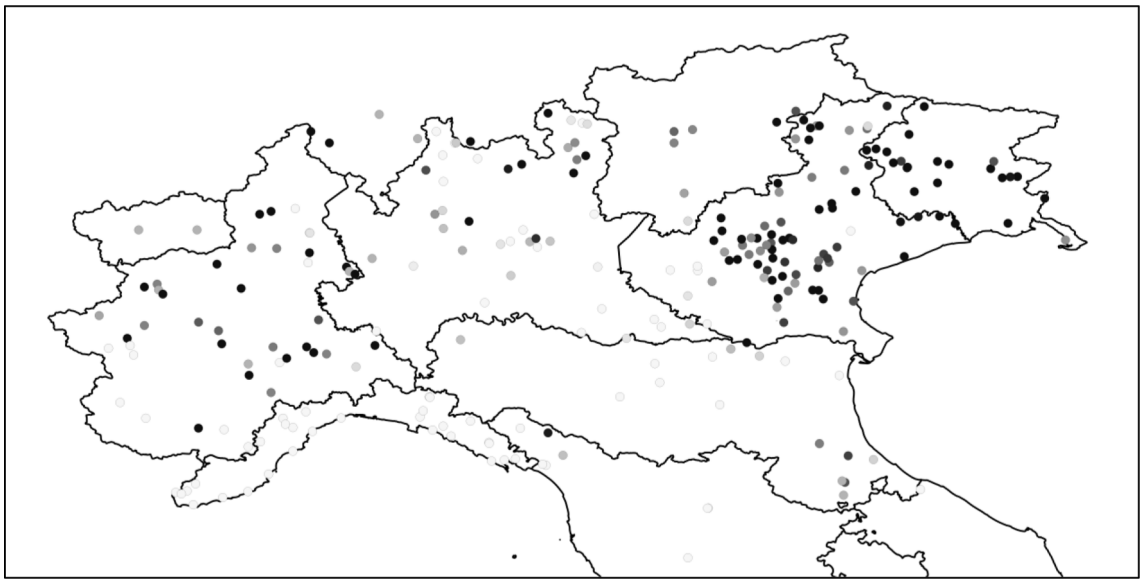


Figure 2: Incidence of DFC in indirect interrogatives in 358 datapoints. Source: ASIt [November 2023] and Manzini & Savoia 2005, vol I.

The comparison between main and embedded clauses in specific linguistic sub-areas is illustrated in **Figure 3**. Ligurian varieties, in which DFC is absent or very marginal, will not be examined in the remainder of the article. DFC in main clauses is found predominantly in three discontinuous areas: Piedmont and Alpine Lombard, western Friulian, and southern Romagnolo. Embedded DFC is found in a wider area, including northeastern dialects such as Veneto (but excluding western varieties), Trentino, and eastern Friulian. The languages spoken in the central area of the Po plain, such as Emilian and southern Lombard, exhibit a lower incidence of DFC, especially in indirect questions.

The ASIt data confirm Poletto & Vanelli's (1995) generalization that, in Italo-Romance, the dialects exhibiting DFC in main clauses are a subset of those exhibiting DFC in subordinates. Additionally, in every sub-area, the incidence of DFC is lower in direct than in indirect questions, with a few noticeable exceptions such as the dialect of Forlì in (8)–(10), where—according to the data from the ASIt—DFC is optional in indirect questions such as (8) and (9), but (almost) mandatory in direct questions such as (10).

(8) a. Di =m **chi** a ciapé e quedar (Forlì, Romagnolo)
tell.IMP.2SG =me who AUX.3 take.PTCP.PST the notebook
'Tell me who took the notebook.'

b. Di =m **chi** **ch** l'è vnù
tell.imp.2SG =me who that AUX.3 come.PTCP.PST
'Tell me who came.'

(9) a. I m' a chist **ind** l'=era andeda Maria
they= me= AUX.3 ask.PTCP.PST where she=AUX.IMPF.3 go.PTCP.PST Maria
'They asked me where Maria had gone.'

b. Di =m **du** **ch** l'=è andé Giorgio
tell.imp.2SG =me where that he=AUX.3SG go.PTCP.PST Giorgio
'Tell me where Giorgio has been.'

(10) a. **Chi** **ch'** a fasegna ades? (Forlì)
what that we= do.1PL now
'What do we do now?'

b. **Indu** **ch'** i= va?
where that they= go.3
'Where are they going?'

c. **Chi** **ch'** i a vest?
who that they= AUX.3 see.PTCP.PST
'Who did they see?'

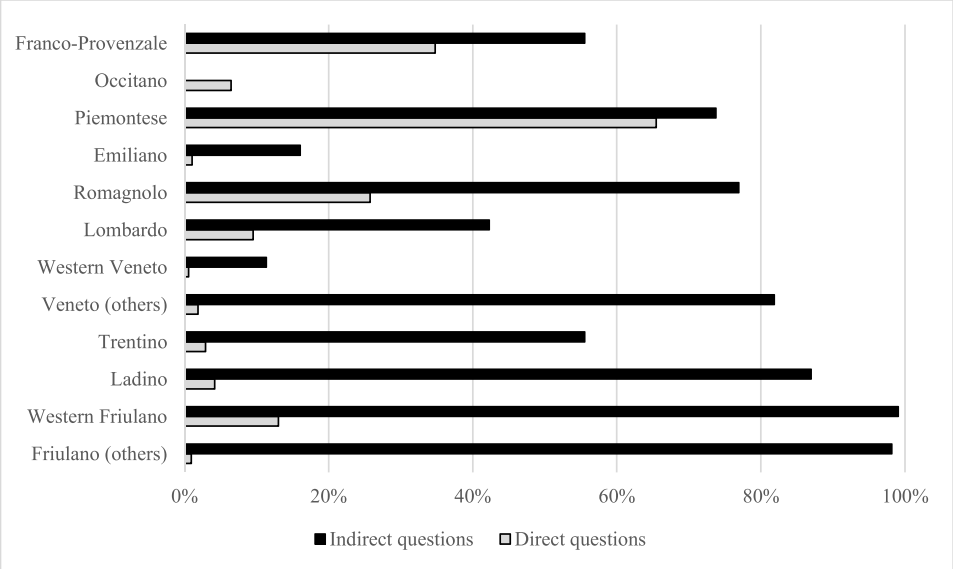


Figure 3: Incidence of DFC in direct vs indirect questions per linguistic area.
Source: ASIt [November 2023].

In light of the asymmetry between main and embedded clauses illustrated in **Figure 3**, Poletto & Vanelli (1995), Poletto & Sanfelici (2019; 2021) argue that DFC originated in embedded interrogatives and was later extended to main clauses. Therefore, languages with main DFC are expected to exhibit embedded DFC, but not *vice versa*.

Parry (2003) challenged this view showing that in Piedmontese DFC emerged in main interrogatives first and was later extended to embedded interrogatives. Parry's hypothesis is that DFC was initially a feature of special questions, possibly borrowed from exclamatives such as (11), where DFC is found since the earliest attestations.

(11) a. **Acmè ch'** at= è braf! (Borgo San Martino; Piedmont)
how that you= be.2SG good!
'How good you are!'

b. **Che** bel libre **che** t= ra regala =me! (Poirino; Pidmont)
what nice book that you= aux.2SG gave.PTCP.PST =me
'What a nice book you gave me!'

The pragmatic import of DFC in early Piedmontese might have been similar to the value of DFC in modern colloquial French,[5] in which DFC occurs in contexts where speaker and addressee are in disagreement about the Question Under Discussion (Matuschat-Petersen & Faure 2024). According to Parry's hypothesis, the symmetric pattern of DFC that is found in Piedmontese and the asymmetric pattern of DFC that is found in northeastern dialects such as Veneto, Trentino and Friulano did not necessarily originate under the same conditions.

However, the morphology of the Piedmontese *what*-WHs suggests that DFC emerged uniformly in embedded clauses, contra Parry (2003) (Munaro 2000[2001]). The WH for *what* in several Piedmontese and northern Lombard dialects is formed by a demonstrative head (e.g. Piedm. *lo, lon, que* [kwe, kye], Lomb. *chel* [kel] 'that') followed by a complementizer, as shown in (12).

(12) a. Lo che fuma ades? (Chieri, Piemonte)
that that do.1PL now
'What do we do now?'

b. Chel ca fiv ades? (Albosaggia, Lombardia)
that that do.2PL now
'What do you do now?'

This type of WH originated from the reanalysis of light-headed relatives such as (13a) (Citko 2004; more on this in Sections 9–10). Light-headed relatives, featuring a determiner-like element followed by a bona fide relative CP, can be embedded under interrogative predicates as shown in (13b): in Italian, French, and in the other northern Italo-Romance varieties (see Section 10),

[5] I cannot provide evidence to corroborate the hypothesis that DFC started to leak into questions in special questions. With respect to old Piedmontese, this remains a speculation. Comparative evidence can be gathered from colloquial French (Thiberge 2020), northern Gallo-Romance varieties (Dagnac 2018) and from Quebec French.

light-headed relatives alternate freely with *what* WHs. In the Piedmontese and Lombard varieties exemplified in (12), the sequence D + C was probably reanalysed as a WH form and eventually extended to direct questions.

(13) a. Odio [**quello che** compri] (Italian)
hate.1SG that$_D$ that$_C$ buy.2SG
'I hate what you buy.'

b. Dim =mi [**cosa** compri] / [**quello che** compri]
Tell.IMP.2SG =me what buy.2SG that$_D$ that$_C$ buy.2SG
'Tell me what you buy.'

The morphology of the WHs in (12) confirms the hypothesis that complementizers leaked from certain kinds of embedded clauses (light-headed relatives) into interrogative clauses in northwestern as well as in northeastern dialects (Poletto 2000; Poletto & Sanfelici 2019). In the latter, the spreading of DFC was confined to indirect questions (Poletto & Vanelli 1995), whereas in northwestern varieties orthogonal factors (see Section 3.1) led to a more symmetric diffusion. In this respect, we cannot exclude that an independent pattern of DFC existed *ab origine* (as suggested by Parry's data), conveying a specific pragmatic meaning as in colloquial French (Matuschat-Petersen & Faure 2024).

3.1 DFC and subject clitic-verb inversion

The extension of DFC to main clauses is arguably related to the loss of subject clitic-verb inversion (SCI; see Poletto 2000: 41–87). SCI is a change in the position and shape of the subject clitic pronouns[6] that, in northern Italo-Romance, are obligatorily attached to the inflected verb, as shown in (14a) vs (14b). SCI is usually viewed as a (residue) of V-to-C movement (Rizzi 1986), which is found either in interrogative/exclamative main clauses and in contexts of complementizer deletion such as *if*-clauses, see (15) (Munaro 2002).

(14) a. (ˈmarjo) **l**= a maˈɲa do ˈpomi (Ver.)
Mario he= have.AUX.3 eat.PTCP.PST two apples
'Mario has eaten two apples.'

b. ˈkɔsa a =**lo** maˈɲa?
what have.AUX.3 =he eat.PTCP.PST
'What did Mario eat?'

[6] From a syntactic standpoint, whether northern Italo-Romance subject clitics are pronouns or not is immaterial to the present discussion, but, for the sake of simplicity, subject clitics are glossed as pronouns throughout the article.

(15) a. Se **‘l** fusse rivà…
if he= be.AUX.SUBJ.3 come.PTCP.PST
‘If he had arrived…’

b. Fusse **=lo** rivà…
be.AUX.SUBJ.3 =he come.PTCP.PST
‘Had he arrived…’

Except for the very rare contexts of complementizer deletion like (15b), SCI is usually barred in embedded clauses, including embedded interrogatives such as (16).

(16) a. No sɔ ˈkɔsa ke **l=** a maˈɲa
NEG know.1SG what that he= have.AUX.3 eat.PTCP.PST

b. *No sɔ ˈkɔsa ke a **=lo** maˈɲa
NEG know.1SG what that have.AUX.3 =he eat.PTCP.PST
‘I do not know what Mario ate.’

Analogously, inversion is barred in main clauses exhibiting DFC.[7] The incompatibility between DFC and SCI is particularly evident in dialects, such as those exemplified in (17)[8] and (18), where DFC and SCI alternate in complementary distribution:

(17) a. **Ola che t=** ès magnà ? (Campitello di Fassa)
where that you= have.AUX.2SG eat.PTCP.PST

b. **Olà** es **=te** magnà ?
where have.AUX.2SG =you eat.PTCP.PST
‘Where did you eat?’

(18) a. **ki kə ta=** ˈfɛ? (Tresivio; Manzini & Savoia 2005, vol. I: 390)
what that you= do.2SG

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[7] An anonymous reviewer pointed out that the co-occurrence between DFC and SCI is seldom attested, for instance in the Piedmontese Provençal dialect spoken in Rodoretto di Prali, see (i) from Poletto (2000). Crucially, the form *sok* in (i) results from the agglutination of the demonstrative *so* with the velar formative of the complementizer. The phenomenon has been discussed in Section 2, ex. (12), where it is argued that this kind of agglutination took place in free relatives first (more on this in Section 10).

(i) So-k al’ a lo fait? (Rodoretto di Prali; Poletto 2000)
what he= have.AUX.3SG =he do.PRTC.PST
‘What has he done?’

In my opinion, the exceptionality of (i) receives a very straightforward explanation if we assume that, when the form *sok* was reanalysed as a WH meaning ‘what’, it was no longer perceived as bimorphemic. Under this hypothesis, (i) is not a bona fide DFC pattern. Quantitative evidence corroborates this intuition as the dialects exhibiting (etymologically) bimorphemic WHs for *what* such as Rodoretto do not display DFC with other types of WHs.

[8] Notice that the WH in (18b) is identical to the complementizer in (18a).

b. **kə** ˈfɛ =**t**?
what do.2SG =you
'What do you do?'

Most varieties in the ASIt sample exhibit either DFC or SCI and, crucially, in none of them as well in none of the 165 varieties surveyed by Manzini & Savoia (2005), SCI and DFC co-occur, cf. **Table 2** (apparent counterexamples are discussed in fn. 7). Notice that 32 varieties exhibit neither DFC nor SCI, which means that the absence of SCI in main clauses is a necessary, but not sufficient condition for the emergence of DFC in main clauses.

		DFC	
		No	**Yes**
Subject clitic inversion	No	32	58
	Yes	75	0

Table 2: Dialects exhibiting/not exhibiting DFC and/or Subject Clitic Inversion (counts). Source: Manzini & Savoia 2005: vol. I.

The association between the loss of SCI and the emergence of DFC in main clauses provides an additional argument in favour of the hypothesis that DFC developed out of embedded clauses first and later leaked into main clauses after the loss of SCI (more on this in Section 10).

4 DFC per Type of WH

DFC is subject to a certain degree of variation depending on the type of the co-occurring WH. The data show that the incidence of DFC is significantly lower when the clause is introduced by *why*. The lower incidence of DFC with *why* is relevant in light of the hypothesis, explored in Section 9, that DFC emerged from the reanalysis of free relatives (more specifically, from the reanalysis of light-headed relatives). The WH *why*, in fact, cannot introduce free relatives, whereas the other WH elements can introduce free relatives and adjunct clauses that can be analysed as free relatives (such as temporal and locative clauses). The lower incidence of DFC with *why* ultimately supports the hypothesis that free relatives were the cornerstone for the emergence of DFC in WH clauses (more on this in Section 10).

No other significant differences are found. The higher incidence of DFC in subject WHs found in Lombard dialects will be explained as a side-effect due to the incompatibility of DFC and in-situ WHs.

Let us review the data on indirect questions first. In embedded clauses (see **Table 3**, plotted in **Figure 4**), DFC is disfavored in combination with the WH element for *why*, while the ASIt data do not confirm that DFC is found more readily with subject WHs or with the WH for *who*.

	Piemonte	Lombardia	Emilia R.	Veneto	Trentino	Friuli V.G.
WHO.SUBJ	71% (55)	50% (97)	22% (9)	80% (529)	82% (45)	98% (85)
WHAT.OBJ	77% (30)	50% (52)	45% (10)	84% (287)	84% (26)	96% (43)
WHERE	56% (23)	33% (30)	45% (10)	82% (175)	67% (14)	93% (40)
WHY	0%	18% (4)	0%	27% (15)	31% (5)	50% (3)

Table 3: Incidence (and counts) of indirect questions exhibiting DFC per Region. Source: ASIt [November 2023].

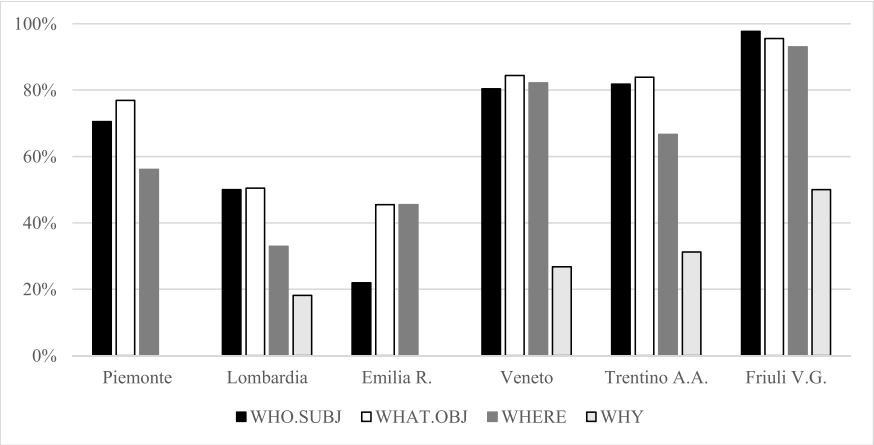

Figure 4: Incidence of DFC in embedded WH interrogatives per Region and Type of WH element. Source: ASIt dataset [November 2023].

The ungrammaticality of DFC with *why*-WHs is illustrated in (19a), *vs* the pattern of DFC in (19b). Recall, however, that in certain dialects DFC is found in all types of indirect interrogatives, as shown in (20a) vs (20b).

(19) a. Dizì =me **parché** (***che**) voì partire (Marostica, Veneto)
Tell.IMP.2PL =me why that want.2PL leave.INF
'Tell me why you want to leave.'

b. Di =me **chi** **che** ze vegnùo
Tell.IMP.2SG =me why that be.3SG come.PTCP.PST
'Tell me who came.'

(20) a. Disè =me **parché** **che** olé partir (Cirvoi, Veneto)
Tell.IMP.2PL =me why that want.2PL leave.INF
'Tell me why you want to leave.'

b. Di =me **chi** **che** l'é vegnú
Tell.IMP.2SG =me why that be.AUX.3SG come.PTCP.PST
'Tell me who came.'

Several explanations can be advanced to account for the lower incidence of DFC in combination with reason adverbs. First, *perché* 'why' + *che* 'that' sequences might be barred because the WH element has a transparent bimorphemic structure [per] + [ke], triggering the haplology of the following complementizer *che* [ke]. However, despite occasional evidence supporting this hypothesis, as the minimal pair in (21), there is no solid association between the morphology of *why*-WHs and DFC. In (21a), *che* can co-occur with the WH *parcossa* (lit. 'for what'), which does not contain the formative [ke], while it cannot occur with the WH *parché* in (21b). Alternations of this kind, however, are not systematic.

(21) a. Di =me **parcossa** **che** l= parte doman
Tell.IMP.2SG =me why that he= leave.3SG tomorrow

b. Di =me **parché** (***che**) el= parte doman
Tell.IMP.2SG =me why that he= leave.3SG tomorrow
'Tell me why he leaves tomorrow.' (Carmignano di Brenta, Veneto)

Alternatively, we may suggest that the lower incidence of DFC with reason adverbial WHs depends on syntactic factors. In Section 10, I will argue that it results from the historical conditions that led to DFC. *Why* WHs are barred in free relatives (Cecchetto & Donati 2012), probably because reason adverbial WHs are externally merged to a non-focal position in the left periphery (Rizzi 2001), which is higher than the position hosting the other WH elements. Since free relatives are, in all probability, the context where DFC emerged (Poletto & Sanfelici 2019; 2021 a.o.), the lower incidence of *why* in DFC clauses is therefore expected.

In main clauses (see **Table 4** and **Figure 5**), DFC with *why* is marginally attested in Piedmontese. It is worth recalling that embedded DFC with *why* is virtually unattested in all northern regions (see **Table 3**).

	Piemonte	**Lombardia**	**Emila R.**	**Veneto**	**Trentino**	**Friuli V.G.**
WHO.SUBJ	60% (72)	30% (105)	6% (4)	2% (30)	3% (4)	8% (12)
WHO.OBJ	57% (30)	9% (15)	10% (3)	2% (9)	5% (3)	3% (2)
WHAT.OBJ	67% (80)	4% (12)	13% (9)	3% (42)	10% (13)	6% (9)
WHERE	63% (101)	3% (14)	4% (3)	1% (19)	9% (14)	6% (10)
WHEN	69% (9)	0%	0%	1% (2)	0%	6% (6)
WHY	37% (7)	0%	0%	0%	0%	0%

Table 4: Incidence (and counts) of direct questions featuring DFC (counts).

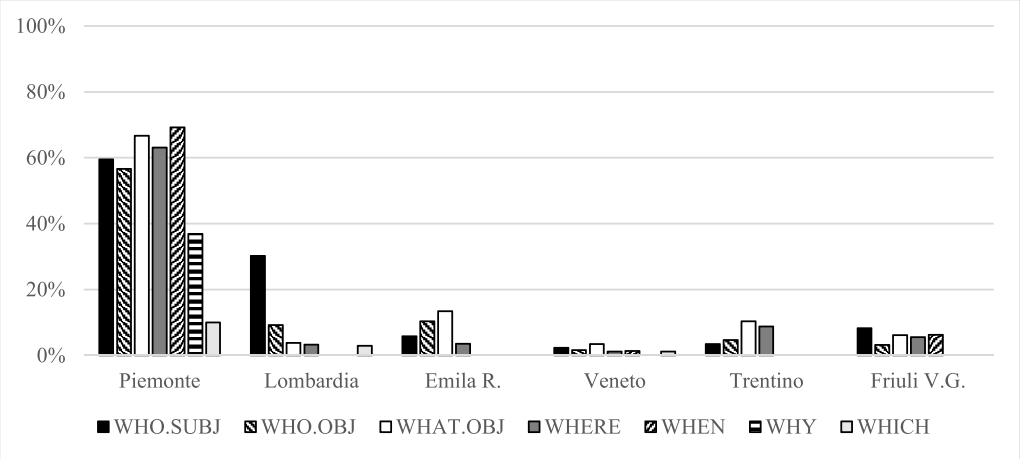

Figure 5: Incidence of DFC in main clauses per WH type and region. Source: ASIt [November 2023].

According to the data in **Figure 5**, DFC is particularly frequent with subject WHs in Lombard varieties. The data in **Figure 6**, however, suggest that this effect results from a competing syntactic phenomenon, namely WH-in-situ, exemplified in (22). WH-in-situ *bleeds* DFC, i.e. Cs are merged if and only if a WH element is merged in the left periphery.[9] Since WH movement to the left periphery is relatively marginal with object and adjunct WHs in these varieties, an increased incidence of DFC results in subject WH questions.

(22) a. E me maje **chi**? (Borgonato, Brescia)
and me eat.1SG what
'What do I eat?'

b. G'ho lahat fo **chi**?
have.1SG leave.PRTC.PST out who
'Who did I forget?'

In conclusion, the data introduced so far confirm a lower incidence of DFC in embedded clauses (and, to a lesser extent, in main clauses) featuring *why*. A morphological explanation of this

[9] An anonymous reviewer points out that DFC is found if an in-situ WH is doubled by an ex-situ WH as in (i).

(i) a. So mia **col che** l' à fat **què**
know.1SG NOT what that he= have.AUX.3SG do.PTCP.PST what
'I don't know what he has done.' (Monno, Lombard, Munaro 1999)

b. **Cusè che** ta fét **cusè**? (Ticinese, Lombard)
what that you= do.2SG what
'What are you doing?'

restriction is quite unlikely. The hypothesis that DFC originated from the reanalysis of light-headed relatives, conversely, may explain the restriction.

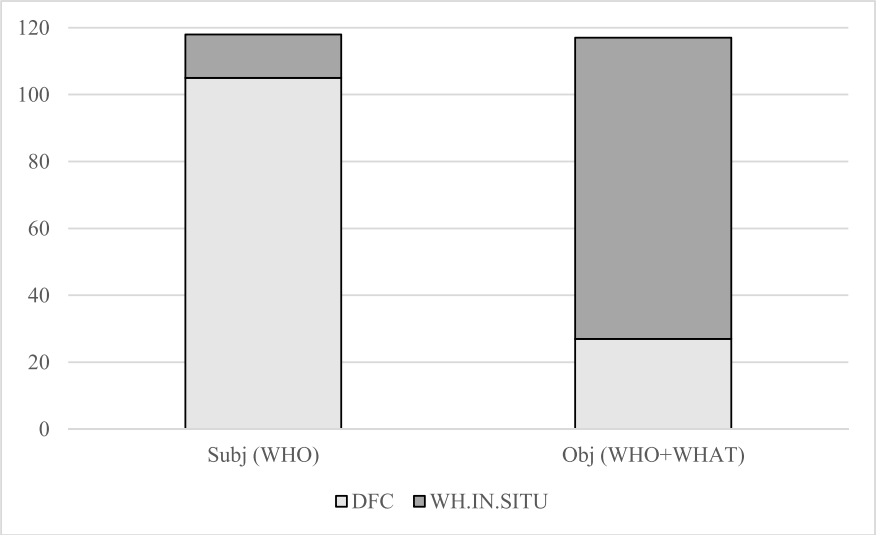

Figure 6: Main questions exhibiting DFC or WH in situ in Lombard varieties (counts). Source: ASIt [November 2023].

No *direct* association was found between the incidence of DFC and other WHs in main and embedded clauses, all other conditions being equal. No complementizer is found if WHs remain in situ.

5 DFC vs Clefts

The goal of this section is to show that DFC and clefting are independent phenomena. The quantitative data suggest that they are almost in complementary distribution. We can therefore rule out the hypothesis that clefting played any role in the emergence of DFC.

The incidence of clefts in the ASIt dataset is shown in **Figures 7** and **8**, focusing on direct and indirect interrogatives, respectively. Subject WH interrogatives, which often exhibit a higher percentage of DFC, are plotted in separate black bars. In several languages, mostly north-eastern varieties, subject direct interrogatives are obligatorily clefted, as in the dialect exemplified (23).

(23) Chi *(**ze** **che**) vien al posto tuo? (Noale, central Venetan)
who be.3SG that come.3SG to_the place your
'Who will replace you?'

The results in **Figures 7** and **8** show that, in many region, the incidence of clefting is higher in direct questions than in indirect ones. On average, the data in **Figure 9** show that clefting is

found predominantly in main clauses, while DFC is a feature of embedded interrogatives. Notice that DFC seldom occurs in clefts.

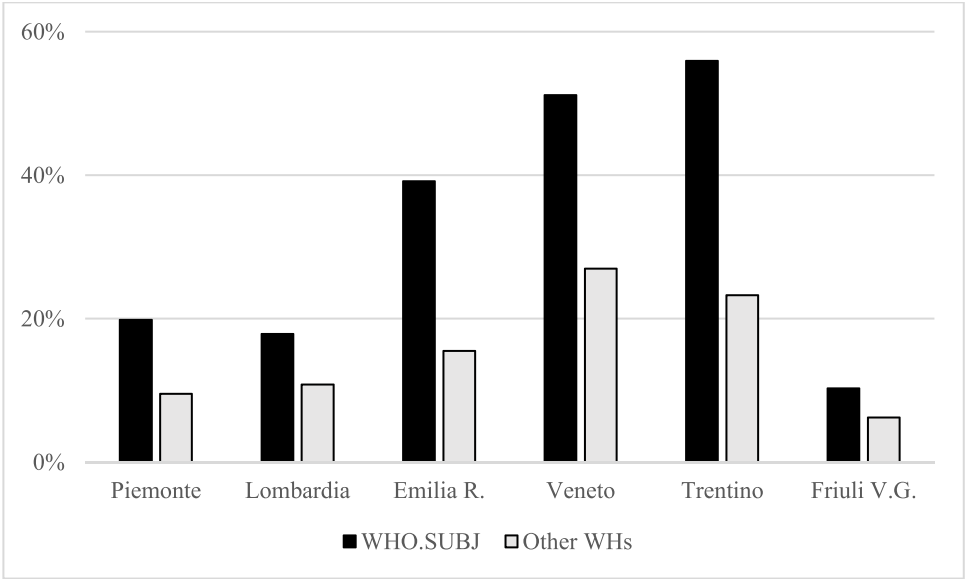

Figure 7: Incidence of clefts in main WH questions per Region: subject interrogatives vs other WHs. Source: ASIt [November 2023].

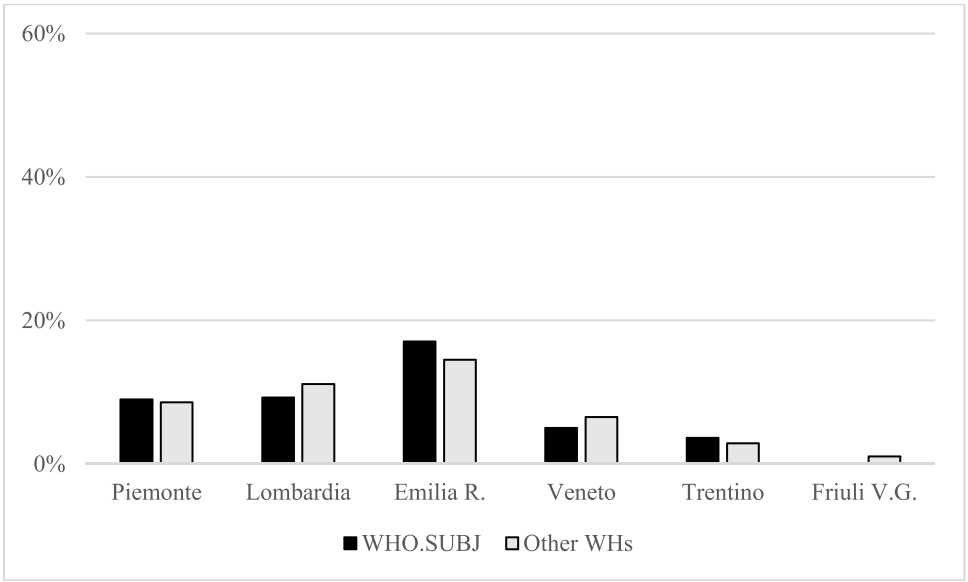

Figure 8: Incidence of clefts in embedded WH questions per Region: subject interrogatives vs other WHs. Source: ASIt [November 2023].

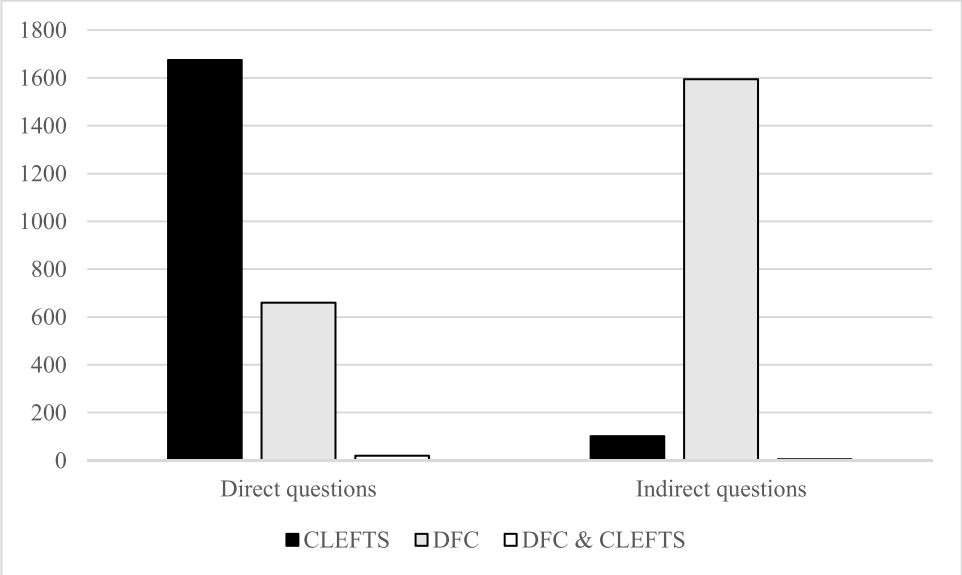

Figure 9: Direct and indirect questions exhibiting clefting, DFC, or both (counts). Source: ASIt [November 2023].

The above data suggest that clefting and DFC are almost in complementary distribution. In the ASIt dataset, DFC is found in 20 clefted main interrogatives, exemplified in (24a–c), and in 5 subordinate clauses like (24d).[10]

(24) a. **Chi ca** ie **ca** piura da la? (Chieri, Piemonte)
Lit. 'Who that is that cries over there?'

b. **Chi ch**'al è **ch**'al ha mangià la tùrta? (Borgo San Martino, Piemonte)
Lit. 'Who that is that he has eaten the cake?'

c. **Ci ca** l'é **c**'al vòl miga nur? (Livigno, Lombard)
Lit. 'Who that is that he wants not leave?'

d. A l so ca **chi ca** l' è **ca** l' è
I= it= know.1SG NEG who that he= be.AUX.3SG that he= be.AUX.3SG
ruat (Albosaggia; from Poletto 2000)
arrived.PTCP.PST
'I don't know who has come.'

[10] DFC in Clefts is not to be mistaken with wh-in-situ or wh-doubling in clefts, as exemplified in (ia) and (ib), respectively:

(i) a. E-lo **chi che** magna le patate? (Puos d'Alpago, Veneto)
Lit. 'Is-it who that eats the potatoes?'

b. **Ch**'el **chi che** maja le ...? (Monno, Lombard)
Lit. 'Who is-it who that eats the potatoes?'

Otherwise, dialects exhibit either DFC or clefting in contexts where one would expect both. For instance, in Trissino, exemplified in (25), embedded subject interrogatives are clefted, as shown in (25a–c), or exhibit DFC, as in (25d), like other indirect interrogatives in (25e–g). However, in the ASIt sample, complementizers never occur in subject interrogatives that are clefted.

(25) a. No so mia **chi (*che)** xè **che** laverà i piati (Trissino; Veneto)
lit. 'I do not know who is that will wash the dishes'

b. Dime **chi (*che)** xè **che** gà tolto el quadro
lit. 'Tell me who is that has taken the painting.'

c. Dime **chi (*che)** xè **che** vien stasera
lit. 'Tell me who is that will come this evening.'

d. Dime **chi che** xè vegnù
lit. 'Tell me who that has come.'

e. No so mia **cossa ch'el** fassa Gianni
lit. 'I do not know what that Gianni does.'

f. Dime **cossa che** la magna Maria
lit. 'Tell me what that Maria eats.'

g. Dime **dove che** xè 'ndà Giorgio
lit. 'Tell me where that Giorgio has gone.'

The data of the ASIt database confirm that clefting is rather common in main interrogatives throughout northern Italy, especially in Lombardy (Poletto 2000: 62, but see Pescarini & Donzelli 2018). In most Venetan varieties, clefting is mandatory in subject main interrogatives. In embedded clauses, where DFC is very frequent, clefting is marginal and almost never co-occurs with DFC.[11]

The almost complementary distribution of clefting and DFC may be accidental, in the sense that these two phenomena may have originated in different clausal environment, triggered by independent factors. Nothing in the following analysis of DFC hinges on this. What is relevant for the purpose of the present study is that the data above show that clefting played no direct role in the diachronic emergence of DFC, i.e. the sequence WH + C found in DFC cannot result from the reanalysis of clefts.

[11] An anonymous reviewer raises the question of whether and to what extent scattered counterexamples such as those in (24) undermine descriptive generalizations and, consequently, formal explanations. In my opinion, descriptive generalization are probabilistic by nature, since they capture the interaction of two variables as if all other conditions were equal, which is seldom the case. For instance, it would be worth distinguishing the varieties/contexts in which clefting is obligatory, as in the Venetan varieties exemplified in (23), from the varieties/contexts in which clefting is a phenomenon driven by pragmatic factors. If all variables could be factored in, I believe that descriptive generalizations would be stronger, if not exceptionless.

6 DFC and Mood

Subjunctive mood is often associated with the syntax of "low" complementizers, i.e. the complementizers that lexicalize the lower heads of the split CP, in particular in irrealis/subjunctive clauses. Crucially, there is no significant asymmetry in the incidence of DFC between veridical/realis and nonveridical/irrealis embedded clauses, as shown in **Figure 10**. We can therefore exclude any possible link between the account of DFC and the analysis of other complementation-related phenomena. DFC is not a form of recomplementation and the absence of DFC is not a form of complementizer deletion. It follows that previous analyses of recomplementation and complementizer deletion cannot apply to DFC.

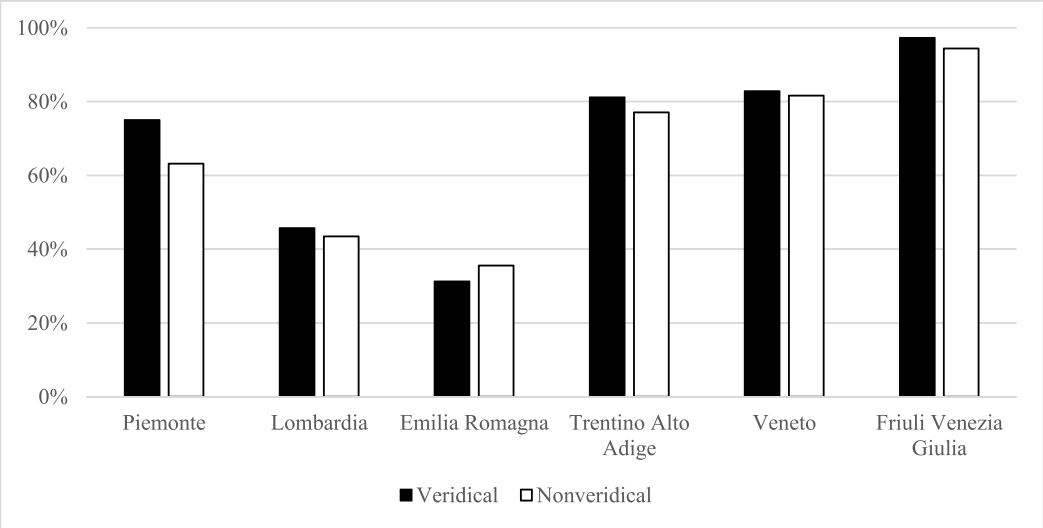

Figure 10: Incidence of DFC in embedded clauses per Region and Mood. Source: Source: ASIt [November 2023].

The data in **Figure 10** show that northern Italo-Romance differs from colloquial French, where DFC is preferred in nonveridical contexts (Matuschat-Petersen & Faure 2024):

(26) a. Je demande / sais pas qui (que) t' as vu (French)
I ask / know not who (that) you have seen
'I ask/don't know who you saw'

b. Je sais qui (*que) t' as vu
I know who (*that) you have seen
'I know who you saw.'

Moreover, **Figure 10** shows that DFC must be orthogonal to and independent from other mood-related phenomena that affect the complementation system of Italo-Romance varieties.

Northern Italo-Romance exhibits no dedicated class of nonveridical/irrealis complementizers, unlike southern varieties (Ledgeway 2003; 2005; 2006). Certain northern varieties, however, exhibit syntactic evidence confirming the occurrence of non-veridical complementizers in the lower left periphery of the clause. The most revealing phenomenon in this respect is *recomplementation*, i.e. the co-occurrence of multiple complementizers. Recomplementation is found in western dialects such as Ligurian and Piedmontese (Paoli 2007), where a low complementizer may occur in subjunctive completive clause after topic and/or focus material, as shown in (27a) vs (27b). Recomplementation phenomena, however, are independent from DFC as languages with DFC do not necessarily exhibit recomplementation and *vice versa*. Dagnac (2018) reaches the same conclusion with respect to Gallo-Romance data.

(27) a. Gioanin a spera *che* Ghitin (*ch'*) a= s= në=
G. he= hope.IND.3SG that G. that she= herself= from_there=
vada tòst (Turinese; Paoli 2007: 1058–1059)
leave.SUBJ.3SG soon
'Gioanin hopes that Ghitin leaves soon.'

b. A dis *che* Marìa e Gioann (**ch'*) a= mangio nen ëd
'S/he= say.IND.3SG that M. and G. that they= eat.IND.3PL neg of
rane
frogs
'S/He says that Mary and John do not eat frogs.'

Moreover, consider that recomplementation is often optional, whereas DFC is mandatory, and, as previously mentioned, recomplementation, unlike DFC (cf. **Figure 10**), is strongly associated with irrealis/subjunctive mood.

Another phenomenon that, in principle, may interact with DFC is complementizer deletion. In several Italo-Romance varieties including standard Italian, complementizers introducing subjunctive or conditional complement clauses may be dropped, as shown in (28a) vs (28b) (Poletto 1995, Giorgi & Pianesi 1997; 2004; Cocchi & Poletto 2002; 2007; Isolani 2023):

(28) a. Dicono (che) sia già partito
say.PRS.IND.3PL that be.AUX.SBJV.3SG already leave.PTCP.PST

b. Dicono *(che) è già partito
say.PRS.IND.3PL that be.AUX.3SG already leave.PTCP.PST
'They say that he has already left.'

To explain DFC, one could build upon prior analyses of complementizer deletion. In fact, complementizers can be deleted in languages such as Italian, which do not display DFC, while they cannot be deleted in northern Italo-Romance, i.e. in the area where DFC is attested. However, complementizer deletion, like recomplementation, is an optional phenomenon, triggered by

discourse conditions and confined mainly to subjunctive clauses. For these and other reasons, complementizer deletion cannot be a relevant factor in the modelling of DFC and, likewise, current analyses of complementizer deletion provide limited or no insight into DFC.

To conclude, mood is not a factor in the distribution of DFC in northern Italo-Romance. There is no association between the distribution of DFC in northern varieties and other complementation-related phenomena that are usually found in nonveridical contexts, such as recomplementation or complementizer deletion.

7 DFC in relative and adjunct clauses

The ASIt data show that DFC is not confined to interrogatives, but occurs in locative relatives[12] such as (29a) and adjunct clauses such as (29b) and (29c).

(29) a. La piassa (**ndoe**) **che** ghemo magnà (Venetan)
the square where that have.1PL have.lunch.PTCP.PST
'the square where we had lunch'

b. ferme =te **dove** **che** ghe= xè la fontana
Stop.2IMP.SG =you where that there= be.3SG the fountain
'Stop where teh fountain is.'

c. **Quando** **che** semo rivèai…
when that be.1PL arrive.PTCP.PST
'When we got there…'

The data from the ASIt in **Table 5** reveal a strong correlation between the occurrence of DFC in relatives and in indirect questions. With a single exception, the varieties exhibiting DFC in indirect interrogatives display DFC in relatives and adjunct clauses that are introduced by WH elements, such as temporal and locative subordinates.

		Indirect Questions	
		WH	**DFC**
Relatives	WH	8	0
	DFC	1	15
	C	2	6

Table 5: Occurrence (counts) of WH, C, and DFC in *where*-relatives and *where*-embedded questions. Sample: ASIt [November 2023].

[12] Other relatives are never introduced by WHs in northern Italo-Romance.

A similar association cannot be verified for other kinds of adjunct clauses, which are missing in the ASIt database, but the data introduced so far lead to the conclusion that DFC is not exclusive to interrogatives. DFC is found in any embedded clause that is equivalent to a WH construction, such as relative clauses, free relatives, and other kinds of adjunct clauses that can be analyzed as free relatives "in disguise", such as temporal clauses. Free relatives will play a prominent role in the analysis of DFC that will be discussed in Sections 9–10.

8 Intermediate conclusion: empirical findings and open questions

The relevant findings of the previous sections are summarized below:

- The dialects allowing DFC in main clauses are a subset of those exhibiting DFC in embedded clauses, with a few exceptions. It is likely that DFC emerged first in embedded clauses, although we cannot exclude that a similar, yet independent discourse-related phenomenon emerged in main clauses.
- The absence of Subject-Clitic Inversion is a necessary but not sufficient condition for DFC: DFC occurs in languages or contexts that do not feature SCI, but several varieties exhibit neither DFC nor SCI.
- DFC is less frequent with *why*.
- DFC is incompatible with in-situ WHs (unless the in-situ WH is doubled by an ex-situ copy).
- Neither subject WHs nor *who* WHs trigger a higher incidence of DFC all other conditions being equal. In Lombard varieties, the higher incidence of DFC in subject/*who* WHs results from an orthogonal factor such as the preferred in-situ placement of other WHs.
- DFC is almost incompatible with clefting.
- DFC is not affected by mood. Variation with respect to DFC is therefore independent from other phenomena that are normally found in nonveridical contexts such as recomplementation or complementizer deletion; the former is not associated with DFC; the latter is not allowed in northern varieties.
- If DFC occurs in embedded questions, it will occur in relative and adjunct clauses as well.

In light of these findings, the following Sections elaborate on a possible analysis of DFC. Although the account I propose can be extended to all northern varieties, the hypotheses discussed in the following Sections will be illustrated mostly with data from central Venetan varieties.

9 Previous accounts of DFC in Italo-Romance

In many languages, including northern Italo-Romance, embedded questions (Q) and Free Relatives (FR) are identical, see (30).

(30) a. I don't know [$_{Q}$ what they like]
b. I hate [$_{FR}$ what they like]

There are, however, certain gaps in the distribution of WHs in FRs. FRs cannot be introduced by complex WHs, as shown in (31b), and cannot be introduced by *why*.

(31) a. I don't know [$_{Q}$ what book they like]
b. *I hate [$_{FR}$ what book they like]

Moreover, certain simple WHs cannot occur in FRs. In most[13] Italo-Romance varieties, as well as in other Romance languages such as French or Spanish, *what*-FRs are ungrammatical, see (32b), while *what* regularly occurs in embedded questions such as (32a).

(32) a. No so [$_{Q}$ cossa che te compri] (Venetan)
NEG know.1SG what that te= buy.2SG
'I do not know what you buy.'

b. *No magno [$_{FR}$ cossa che te compri]
NEG eat.1SG what that te= buy.2SG
'I do not eat what you buy.'

The Romance languages exhibit an alternative strategy to form FRs that involves a Light Head (LH). Light-Headed Relatives (LHRs; Citko 2004) obtain when a non-deictic demonstrative—i.e. a demonstrative devoid of deictic features—is followed by a bona fide relative CP, as shown in (33).

(33) No magno [$_{LHR}$ queo che te còmpri]
NEG eat.1SG that that you= buy.2SG
'I do not eat what you buy.'

Following Citko (2004), let us assume that LHs are externally-merged in D, while the relative CP is merged in D's c-command domain as shown in (34), corresponding to Citko's (36b) (Citko 2004: 110):[14]

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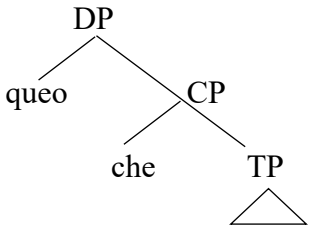
[13] An anonymous reviewer pointed out that Friulian allows DFC in FRs with *what*:

(i) a. No sai ce che tu as comprât
NEG know.1SG what that te= have.AUX.2SG buy.PTCP.PST
'I do not know what you bought.'

b. No mangji ce/ˀchel che tu as comprât
NEG eat.1SG what/that that te= have.AUX.2SG buy.PTCP.PST
'I do not eat what you bought.'

[14] Citko's analysis in (34) departs from models such as Cinque's (2020) in which relative clauses are merged prenominally. Nothing in the following analysis hinges specifically on this point.

(34)



In a subset of the Romance languages, including northern Italo-Romance, LHRs may occur under certain interrogative predicates instead of *what*-interrogatives, cf. (35a) vs (35b). In these contexts, LHR and WH interrogatives are therefore in free distribution.

(35) a. No so [$_{LHR}$ queo che te còmpari] (Venetan)
NEG know.1SG that that you= buy.2SG
'I do not know what you buy.'

b. No so [$_{Q}$ cossa che te còmpari]
NEG know.1SG what that you= buy.2SG
'I do not know what you buy.'

Previous scholars such as Munaro 2000[2001] and Garzonio 2007 argued that the emergence of DFC resulted from the reanalysis of LHRs such as (35a). In a nutshell, the sequence LH + C in (35a) was first reanalysed as a sequence WH + C and, eventually, C was merged in other embedded WH clauses.[15] The reanalysis was favoured by the similarity between demonstrative LHs, WHs and complementizers. In many dialects, the demonstrative *chel* [kel] 'that' is identical to the sequence formed by the complementizer *che* [ke] and the third person subject clitic *l*. Diachronically, *che* was also the WH for *what*.

Unfortunately, the data in Section 5 do not show a higher incidence of DFC in *what*-clauses, which would confirm the hypothesis that *what*-clauses were the pivotal context of the reanalysis. Previous qualitative analyses of narrow samples of datapoints (such as Polonia 2014, cited in Poletto & Sanfelici 2019) seem to corroborate this intuition, but studies on bigger dataset like the present one do not confirm this conclusion.

[15] Some dialects spoken in the Non valley (Trentino) exhibit an alternative pattern of reanalysis, whereby the complementizer was reanalysed as a reduplicated WH element, as shown in (ib), where the reduplicated element is the WH *ci* [ʧi] 'who'.

(i) a. No sai che che 'l fagia 'l Giani (Amblar; same as Revò and Ronzone)
Lit. 'I don't know what that/what he does Giani.'

b. Non sai ci ci laverà zo
Lit. 'I don't know who who will wash the dishes.'

Poletto & Sanfelici (2019) try to confirm the hypothesis just outlined by examining diachronic data. However, it seems to me that the analysis of medieval texts is not conclusive as DFC is found with all kinds of WHs since the earliest attestations, see (36). Therefore, the hypothesis that DFC emerged first in *what*-clauses cannot be confirmed (nor rejected) on the basis of data from medieval texts.

(36) voleva saver **qui qu'** ello era (Venetan, 14th c.)
want.PST.3SG know.INF who that he be.IMPF
'He wanted to know who he was.'

Moreover, Poletto & Sanfelici (2019) notice that indirect questions in medieval varieties often feature an "external" (light) head, such as the locative element *là* 'there' in (37a) or the generic noun *chaison* 'reason' in (37b). The LHs in (37) *precede* WH elements, which are in turn followed by the complementizer (with the noticeable exception of *perché* 'why' in (37b)).

(37) a. e domandava **lá o' ch'** elo sia lo re (Venetan, 14th c.)
and ask.PST.3SG there where that he be.SUBJ.3SG the king
'And asked where the king was.'

b. ela a lor domandà **la chaison perché** eli gera vignudi
she to them ask.PST.3SG the reason why they AUX.3 come.PTCP.PST
'She asked them why they had come.'

The presence of an external (light) head preceding the WH in (37a) and (37b) seems an additional and orthogonal phenomenon that occurs along with DFC. It seems to me that the data in (37), albeit interesting in their own right, do not provide compelling evidence on the nature of DFC.

Let us leave aside the question of whether DFC emerged from LHRs and instead focus on the *synchronic* relationship between DFC-clauses and LHRs. On the one hand, the parallelism between DFC-clauses and FRs/LHRs can provide us with a better understanding of DFC:

- First, it is worth recalling that DFC is a feature of finite clauses, a restriction that can be explained straightforwardly in light of the fact that FRs/LHRs, unlike questions, must be finite.
- Analogously, the lower incidence of DFC with *why* (Section 4) reflects the fact that *why* cannot occur in FRs (arguably, *why* is externally merged in C; Cecchetto & Donati 2012)
- By the same token, the occurrence of DFC in adjunct clauses introduced by *where* and *when* (Section 7) can be accounted by assuming that adjunct clauses introduced by WHs are FRs.

On the other hand, however, we cannot conclude that DFC-clauses are LHRs "in disguise", as proposed by Poletto & Sanfelici 2019. DFC-interrogatives, for instance, differ from LHRs in

several respects. First, questions in DFC-languages allow sluicing, cf. (38a), while light-headed FRs such as (38b) cannot be sluiced even if they occur under interrogative predicates.

(38) a. Se te= porti, qualcossa, di =me [$_{Q}$ cossa ~~che te porti~~]
If you= bring.2SG something, tell.IMP.2SG =me what that you bring
'If you bring anything, tell me what.'

b. *Se te= porti, qualcossa, di =me [$_{FR}$ queo ~~che te porti~~]
If you= bring.2SG something, tell.IMP.2SG =me that that you bring
'If you bring anything, tell me what.'

Second, WHs in questions may be modified by *the-hell* expressions, which therefore occur between the WH and the following C as shown in (39a), cf. Matuschat-Petersen & Faure (2024) for French. LHRs, conversely, cannot be modified, as shown in (39b).

(39) a. no so [$_{Q}$ cossa diàolo che l magna]
NEG know.1SG what devil that he= eat.3SG
'I don't know what the hell he eats.'

b. no so [$_{FR}$ queo (*diàolo) che l magna]
NEG know.1SG what devil that he= eat.3SG
'I don't know what the hell he eats.'

In conclusion, despite some superficial similarities, LHRs and DFC introduce different clause types. There is no evidence in favour of the hypothesis that WHs in DFC-languages are a special kind of LHR. Likewise, there is no evidence in favour of Poletto & Sanfelici's (2019) claim that the complementizer in DFC is the spell-out of an internal projection of the WH-item. Evidence from sluicing in (3) and (38a) rules out this possibility.[16]

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[16] An anonymous reviewer points out that Some NIDs exhibit a dual series of WHs (Manzini & Savoia 2005; 2011; Poletto & Pollock 2009; 2015; De Cia 2020) and that clitic-like WHs occur more readily than non-clitic WHs in embedded clauses, which often exhibit DFC:

(i) a. No se onde/*aonde che l è ndat (Sovramontino)
NEG know.1SG where that he= be.AUX.3SG go.PTCP.PST
'I don't know were he has gone.'

b. No me a dit sa/*che che l a fat (Lamonat)
NEG me= have. AUX.3SG say.PCTP.PST what that he= have.AUX.3SG do.PTCP.PST
'He did not tell me what he had done.'

c. No sai là/%dulà ch al è lât (Friulian)
NEG know.1SG where that he= be.AUX.3SG go.PCTC.PST
'I don't know were he has gone.'

Interestingly, clitic WHs cannot licence sluicing, see (ii). The difference between (i) and (ii) might be explained by assuming that sluicing is deletion of the complement of Focus (Collins 2010: 333). Under this analysis, one may argue that strong WHs, unlike clitic WHs, are eventually attracted to Foc, where they can licence ellipsis.

10 A possible analysis of DFC

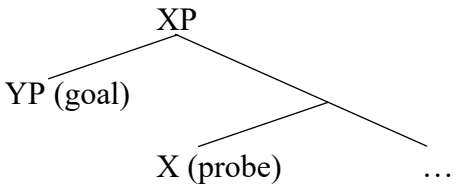
To summarise the discussion in Section 9, embedded interrogatives and LHRs are string-identical, but instantiate distinct clause types. Evidence from microvariation suggests that the string-identity/similarity of LHRs and WH clauses was the trigger that led to DFC, but the underlying syntactic representation that triggered the emergence of DFC is still unclear. In this section, it is argued that the missing link responsible for the emergence of DFC was a change in the feature endowment of WHs.

In current minimalist analyses, the label of a phrase X must be a subset of the features of the items {a, b} that form X. Cecchetto & Donati (2010: 245) argue that a single algorithm, in (40), can predict the label of X, regardless of {a, b}'s being internally or externally merged (see also Donati & Cecchetto 2011).

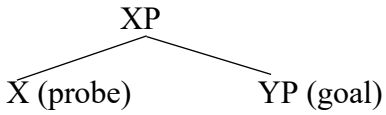
(40) The label of a syntactic object {α, β} is the feature(s) that act(s) as a probe of the merging operation creating {α, β}. (Cecchetto & Donati 2010: 245)

Under (40), a minimal element X projects if it *probes* a phrase YP, which eventually may be (re)merged in SpecXP, as in (41a). Likewise, X projects if it *selects* a complement, as in (41b), assuming that selection is a kind of probe-goal relation.

(41) a.



b.



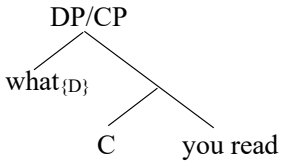
The algorithm in (40)–(41) yields an ambiguous result when the element that is remerged in (41a) is a minimal element such as a simple WH element, as shown in (42). Simple WHs—i.e. WHs that are not lexically-restricted—can be read by the algorithm as lexical elements that select the rest of the clause as their complement, as in (41b).

According to Cecchetto & Donati (2010), questions obtain if the clause is labelled by the (silent) C head, which selects the IP *you read* in (42) and probes the WH *what* as in (41a). A FR

(ii) i è ndà lori, ma no so aonde/*onde (Sovramontino)
they= be.AUX.3SG go.PTCP.PST they but NEG know.1SG where
'They went somewhere, but I do not know where.'

(i.e. a DP) obtains from the same configuration if, after being remerged in C, the WH word is read as a D element selecting a CP, as in (41b).

(42)



Complex WHs (i.e. lexically restricted WHs) cannot label because they cannot be "mistaken" for a selecting head. Consequently, free relatives cannot be introduced by complex WHs, see (43).[17]

(43) a. I don't know [$_{Q}$ what book they like]
b. *I hate [$_{FR}$ what book they like]

Notice that WHs in Cecchetto & Donati's (2010) analysis of FRs do not occur outside of the CP, as in so-called head-analyses of FRs (Bresnan & Grimshaw 1978). Head-analyses explain why WHs are licenced by the matrix predicate (e.g. **I like* [*to whom you talked*]), but cannot explain why the WH must be extraposed along with the CP, as shown in (44), in languages such as German and Dutch that allow the extraposition of *bona fide* relative CPs (Groos & van Riemsdijk 1981).

(44) a. *Der Hans hat [$_{DP}$ was t_i] zurückgegeben [$_{CP}$ er gestohlen hat]$_i$
the John have.3SG what return.PTCP.PST he steal.PTCP.PST have.3SG

b. Der Hans hat t_i zurückgegeben [$_{DP}$ was er gestohlen hat]$_i$
the John have.3SG return.PTCP.PST what he steal.PTCP.PST have.3SG
'John returned what he had stolen.'

According to Cinque (2020: 97, fn. 129), Cecchetto & Donati's (2010) account, like traditional head-accounts such as Bresnan & Grimshaw (1978), cannot explain the ungrammaticality of (44a). However, it seems to me that the pattern in (44a) results straightforwardly from the relabeling algorithm in (41)–(42) as the WH element, in order to relabel, must immediately c-command the relative CP. If the CP is extraposed, as in (44a), the condition allowing the projection of WH's D feature is not met.

Another potential issue undermining Cecchetto & Donati's analysis of FRs is that, in Italian, WHs do not target the same position in FRs and in interrogatives (Benincà 2012; Guglielmo Cinque, p.c.). Relative WHs precede topics, as shown in (45a), while interrogative WHs follow topics, as in (45b). The facts in (45), however, are not necessarily at odds with the labeling

[17] But see Caponigro (2019). As an alternative, an anonymous reviewer suggests that lexically-restricted WHs cannot label FRs because they are D-linked (Pesetsky 1987).

algorithm in (42). The condition in (42) determines a 50–50 chance to get either a FR or an embedded question. The data in (45) suggest that, when a topic occurs, the ambiguity disappears, but this is not per se an argument against (41)–(42).

(45) a. Hanno intervistato **chi** [$_{TOP}$ questi libri] li aveva
have.3PL interview.PTCP.PST who these books them= have.IMPF.3SG
letti. (Italian)
read.PTCP.PST
'They interviewed someone/anybody who had read these books.'

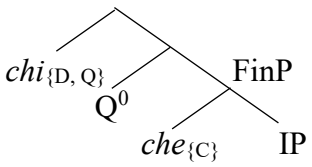
b. Hanno chiesto [$_{TOP}$ questi libri] **chi** li ha spostati.
have.3PL ask.PTCP.PST these books who them= have.3SG move.PTCP.PST
'They asked who moved these books.'

The minimal pair in (45) suggests that the model in (41)–(42) needs some refinement. For instance, one may say that, in order to reproject, the WH must occupy a higher position in the left periphery, as in (45a). Therefore, we should abandon the representation in (42), where the WH and the complementizer are merged in the same position. The same conclusion is corroborated by evidence from sluicing in DFC languages, repeated in (46).

(46) I= me= ga ciamà, ma no so chi ~~che …~~ (Ven.)
They= me= have.3SG call.PTCP.PST, but NEG know.1SG who that …
'Somebody called me, but I don't know who.'

To account for (45) and (46), we can assume, in keeping with previous cartographic analyses, that WHs elements such as *chi* 'who' are not probed by a C head, but by a distinct head, say {Q} (Chomsky 2000). The position of {Q} in the functional spine of indirect interrogatives corresponds to Rizzi & Bocci's (2017) Q_{emb} (Q in embedded contexts; the same position was called Wh in Rizzi 2004). Finite complementizers such as *che* 'that' are merged in a lower projection, corresponding to Rizzi's (1997) FinP:

(47)



The tree marker in (47) is compatible with Cecchetto & Donati's (2010) Probing Algorithm in (41), provided that the head labelling questions is not C, as proposed by Cecchetto & Donati, but Q. The rest of Cecchetto & Donati's theory remains unchanged: questions obtain when the clause is labelled by {Q}; FRs obtain when the clause is labelled by the {D} feature carried by the WH.

This minor modification of Cecchetto & Donati's theory allows us to account for DFC in keeping with Bayer's (2015) hypothesis that WHs may also carry a {C} feature (see also Bayer & Brandner 2008a; 2008b). In German dialects, DFC virtually never occurs with simple WHs such as *was* ('what') and *wer* ('who') (see also Penner and Bader 1995 on Swiss German and Weiß 1998; 2004 on Bavarian), whereas DFC occurs frequently in combination with complex WHs. Bayer concludes that phrasal WHs can combine with a complementizer because, if the WH element belongs to a branching structure (e.g. *what kind of people*), the WH element cannot project {C}. The WH phrase will then move to the specifier of an externally-merged complementizer. Word-size WHs, conversely, can project their {C} feature, as in Cecchetto & Donati's algorithm. Notice that Bayer's (2015) analysis cannot be extended straightforwardly to northern Italo-Romance, where DFC is obligatory and is found across-the-board with simple and complex WHs. Above all, Bayer's analysis is at odd with evidence from Italo-Romance, indicating free relatives as the pivotal structure from which complementizers began to leak into bona fide indirect interrogatives (Munaro 2000[2001]; Garzonio 2007; Polonia 2014; Poletto & Sanfelici 2019).

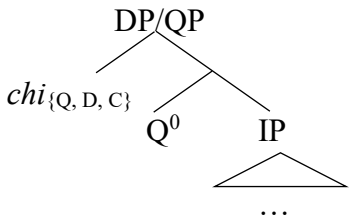
The remainder of this section presents an analysis that brings together two key insights: (a) Bayer's hypothesis that WH elements can function as complementizers, as evidenced by both Germanic and Romance varieties, and (b) Cecchetto & Donati's theory of labeling, which captures the ambiguity between free relatives and indirect questions. The latter explains the (reconstructed) diachronic evolution and the synchronic distribution of the Romance DFC pattern (not of the Germanic one).

The following explanation does not adopt an approach that assimilates complementizers to D-elements. Instead, it builds on the idea that both C and D features are essential to satisfy c-selection requirements: matrix predicates select CPs or DPs. The additional QP in (47) is inert with respect to c-selection, while it arguably relevant for s-selection.

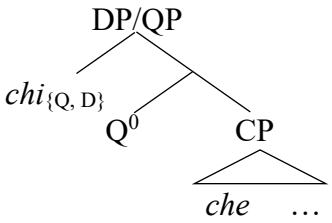
The {C} feature that allows c-selection can be lexicalized by a WH element, as shown in (48a). Conversely, in languages in which WHs do not carry {C}, a CP is required in order to satisfy the c-selection features of the matrix clause, as shown in (48b).

In both cases, the embedded clause can be (re)labeled by the {D} feature carried by the WH, yielding a FR.

(48) a.

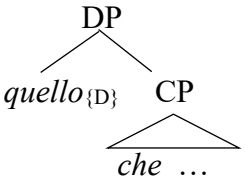


b.



It is worth noting that the syntactic configuration in (48b) yields a word order that is string-identical to Light-Headed Relatives in (49). The similarity was even higher in the dialects where the LH, the WH meaning 'what' and the complementizer were lexicalized by the same formative [ke]. Notice, however, that in (48b) the WH is internally merged and the QP can be s-selected by interrogative predicates, whereas the LH *quello* in (49) is externally merged and does not carry {Q}. Consequently, LHR are not interrogatives (see Section 9) and are usually restricted to FR interpretation, with some exception that, as previously mentioned, might have played a role in the emergence of DFC.

(49)



The analysis just outlined accounts for DFC in embedded clauses, since the occurrence of a {C} feature is required to satisfy c-selection, while DFC in main clauses, as found in languages such as Piedmontese (Section 3), remains unaccounted for. However, recall that DFC in main clauses is either a discourse-related phenomenon (as shown by Parry's longitudinal analysis of Piedmontese and by the comparison with spoken French) or it is a later development, which is arguably related to the loss of subject clitic-verb inversion (Section 3.1). Since the loss of inversion is a necessary, but not sufficient condition for the spreading of DFC in main interrogatives, we can entertain the hypothesis that the internal merge of subject clitics (yielding inversion) and the external merge of a complementizer head are alternative ways of typing main questions by checking the {Q} feature. To test this hypothesis, however, we need to undertake a thorough analysis of inversion across northern Italo-Romance, which is beyond the scope of the present work.

10.1 On the nonexistence of *ever*-Free Relatives in northern Italo-Romance

The analysis proposed so far complies with the so-called Borer-Chomsky Conjecture (Baker 2008), i.e. with the hypothesis that variation results from the features of functional elements. In my opinion, there are two kinds of phenomena that bring empirical support to the claim that variation with respect to DFC results from the feature endowment of WH elements.

First, as previously mentioned, the distribution of WHs across clausal types (Qs vs FRs) is subject to lexical variation. We already mentioned that, in (Italo)Romance, the element corresponding to *what* occurs in embedded questions, but not in FRs. The relevant minimal pair is repeated in (50).

(50) a. No so [$_{Q}$ cossa che te còmpari] (Venetan)
NEG know.1SG what that you= buy.2SG
'I do not know what you buy.'

b. *No magno [$_{FR}$ cossa che te còmpari] (Venetan)
NEG eat.1SG what that you= buy.2SG
'I do not eat what you buy.'

It is worth noting that the Italo-Romance WH *cosa* 'what' was in origin a complex WH: *che cosa*, lit. 'what thing'. Since complex WHs cannot label (Cecchetto & Donati 2010), the ungrammaticality of *cosa* in FRs is no exception from a diachronic standpoint. Synchronically, however, it is unlikely that Italian speakers perceive *cosa* as a complex WH, even if the variant *che cosa* is still accepted. It is more likely that speakers learn that *cosa* lacks the {D} feature allowing its occurrence in FRs. The same microparametric analysis can account for English *who*, which is very marginal or ungrammatical in FRs. Such item-specific gaps in the distribution of WHs support a feature decomposition of WHs like the one previously outlined.

Another (indirect) argument in favor of the analysis proposed here is brought by the morphosyntax of Free Choice Items and other indefinites that derive from WHs. Citko (2004) notices that, in Polish, WHs are involved in the formation of demonstratives and indefinites, with some gaps and idiosyncrasies that, as just mentioned, militate in favour of a feature-based analysis. Likewise, in Romance, WHs may combine with quantificational elements, yielding Free Choice Items (FCI) that have the same distribution as DPs, as shown in (51) (Battye 1989; Cecchetto & Donati 2012). FCIs can introduce FRs, but cannot introduce interrogatives.

(51) a. Parlo con chiunque
I.talk with whoever
'I talk to everybody.'

b. Leggo qualsiasi libro
I.read whatever book
'I will read whatever book.'

c. Vado ovunque
I go wherever
'I go everywhere.'

d. Mangio comunque
I.eat however
'I eat.'

The FCIs in (51) cannot be derived by moving a WH out of a relative clause (as Citko 2004 suggests for Polish, following Kayne 1994). Instead, Cecchetto & Donati (2012: 553) claim that they are bona fide D-elements derived in the Lexicon by "removing" their {Q} feature.

In this respect, it might be relevant that northern Italo-Romance differs from Italian in displaying neither FCIs nor other kinds of indefinites derived from WHs. The comparison between Italian and northern Italo-Romance is illustrated in **Table 6** and **Table 7**, respectively, which show the occurrence of WH elements (and related forms) in four syntactic environments: Questions, Free Relatives, Free Choice Free Relatives, and indefinite DPs such as those in (51), which are not necessarily modified by a relative(like) CP.

Q	**FR**	**FCFR**	**DP**
chi 'who'		chiunque	
cosa 'what'	*	*	
dove 'where'		dovunque	
quale 'which'	*	qualunque	
perché 'why'	*	*	

Table 6: Paradigm of WHs and derived forms in Italian.

Q	**FR**	**FCFR**	**DP**
chi 'who'		*	
cosa 'what'	*	*	
ndo 'where'		*	
che 'which'	*	*	
parché 'why'	*	*	

Table 7: Paradigm of WHs and derived forms in Venetan (northern Italo-Romance)

Although the inventories of WHs are identical in the two languages (see the left column in **Tables 6** and **7**), northern varieties do not exhibit FCI forms derived from WHs. Because of the lack of FCIs, Free Choice FRs do not exist in northern Italian varieties such as Venetan. To translate Free Choice FRs, speakers borrow Italian forms (most examples in the ASIt database are of this kind), produce an ordinary FR or resort to light-headed reltives in which the LH is preceded by a quantifier, as in (52).

(52) **Tot quel che** l'è dit al Mario al= gh'= è miga de
all that that AUX.3 say.PTCP.PST the Mario SCL= it= AUX.3 NEG to
credigh (Semogo, Lomb.)
believe.INF
'Everything Mario said, one should not believe it.'

The data above suggest that the {Q} feature of northern Italian WHs *cannot* be eliminated/ impoverished to derive FCIs. It is tempting to relate this property with DFC, which, according to the analysis just outlined, obtains when WHs cannot lose their {C} feature (Bayer 2015). The possible association between these phenomena will remain unexplored until further data will be collected on *ever*-FRs in Italo-Romance, but it is worth noting that the explanation of both phenomena hinges on the hypothesis that WHs carry a rather complex feature bundle.

11 Conclusion

DFC, i.e. the co-occurrence of WH elements and finite complementizers, was examined in light of quantitative and qualitative data extracted from the Syntactic Atlas of Italy (ASIt).

Previous descriptive generalizations were tested and revised. The list of the empirical findings of this work is repeated below for the ease of exposition:

- The dialects allowing DFC in main clauses are a subset of those exhibiting DFC in embedded clauses. It is likely that DFC emerged first in embedded clauses, although we cannot exclude that a similar, yet independent discourse-related phenomenon emerged in main clauses.
- Subject-Clitic Inversion is a necessary but not sufficient condition for DFC.
- DFC is less frequent with *why*.
- All other conditions being equal, DFC occurs more frequently neither with subject WHs nor with *who*.
- DFC is incompatible with in-situ WHs.
- DFC seems incompatible with clefting, but one should consider that the two phenomena emerged in distinct clausal environments: DFC is a feature of embedded clauses; (obligatory) clefting is found mostly in (subject) main interrogatives.
- DFC is not affected by Mood. Variation with respect to DFC is therefore independent from other phenomena that are normally found in nonveridical contexts such as recomplementation or complementizer deletion; the latter is not allowed in northern varieties.
- If DFC occurs in embedded questions, it will occur in relative and adjunct clauses as well.

From a theoretical standpoint, this article endorsed Bayer's 2015 hypothesis that DFC obtains when WHs do not carry a {C} feature. In languages where WHs carry {C}, WHs licence the embedding of IPs, while in languages in which WHs do not carry {C}, an overt complementizer is requires to fulfill c-selection requirements.

This analysis, coupled with Cecchetto & Donati's (2010) labelling theory, explains why DFC is found in embedded interrogatives and free relatives, including adjunct clauses introduced by WHs (*where, when*), which are better analysed as free relatives.

Free relatives played a pivotal role in the emergence of DFC in embedded clauses, as suggested by the previous literature on the topic (Munaro 2000[2001]; Garzonio 2007; Poletto & Sanfelici 2019). In particular, the occurrence of Light-Headed Relatives under interrogative verbs prompted the emergence of DFC in embedded clauses. The extension of the phenomenon to all types of WHs—excluding *why*-WHs—is explained by supposing that the mechanism of reanalysis led to the loss of the {C} feature carried by WHs.

The spreading of DFC in main clauses, which is typical of Piedmontese dialects, is a later independent phenomenon, which may have been originated from discourse conditions (Parry 2003). In keeping with Poletto & Vanelli 1995; Poletto 2000, I suggested that the external merger of C and the internal merger of subject clitics (yielding inversion) are alternative mechanisms to type main interrogatives in northern Italo-Romance.

Abbreviations

DFC = Doubly-Filled COMP

FCI = Free Choice Item

FR = Free Relative

LHR = Light-Headed Relative

SCI = Subject Clitic Inversion

WH = wh element

Data availability/Supplementary files

The data were extracted from the ASIt database (http://svrims2.dei.unipd.it:8080/asit-maldura/pages/search.jsp last viewed: 30.11.24) and were subsequently annotated manually. The annotated files are freely available for download from the open-access repository Nakala:

- Annex A (main questions): https://nakala.fr/10.34847/nkl.6fbd4096
- Annex B (embedded questions): https://nakala.fr/10.34847/nkl.0e7c4aq7

Ethics and consent

The data presented in this study were collected in compliance with all relevant EU regulations in effect at the time of the fieldwork campaign. The textual data are anonymous and in written form. The research adhered fully to ethical standards, and no ethical concerns or issues were identified throughout the study.

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Competing interests

The author has no competing interests to declare.

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