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**This is a pre-final version**

**Whatever his arguments, *whatever* relatives are not free  
relatives. A reply to Caponigro's reply**

Caterina Donati, Francesca Foppolo, Ingrid Konrad and Carlo Cecchetto

## **Abstract**

This is a reply to Caponigro 2019, which argues that the phrase structure theory proposed by Donati and Cecchetto (2011; 2015) falls short of accounting for the attested patterns of free relative clauses. Caponigro questions the reliability of the data supporting D&C's hypothesis that *ever*-relatives introduced by a phrase (*ever*+NP relatives) should not be assimilated to free relatives. This paper reports the results of 4 controlled experiments in English and Italian and discusses five properties that set apart free relatives from full relatives (occurrence with a complementizer, occurrence with a relative pronoun, infinitival use, absolute use, adverbial use). Crucially, *ever*+NP relatives do not pattern like free relatives in any of these five domains, either in Italian or in English. This clearly shows that *ever*-relatives are not a counterexample against D&C's phrase structure theory. Another potential counterexample, Romanian free relatives, is also discussed. As for the analysis of *ever*+NP relatives, in Italian they are shown to be garden variety headed relatives, while in English they are headed relatives that involve a D to D movement which is responsible for the syntactic formation of the complex determiner *what+ever*.

**Keywords:** free relatives; full relatives; *ever*-relatives; labeling

## **1. Introduction\***

In his reply to Donati and Cecchetto (2011) [from now on D&C], Caponigro (2019) argues that “the version of phrase structure theory proposed in Donati and Cecchetto (2011) falls short of accounting for the attested patterns of free relative clauses in English and cross-linguistically”. In this paper we claim that Caponigro falls short of showing that D&C's version of phrase structure theory is indeed inadequate in the domain under investigation. We will mostly concentrate on the

discussion of *ever*-free relatives, since this is the main target of Caponigro's criticism. Interestingly, Caponigro's criticism is mostly an empirical one: what he contests is the consistency of a number of properties that, according to D&C and according to an old paper they rely on (Battye 1989), *ever*-relatives would display and free relatives would not. Both D&C and Caponigro base their arguments on their own grammaticality judgements or those of a few colleagues on a small number of English and Italian sentences. Although we believe that grammatical judgements constitute reliable and replicable data for syntactic phenomena (cf. Langsford et al. 2018, Sprouse & Almeida 2012 and Sprouse & Almeida 2017), we also think that, if the data are controversial enough to trigger a possible disagreement, some rigorous assessment needs to be made. For this reason, our reply to Caponigro is based on four controlled acceptability rating experiments in English and Italian. We will also briefly discuss some ordinary free relatives in languages that - according to Caponigro - pose a challenge to D&C's approach, in particular Romanian.

Let us summarize the core of the debate between Caponigro and D&C. A crucial ingredient of D&C's version of phrase structure theory is the assumption that lexical items (defined as the output of the morphological component, see Cecchetto and Donati 2015: chapter 1 for a defense of this lexicalist view) have a special property that phrases do not have, namely a lexical item can *always* provide the label when it is merged with another category. This does not apply to a phrase, which can provide a label only if it is the probe of the merging operation it undergoes. This is a very simplified summary of D&C's proposal but it suffices for our purposes in this paper. This assumption concerning lexical items suffices to explain why (1) is acceptable, while (2) is not.

- (1) He reads what she reads.
- (2) \*He reads what book she reads.

In (1), ‘what’ has been internally merged (= moved) and provides the D label by virtue of being a lexical item. The resulting DP is selected by the verb ‘read’ and is interpreted as a free relative. In (2), this is not possible, since ‘what book’ is a phrase, so it cannot transmit its D label. On the other hand, both (3) and (4) are grammatical because the dedicated head in the left periphery (for simplicity, let’s call it C) which is the probe of the merging operation provides the C label. The indirect question reading results, no matter whether the *wh*-element is a phrase (3) or a lexical item (4).

(3) He wonders what book she read.

(4) He wonders what she read.

An obvious challenge to D&C’s approach to phrase structure are *ever*-relatives introduced by a phrase (from now on, we call these *ever*+NP relatives). A relevant example is in (5). Prima facie the phrase ‘whatever book’ is transmitting the D label and turning the structure into a DP (a relative clause).

(5) He reads whatever book she reads.

Since they are aware of this challenge, D&C offer a cluster of arguments that are intended to show that *ever*+NP relatives cannot be treated as free relatives, and hence the nominal status of the structure does not come from the *ever*-phrase at all. If this analysis is viable, *ever*+NP relatives are not a counterexample to D&C’s approach to phrase structure and labels.

Caponigro contests the reliability of the data offered by D&C, as we are going to report in details. However, before doing that, it is worth stressing that the cases that are critical for D&C’s proposal on phrase structure are *ever*+NP relatives like the one in (5), in which a *phrase* seems to

project. *Ever*-relatives of the type in (6), albeit interesting, are not potential counterexamples to D&C's proposal, given that 'whatever' might be analyzed as a *wh*-word.

(6) He reads whatever she reads.

For this reason, in our reply we focus only on *ever*+NP relatives.

The paper is organized as follows. Section 2 summarizes Caponigro's tackle on *ever*+NP relatives and compares it to D&C's. Section 3 and 4 report the results of four experiments on Italian and English aimed at testing two contested properties of *ever*+NP relatives: the possible co-occurrence with a complementizer (Section 3) and with a relative pronoun (Section 4). Sections 5 to 7 discuss other properties of *ever*+NP relatives, such as their incompatibility with the infinitive (Section 5), their absolute (Section 6) and adverbial use (Section 7). The clear conclusion that will emerge is that *ever*+NP relatives cannot be assimilated to free relatives, either in Italian or in English. Section 8 goes back to the analysis of *ever*+NP relatives and argues that D&C's approach can handle the complex pattern reported in the previous sections by assuming that *ever*+NP relatives are headed relative clauses both in English and in Italian. Some systematic differences between English and Italian that have emerged in Sections 2 to 7 are explained by assuming a difference in which *whatever* and *qualunque* are formed. Section 9 turns briefly to Romanian *ever*+NP relatives, another challenge advanced by Caponigro to D&C's account. An analysis that makes them compatible with that account is discussed and empirically motivated. Section 10 concludes the paper.

## **2. Two different views on *ever*+NP relatives (and on free relatives)**

Before entering the core of this paper, it is useful to briefly introduce the two competing views on *ever*+NP relatives proposed by D&C and Caponigro respectively. In order to support their claim

that *ever*+NP relatives must be dissociated from free relatives, D&C, elaborating on Battye (1989), discuss five diagnostics showing that Italian *ever*+NP relatives behave like headed relatives (we will consider these five diagnostics one by one in the next sections). Based on this, D&C propose that an *ever*+NP relative like (7) has the same derivation as the headed relative in (8). This derivation is schematically represented in (9), assuming a raising analysis for headed relative clauses (in fact the core of D&C's paper is devoted to propose such an analysis).

- (7) I giornali criticheranno qualunque scrittore (che) vincerà il premio.  
 the newspapers criticise.fut whichever writer that win.fut the price  
 'The newspapers will criticize whatever writer will win the price'
- (8) I giornali criticheranno ogni scrittore che vincerà il premio.  
 the newspapers criticise.fut every writer that win.fut the price  
 'The newspapers will criticize whatever writer who will win the price'
- (9) I giornali criticheranno [DP **ogni/qualunque** [NP scrittore [CP che vincerà il premio scrittore]]]

In particular, *qualunque* ('whatever'), despite containing a *wh*-morpheme, is analyzed by D&C as an ordinary (non-*wh*) determiner, much like *ogni* ('every').

On the other hand, Caponigro proposes that the optionality of the complementizer in *ever*+NP relatives like (7) results from two different syntactic analyses. He claims that, when the complementizer is present, the *ever*+NP relative must be analyzed as a headed relative (incidentally this means that, for a subset of data, he does adopt D&C's approach, which is his polemical target). However, he also claims that, when the complementizer is absent, the *ever*+NP relative must be analyzed as a free relative. Crucially, in his view, free relatives do not derive from the relabeling movement of a *wh*-element, but are CPs embedded under a silent D head which is responsible for their nominal distribution, as roughly sketched in (10), where the empty

set symbol indicates a null D. Under this account, there is no principled reason to restrict *wh*-movement in free relatives to bare *wh*-elements, since there is no relation between *wh*-movement and the nominal status of free relatives.

(10) I giornali criticheranno [<sub>DP</sub> Ø [<sub>CP</sub> **qualunque scrittore** [<sub>C'</sub> vincerà il premio ~~qualunque scrittore~~]]]

A final premise. D&C propose that *ever*+NP relatives are headed relatives *in Italian*, although they discuss some evidence that suggests that the analysis for Italian can be extended to English. Caponigro, however, does not consider Italian in his reply (“Below I discuss and refute their five arguments by focusing on English, which is the language that D&C rely on in the main body of their article”, pg. 362). In so doing, he criticizes an approach but neglects the specific data that motivated it. In order to advance this discussion, in this reply we discuss evidence, and report experimental data, based on both English and Italian.

### 3. The distribution of the complementizer in *ever*+NP relatives

In order to decide whether *ever*+NP relatives are free relatives, we must look at properties that clearly set free relatives and headed relatives apart. One such property is the occurrence of the complementizer ‘that’, which is possible in headed relatives (cf. 11) but impossible in free relatives (cf. 12).

(11) Tell me the steps that I should consider for my career.

(12) \*Tell me what that I should consider for my career.

D&C provide examples in Italian and in English showing that the complementizer can occur in *ever*+NP relatives but do not go beyond anecdotal examples. Caponigro acknowledges this possibility for English. This is illustrated with examples (13) and (14), which are numbered (29) and (42) in Caponigro's squib (judgments from Caponigro's paper).

(13) You can read [whatever books (that) are on the table].

(14) She can provide [however much financial support is/that's needed].

Caponigro also notices that this possibility does not hold for *ever*-relatives introduced by a bare *wh*-word and gives the following examples (respectively numbered 33, 34 and 35 in his paper, judgments from Caponigro's paper).

(15) I can talk to [whoever is/??that's on the phone].

(16) He can sleep [wherever (\*that) he likes].

(17) I'll do it [however (\*that) you do it].

As we anticipated, in order to explain why the complementizer can be present in *ever*+NP relatives, Caponigro proposes an analysis where the *ever wh*-phrase "behaves like the head of a headed relative clause modifying the nominal within the *wh*-phrase" [pg. 366]. We notice that Caponigro's analysis assume that the *ever*+NP relatives in (13) and (14) are *not* free relatives, despite the fact that he is criticizing D&C when they make the same claim. Furthermore, from Caponigro's point of view, the impossibility of (15-17), involving bare *wh*-elements, remains unaccounted for.

Crucially, the different distribution of the complementizer in *ever*+NP relatives and in *ever*-relatives introduced by a word, which remains mysterious in Caponigro's account, is straightforwardly explained under D&C's theory of phrase structure: in (13) and (14) a free

relative analysis is impossible since the *wh*-element is a phrase. If *ever*+NP relatives are headed relatives, the occurrence of the complementizer is of course expected to be possible. In (15) to (17), on the other hand, the *wh*-category is a lexical item, therefore the structure is that of a free relative. The impossibility of a complementizer is also expected.

Caponigro offers a specific argument against a headed relative analysis for *ever*+NP relatives, based on subject relatives in English: a headed relative clause with a relativized subject like (18) (31 in his numeration) requires the complementizer *that*, unlike the subject *ever*+NP relative in (13) above, in which the complementizer is optional.<sup>1</sup>

(18) You can read [any book \*is/that's on the table].

We will deal with this specific objection in Section 8, after presenting a full analysis of the relevant data.

As for Italian, Caponigro does not explicitly contest the data provided by D&C but he comments that “D&C only provide two examples with (the Italian morpho-syntactic equivalent of) *ever*+NP relatives to substantiate their claim”. As his wording implicitly suggests that D&C may have provided insufficient evidence, we ran two controlled experiments to test D&C’s claim that a complementizer can occur in *ever*+NP relatives. The first experiment is in Italian, the second one is in English.

### ***3.1. Experiment 1: testing the compatibility with ‘che’ in Italian***

The experiment is an acceptability judgment study. We compared sentences like (19a-b), which contain *che* following either a bare *wh*-element (*chi*), or an *ever*-phrase (*qualunque* NP). We also included a control sentence of the type of (19c), a relative clause headed by a quantified NP, which is obligatorily introduced by *che* in Italian (in 19, and later on when we introduce other

experimental items, the absence of a star or of a question mark does not indicate that the sentence is acceptable, since the experiments are designed to tell this).

(19) a. I giornali criticheranno chi che vincerà il premio.

the newspaper criticize.fut who that win.fut the price

‘The newspapers will criticize who will win the price’

b. I giornali criticheranno qualunque scrittore che vincerà il premio.

the newspapers criticise.fut whichever writer that win.fut the price

‘The newspapers will criticize whichever writer will win the price’

c. I giornali criticheranno ogni scrittore che vincerà il premio.

the newspapers criticise.fut every writer that win.fut the price

‘The newspapers will criticize every writer who will win the price’

### 3.1.1 Participants

Eighteen Italian adults participated in this study. They were between 20 and 23 years of age (Mean = 20;7) and they did not participate in any of the other experiments described in this article. All were monolingual Italian university students recruited via the SONA system of the University of Milano - Bicocca. They were tested individually in one of the labs and they received course credits for participation.

### 3.1.2 Materials

Materials included 24 experimental items in the three experimental conditions described above in (19), and 24 filler items, presented in an individually randomized order for each participant after three practice items. Henceforth we refer to conditions (a-c) as *free*, *ever*, and *headed*, respectively. For a technical error, item 8 in condition *ever* did not display properly and thus it was excluded from the analyses. Filler items ranged from being fully grammatical to fully

ungrammatical, and included sequence-of-tense violations, unlicensed negative polarity items and island violations. A full list of the experimental materials is provided in Appendix A.

### 3.1.3 Procedure

Participants were asked to judge each sentence on a 7-point Likert scale in which 1 meant “not natural at all” and 7 meant “perfectly natural”. They were instructed not to judge the content of the sentences, but only to pay attention to their “form”. They were also explicitly told not to rely on grammatical rules learned at school, but simply to judge the sentences on the basis of how natural they sounded to them as speakers of Italian. The experiment was implemented and administered online on Ibx Farm (Drummond, 2013) and lasted approximately 15 minutes.

### 3.1.4 Results

The full results are presented in Figure 1, which shows the means of ratings in each condition, on the 1-7 scale. The *free*-condition received the lowest ratings overall (mean = 1.85, sd = 1.07), and the other two conditions (*ever* and *headed*) received higher ratings (mean = 5.52, sd = .89; mean = 5.86, sd = .71, respectively). Fully grammatical filler sentences received the highest ratings (mean = 6.02, sd = .57), while ungrammatical fillers received very low ratings overall (mean = 2.22, sd = .89), with some variability depending on the type of violation (mean = 1.09, sd = 1.04 for sequence-of-tense violations; mean = 2.22, sd = .79 for unlicensed negative polarity items; mean = 2.54, sd = 1.26 for island violations).

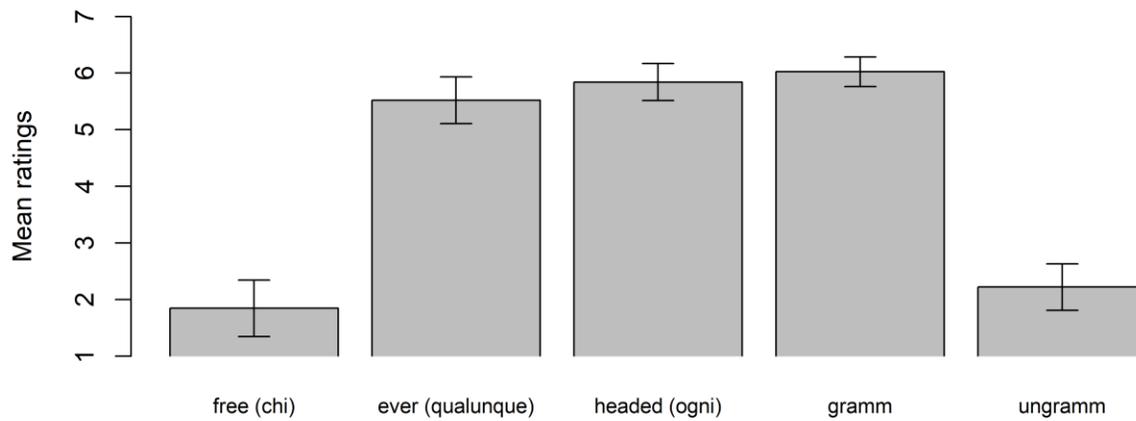


Figure 1. Mean ratings for Italian sentences in Experiment 1. Error bars represent standard error.

By further inspection of the data we observed that our participants used the full range of the scale, also in the filler items, and they do not seem to be bimodally distributed (Figure 2).

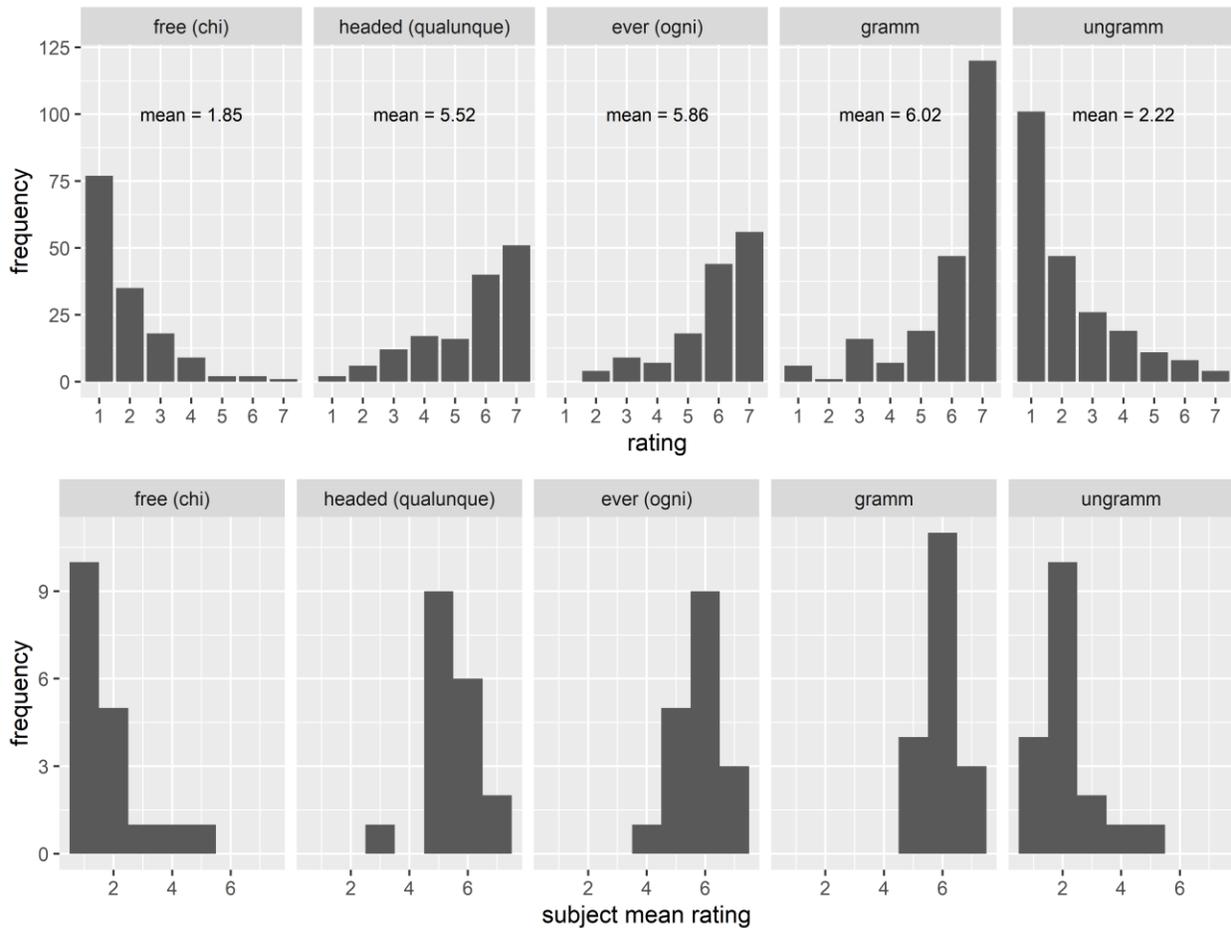


Figure 2. Results of Experiment 1. Top panels show distributions of individual ratings by conditions (including grammatical and ungrammatical fillers); bottom panels show distributions of subject means.

To evaluate the pattern of responses statistically, we implemented a series of mixed - effects ordinal regression model with a logit link function, using the `clmm()` function in the ordinal package (Christensen, 2018). Ordinal regression models are specifically designed to treat ordinal dependent measures, as is the case with the Likert scales used in our study. The maximal models that converged in this case included condition as a fixed effect, subjects and items as random intercepts, and random condition slopes for subjects. In the first model we coded a contrast to allow a direct test of the hypothesis that the ratings in the *free* conditions are lower

than the other two (with contrast weights  $-2/3$ ,  $1/3$ , and  $1/3$  for the three conditions), and a second contrast to test whether the two remaining conditions differ from each other (with contrast weights  $0$ ,  $-1/2$ ,  $1/2$ ). The analyses revealed that the mean ratings of *ever* and *headed* were significantly higher than the ratings of *free* (Est. = 9.4497, SE = 1.5016,  $z = 6.293$ ,  $p < .001$ ) and that the ratings of *ever* and *headed* displayed no significant difference (Est = .3507, SE = .2924,  $z = 1.199$ ,  $p = .23$ ). In a second model we contrasted the ratings in the *free* condition with those in the *ever* and *headed* conditions separately. The results showed a significant difference in both cases (Est = 9.274, SE = 1.476,  $z = 6.285$  and Est = 9.625, SE = 1.541,  $z = 6.245$  respectively, both  $ps < .0001$ ).

We can conclude from these results that Italian *ever*+NP relatives do not behave like free relatives. Moreover, they behave exactly like headed relatives, as far as the compatibility with the complementizer is concerned.

### **3.2. Experiment 2: testing the compatibility with *that* in English**

We compared sentences like (20a-b), which contain *that* following either a bare wh-element (‘what’), or an *ever*-phrase (*whatever* NP). We also included a control sentence of the type of (20c), a relative clauses headed by a quantified NP, which can systematically be introduced by *that*.

- (20) a. The newspapers will criticize what that the government makes.  
b. The newspapers will criticize whatever move that the government makes.  
c. The newspapers will criticize every move that the government makes.

#### **3.2.1 Participants**

Forty-five adult participants volunteered to participate after being recruited via personal acquaintances and a Facebook Group named “Americans in France”, a social network for

American citizens that are planning to move or are living in France. They were between 21 and 76 years of age (mean = 48;8). All except 4 (91%) were native speakers of American English and declared to be born and raised in the US. Of the remaining 4, 2 were UK citizens, 1 came from South Africa and 1 person did not declare her origin. They did not participate in any of the other experiments described in this article.

### 3.2.2 Materials

Materials included 24 experimental items in the three experimental conditions described above in (20), and 16 filler items, presented in an individually randomized order for each participant after three practice items. Henceforth we refer to conditions (a-c) as *free*, *ever*, and *headed*, respectively. Filler items ranged from being fully grammatical to fully ungrammatical, and included sequence-of-tense violations and unlicensed negative polarity items. A full list of the experimental materials is provided in Appendix B.

### 3.2.3 Procedure

The procedure was the same as for Experiment 1. The experiment was implemented and administered online on Ixweb (Drummond, 2013) and lasted approximately 15 minutes.

### 3.2.4 Results

The full results are presented in Figure 3, which shows the means of ratings in each condition, on the 1-7 scale. The *free*-condition received low ratings (mean = 2.02, sd = .99) and the *headed*-condition received the highest ratings overall (mean = 5.41, sd = .99). The *ever*-condition and the fully grammatical filler sentences received mean ratings of 4.40 (sd = 1.27) and 4.98 (sd = 1.02) respectively, suggesting that these structures were overall acceptable, albeit not optimal. Ungrammatical fillers received very low ratings overall (mean = 1.87, sd = .75), with very few variability depending on the type of violation (mean = 1.83, sd = .81 for sequence-of-

tense violations; mean = 1.90, sd = .96 for unlicensed negative polarity items).

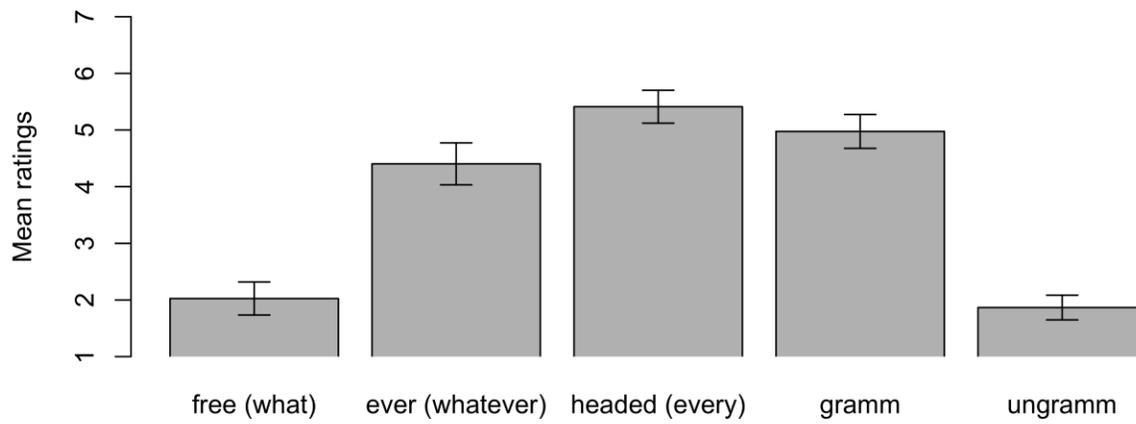


Figure 3. Mean ratings for English sentences in Experiment 2. Error bars represent standard error

As in the Italian experiment, we observed that our participants used the full range of the scale, also in the filler items, and they do not seem to be bimodally distributed (Figure 4).<sup>2</sup>

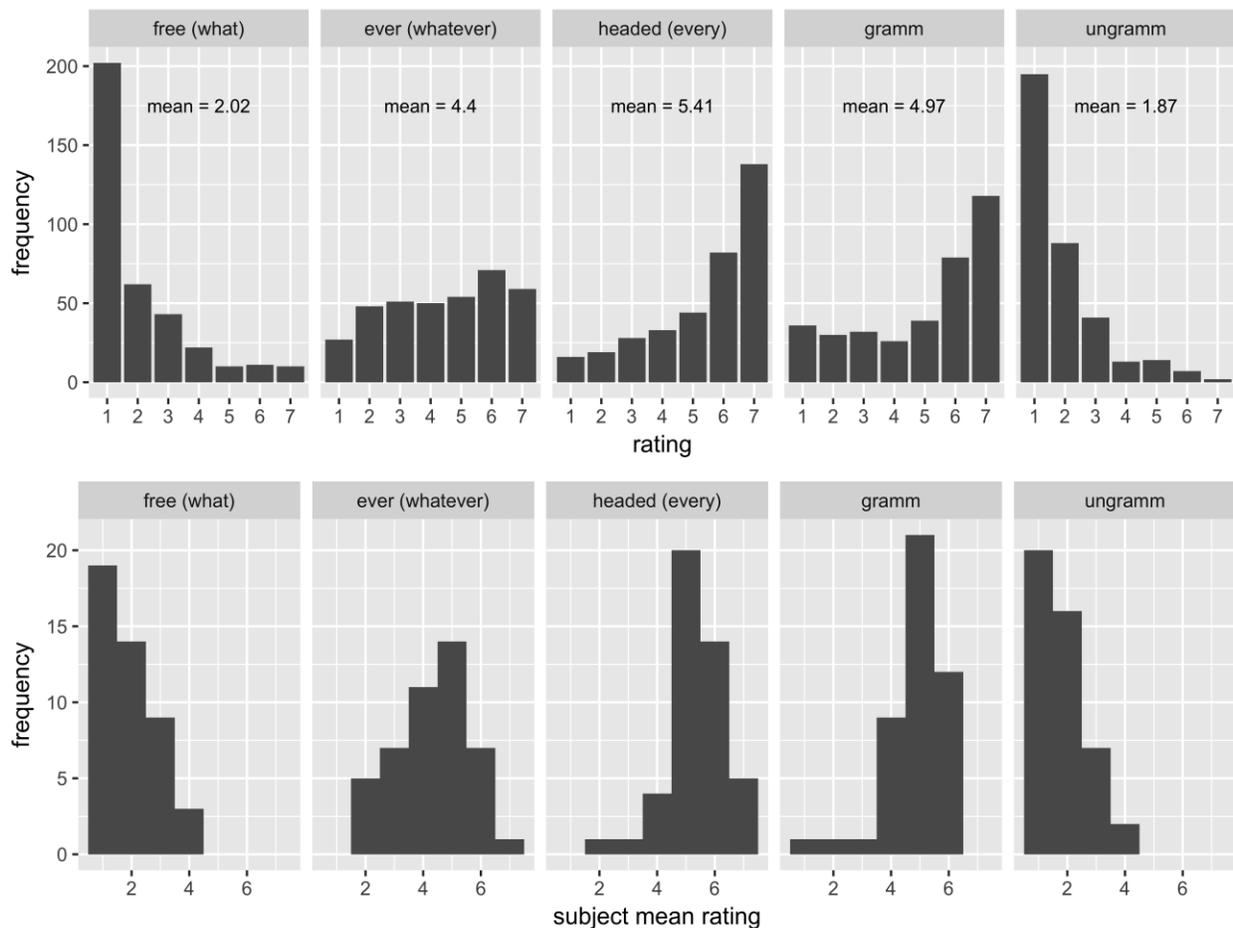


Figure 4. Results of Experiment 2. Top panels show distributions of individual ratings by conditions (including grammatical and ungrammatical fillers); bottom panels show distributions of subject means.

To evaluate the pattern of responses statistically, we implemented a series of mixed-effects ordinal regression as we did for the Italian experiment. The maximal model that converged in this case included condition as a fixed effect, subjects and items as random intercepts, and random condition slopes for items (by including random condition slopes for subjects the model failed to converge). As we did in Experiment 1, we first defined the contrasts to allow a direct test of the hypothesis that the ratings in the *free* conditions are lower than the other two and to test whether the two remaining conditions differ from each other. It turned out that the mean ratings of *ever* and *headed* were significantly higher than ratings of *free* (Est. =

3.4695, SE = .2099,  $z = 16.526$ ,  $p < .001$ ) and that the ratings of *headed* and *ever* also displayed a significant difference (Est = 1.2312, SE = .1935,  $z = 6.363$ ,  $p < .001$ ). In a second model we contrasted the ratings in the *free* condition with those in *ever* and *headed* conditions separately. The results showed a significant difference in both cases (Est = 2.8539, SE = .1961,  $z = 14.55$  and Est = 4.0851, SE = .2616,  $z = 15.61$  respectively, both  $ps < .001$ ).

The English data confirm that *ever*+NP relatives do not behave like free relatives as far as the presence of the complementizer *that* is concerned. However, unlike in Italian, they do not behave like headed relatives either.

### **3.4. Interim conclusion**

In this section we reported two studies that investigate whether the complementizer *che/that* in Italian/English can occur in free relatives, in *ever*+NP relatives and in headed relatives. As for Italian, the results show that *ever*+NP relatives are indistinguishable from headed relatives. In English object relativization structures, free relatives and *ever*+NP relatives cannot be assimilated, although *ever*+NP relatives cannot be fully assimilated to headed relatives either. We go back to this in Section 8, where we propose an explanation for the English pattern.

## **4. The distribution of relative pronouns in *ever*+NP relatives**

If *ever*+NP relatives are not free relatives, as predicted by D&C's theory, another potential point of difference concerns the distribution of relative pronouns. D&C claim that this is the case, since in Italian relative pronouns are possible in *ever*+NP relatives and impossible in free relatives.

Again, Caponigro does not discuss the Italian data presented by D&C. As for English, he concedes that relative pronouns can occur in *ever*+NP relatives when the relative pronoun *which* is preceded by the preposition *for*, while this is not possible in garden variety free relatives: see

(21) and (22), which are numbered respectively (46) and (47) in Caponigro’s squib (the judgements are his).<sup>3</sup>

(21) I’d participate in [whatever competitions **for which** there is a reward].

(22) \*I’d participate in [what **for which** there is a reward].

Needless to say, this pattern closely replicates the one just described regarding the complementizer. As in that case, the pattern is expected given D&C’s approach: whenever the free relative analysis is impossible because the relative is introduced by a phrase (‘whatever competition’ in (21)), the relative pronoun can pop up. Whenever there is a garden variety free relative, no relative pronoun is allowed (cf. 22).

However, Caponigro notices that other relative pronouns cannot occur in *ever*+NP relatives and mentions cases like (23), numbered (48) in his squib.

(23) I’ll talk to [whatever students (\*who) are problematic].

He concludes that “the emerging general picture is clear: *-ever* FRs do not behave like headed relative clauses as far as relative markers are concerned” (p. 366). Although he does not report Italian examples in his squib, he makes a similar claim for Italian: “The morphosyntactic equivalent of *-ever* FRs in Italian, with which D&C exemplify their discussion, exhibits the same pattern (see data and discussion in Caponigro and Fălăuş 2018)” (p. 366).

For this reason, we decided to investigate the distribution of relative pronouns in these relativization constructions both in English and in Italian with two parallel experiments. Given Caponigro’s claim that the acceptability of relative pronouns in *ever*+NP relatives might depend on the type of item, we strived to test as many configurations displaying relative pronouns as possible. Still, we had to make some choices, because not all factors can be considered in a single

experiment. In particular, in English, we had to decide whether building experimental items with preposition stranding ('They will remember every factor which our decision depends on') or experimental items with pied piping ('They will remember every factor on which our decision depends'). We opted for the preposition stranding variant considering the markedness of prepositional pied-piping in English. However, we kept a varied sample because we diversified the type of preposition that is stranded. The following prepositions are equally represented in the experimental items (cf. Appendix D, referred to Experiment 4): *on*, *about*, *with*, *to*.

As preposition stranding is impossible in Italian, all items display pied piping. As in English, we varied the type of preposition. The following prepositions are equally represented in the experimental items (cf. Appendix C, referred to Experiment 3): *a* ('to'), *su* ('on'), *con* ('with') and *di* ('of').

#### **4.1. Experiment 3: testing the compatibility with relative pronouns in Italian**

The experiment is again an acceptability judgment study. We compared sentences like (24a-b), which contain a PP with a relative pronoun following either a bare *wh*-element ('chi'), or an *ever*-phrase (*qualunque NP*). We also included a control sentence of the type of (24c), a relative clause headed by a quantified NP, which can clearly be followed by a pied-piped relative pronoun.

(24) a. I giornali criticheranno chi a cui daranno il premio.

the newspaper criticize.fut who to which give.fut.3pl the prize

'The newspapers will criticize the person to which they will give the prize'

b. I giornali criticheranno qualunque scrittore a cui daranno il premio.

the newspapers criticise.fut whichever writer to which give.fut.3pl the prize

'The newspapers will criticize whichever writer to which they will give the prize'

c. I giornali criticheranno ogni scrittore a cui daranno il premio.

the newspapers criticise.fut every writer to which give.fut.3pl the prize

‘The newspapers will criticize every writer to which they will give the prize’

#### *4.1.1 Participants*

Twenty-five Italian adults participated in this study. They were between 20 and 47 years of age (Mean = 22) and they did not participate in any of the other experiments described in this article. All were university students recruited via the SONA system of the University of Milano - Bicocca. They were tested individually in one of the labs and they received course credits for participation.

#### *4.1.2 Materials*

Materials included 24 experimental items in the three experimental conditions described above in (24), and 24 filler items, presented in an individually randomized order for each participant after three practice items. As for the first experiments, we refer to conditions (a -c) as *free*, *ever*, and *headed*, respectively. As specified above, we varied the type of preposition used in the experimental items. The same filler items used in Experiment 1 were used in Experiment 3. A full list of the experimental materials is provided in Appendix C.

#### *4.1.3 Procedure*

The procedure was the same as for the first experiments. The experiment was implemented and administered on -line on Ixion Farm (Drummond, 2013) and lasted approximately 15 minutes.

#### *4.1.4 Results*

The full pattern of results is presented in Figure 5, which shows the mean ratings in each

condition, on the 1-7 scale. The *free*-condition (*chi a cui*) received very low ratings (mean 2.05,  $sd = .91$ ), while the other two experimental conditions (*ever*, *qualunque* and *headed*, *ogni*) received higher ratings (mean 5.01,  $sd = .93$ ; and 5.26,  $sd = .76$  respectively). Fully grammatical sentences received the highest ratings (mean = 5.80,  $sd = .55$ ), while ungrammatical sentences received very low ratings (mean = 2.05,  $sd = .53$ ), with some variability depending on the type of violation (mean = 1.68,  $sd = .59$  for sequence-of-tense violations; mean = 2.12,  $sd = .90$  for unlicensed negative polarity items; mean = 2.35,  $sd = .83$  for island violations).

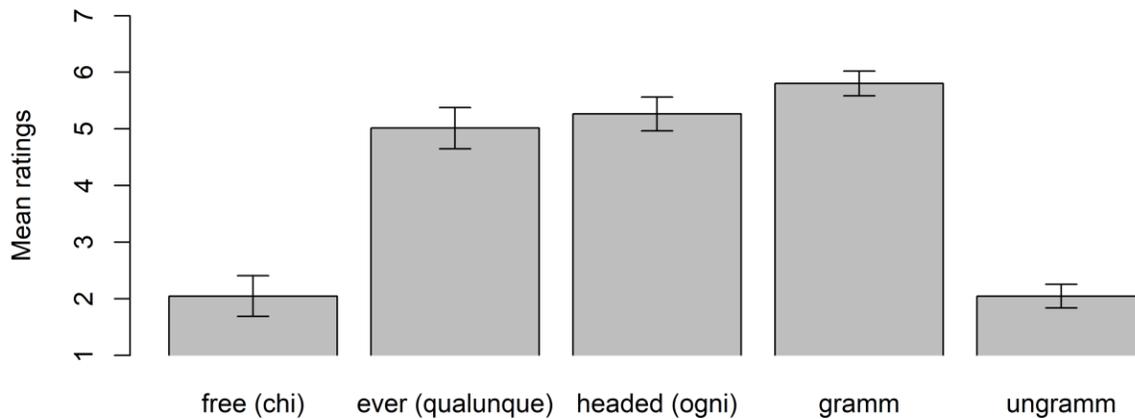


Figure 5. Mean ratings for Italian sentences in Experiment 3. Error bars represent standard error.

By further inspection of the data we observed that our participants used the full range of the scale, also in the filler items, and they do not seem to be bimodally distributed (Figure 6).

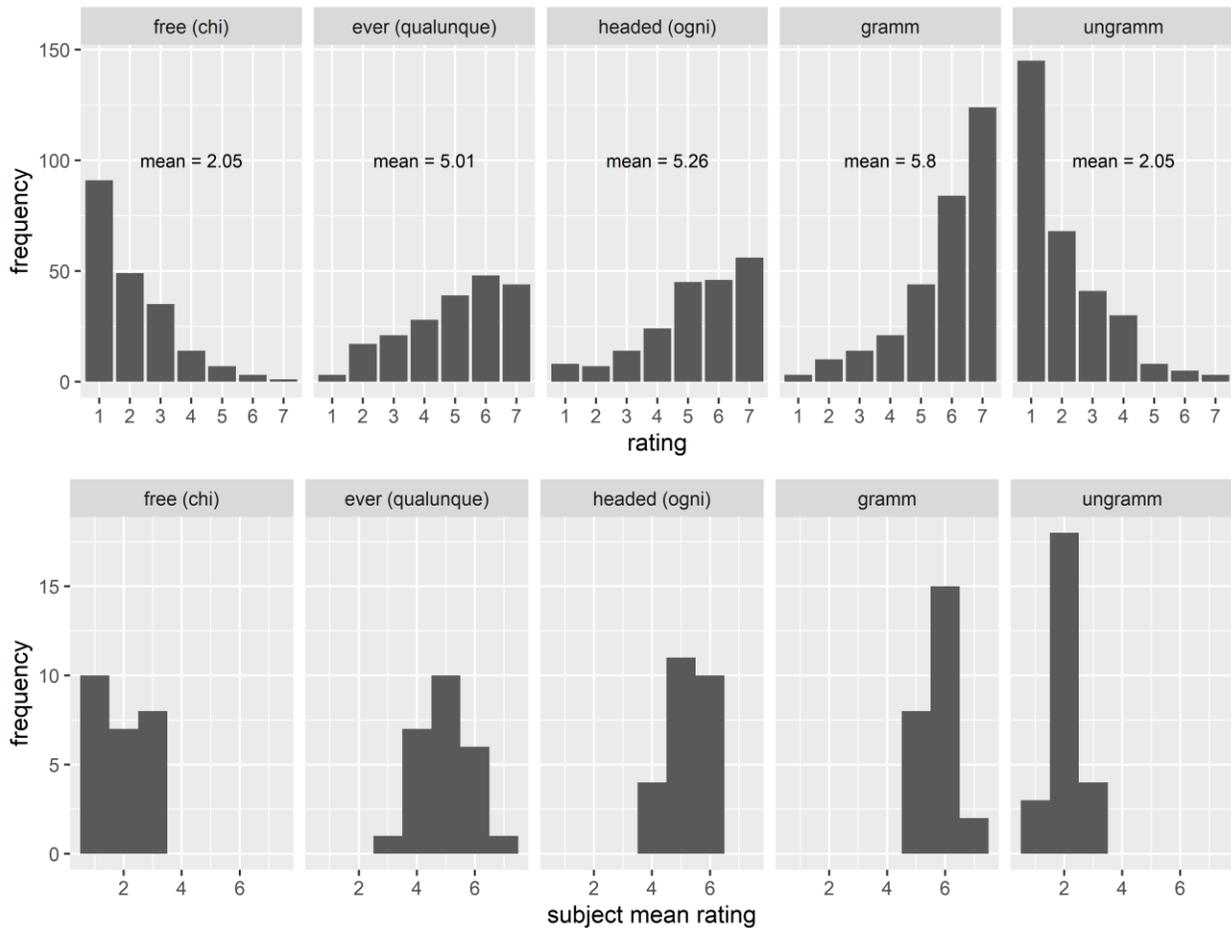


Figure 6. Results of Experiment 3. Top panels show distributions of individual ratings by conditions (including grammatical and ungrammatical fillers); bottom panels show distributions of subject means.

As done in the other studies, we implemented two mixed-effects ordinal regression models with a logit link function, using the `clmm()` function in the `ordinal` package. The maximal models that converged in this case included condition as a fixed effect, subjects and items as random intercepts, and random condition slopes for subjects. As before, we coded a first contrast to test the hypothesis that the ratings in the *free* conditions are lower than the other two and a second contrast to test whether the two remaining conditions differ from each other. The analyses revealed that the mean ratings of *ever* and *headed* were significantly higher than the ratings of *free* (Est. = 4.7141, SE = .5635,  $z = 8.365$ ,  $p < .001$ ) and that the ratings of *ever* and *headed*

displayed no significant difference (Est = .3100, SE = .2018,  $z = 1.536$ ,  $p = .125$ ). In a second model we contrasted the ratings in the *free* condition with those in *ever* and *headed* conditions separately. The results showed a significant difference in both cases (Est = 4.5591, SE = .5767,  $z = 7.905$  and Est = 4.8691, SE = .5682,  $z = 8.569$ , respectively, both  $ps < .0001$ ).

We can conclude from these results that Italian *ever+NP* relatives behave like headed relatives as far as the compatibility with the relative pronouns. We describe the corresponding experiment in English in the next section.

#### **4.2 Experiment 4: testing the compatibility with relative pronouns in English**

We compared sentences like (25a-b), which contain a relative pronoun following either a bare wh-element (*what*), or an *ever*-phrase (*whatever NP*). We also included a control sentence of the type of (25c), a relative clause headed by a quantified NP.

- (25) a. They will remember what which our decision depends on.  
b. They will remember whatever factor which our decision depends on.  
c. They will remember every factor which our decision depends on.

As we already pointed out, the experimental items here are different from those in the Italian experiment, in that the preposition licensing the pronoun is systematically stranded, not pied-piped (preposition stranding is impossible in Italian). As stated above, we opted for this variant of the test considering the markedness of prepositional pied-piping in English.

##### **4.2.1 Participants**

Fifty-three adult participants volunteered to participate after being recruited as described for Experiment 2. They were between 22 and 75 years of age (mean = 47;3). They did not participate in any of the other experiments described in this article. All except 4 (93%) were

native speakers of American English and declared to be born or raised in the US. Of the remaining 4, 2 were Canadian citizens, 1 came from Kenya and 1 from UK. One participant was excluded because the mean of ratings he attributed to ungrammatical fillers was higher than the mean of ratings he attributed to grammatical fillers.

#### 4.2.2 Materials

Materials included 24 experimental items in the three experimental conditions described above in (25), and the same 16 filler items used in Experiment 2, presented in an individually randomized order for each participant after three practice items. Henceforth we refer to conditions (a-c) as *free*, *ever*, and *headed*, respectively.

#### 4.2.3 Procedure

The procedure was the same as for Experiment 2. The experiment was implemented and administered on-line on Ibex Farm (Drummond, 2013) and lasted approximately 15 minutes. A full list of the experimental materials is provided in Appendix D.

#### 4.2.4 Results

The full results are presented in Figure 7, which shows the means of ratings in each condition, on the 1-7 scale. The *free*-condition received the lowest ratings (mean = 1.81, sd = .89), while the *headed*-condition received higher ratings (mean = 3.88, sd = 1.34). The *ever*-condition received quite low ratings in this case (mean = 2.74, sd = 1.21). As in the previous Experiment 2, fully grammatical filler sentences received quite high ratings (mean = 4.93, sd = 1.17), while ungrammatical fillers received low ratings overall (mean = 2.03, sd = 1.02), with very little variability depending on the type of violation (mean = 2.05, sd = 1.13 for sequence-of-tense violations; mean = 2.00, sd = 1.05 for unlicensed negative polarity items).

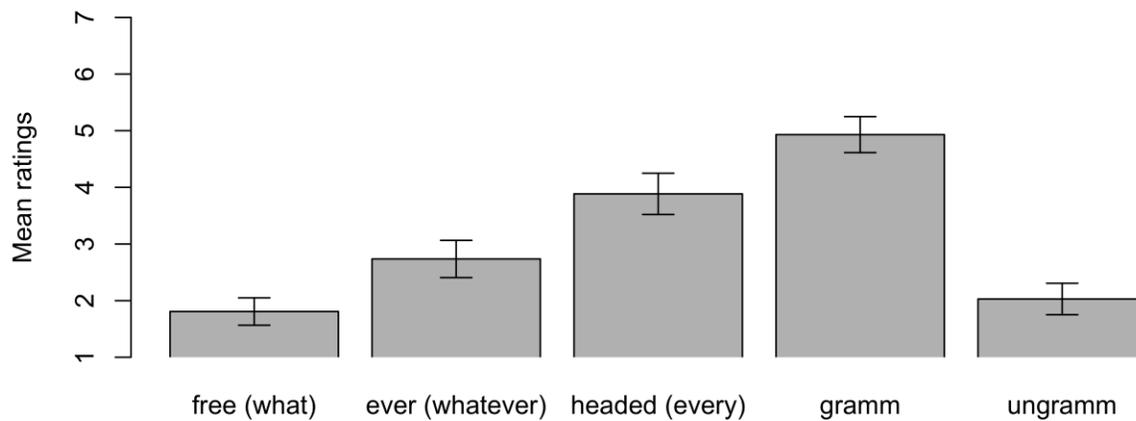


Figure 7. Mean ratings for English sentences in Experiment 4. Error bars represent standard error.

As for the other experiments, we observed that our participants used the full range of the scale, also in the filler items, and they do not seem to be bimodally distributed (Figure 8).

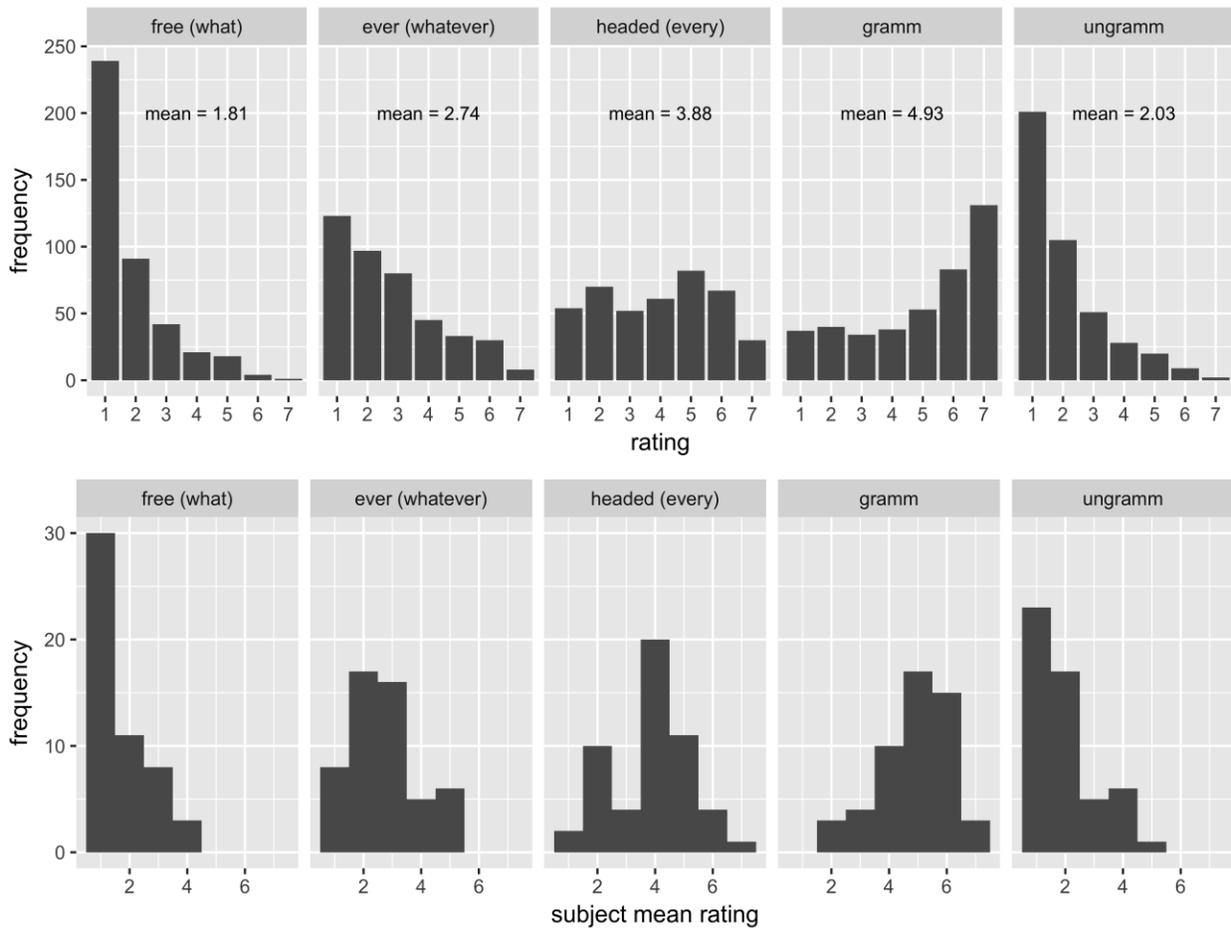


Figure 8. Results of Experiment 4. Top panels show distributions of individual ratings by conditions (including grammatical and ungrammatical fillers); bottom panels show distributions of subject means.

To evaluate the pattern of responses statistically, we implemented a series of mixed-effects ordinal regression model with a logit link function, as we did for the other experiments. As for Experiment 2, the maximal model that converged included condition as a fixed effect, subjects and items as random intercepts, and random condition slopes for items. As before, we first coded a contrast to allow a direct test of the hypothesis that ratings in the *free* conditions are lower than the other two and a second contrast to test whether the two remaining conditions differ from each other. It turned out that the mean ratings of *ever* and *headed* were significantly higher than ratings of *free* (Est. = 2.5148, SE = 0.1679,  $z = 14.977$ ,  $p < .001$ ) and that the ratings of

*headed* was significantly higher than the ratings of *ever* (Est = 1.5467, SE = .1611,  $z = 9.601$ ,  $p < .001$ ). In a second model we contrasted the ratings in the *free* condition with those in *ever* and *headed* conditions separately, and a significant difference was revealed in both cases (Est = 1.7414, SE = .1742,  $z = 9.998$  and Est = 3.2881, SE = .1976,  $z = 16.644$  respectively, both  $ps < .001$ ).

With respect to Experiment 2 involving the complementizer *that*, the acceptability rates in this study are in general lower (even headed *which*-relatives receive a rate which is below 4). Nonetheless, we still find a significant difference between the *free* condition and the *ever*+NP condition, as well as between the *ever* and *headed* conditions.

#### **4.4. Interim conclusion**

In this section we reported two studies that investigate whether a relative pronoun in Italian/English can occur in free relatives, in *ever*+NP relatives and in headed relatives. As for Italian, the results fully confirm the pattern originally reported by D&C, *pace* Caponigro's claim to the contrary: *ever*+NP relatives and headed relatives pattern alike.

As for English, the pattern is more complex. First, the grading in the three conditions is lower than in the corresponding Italian sentences. We interpret this as evidence that English speakers do not particularly like sentences with relative pronouns, at least with preposition stranding, i.e. when a *that*-relative variant is available. Still, the difference among the three conditions, which is the focus of our research, is statistically significant and cannot be neglected: free relatives receive a very low grade, headed relatives are much more acceptable, while *ever*+NP relatives have an intermediate status. This confirms that *ever*+NP relatives cannot be assimilated to free relatives. However, while *ever*+NP relatives appear to be undistinguishable from headed relatives in Italian, this is not the case in English. This is an important point that needs to be discussed carefully. We go back to it in Section 8, where we offer an explanation for the intermediate status of *ever*+NP relatives in English but not in Italian.

## 5. Infinitival *ever*+NP relatives

Let us continue exploring whether *ever*+NP *relatives* can be assimilated to free relatives or not. The new test involves infinitival complements. D&C observe that free relatives in Italian can appear in infinitival complements (cf. 26) while *ever*+NP relatives cannot (cf. 27). As headed relatives cannot appear in infinitival complements either (cf. 28), this is another case where, according to D&C, *ever*+NP relatives and headed relatives pattern alike and contrast with free relatives.

(26) Cerco chi mandare al mio posto.

I-search who to-send in my place

(27) \*Cerco qualunque studente mandare al mio posto.

I-search whichever student to-send in my place

(28) \*Cerco ogni studente mandare al mio posto.

search.1SG every student send.INF to-the my place

This is the point in his squib in which Caponigro discusses Italian data, since he claims “English does not have anything similar”. He makes the following statement: “the fact that *ever*-FRs cannot be infinitival does not make them closer to headed relative clauses. Headed relative clauses can be infinitival in Italian, as shown in (59) [29 below]”.

(29) Cerco [qualche studente **da** mandare al mio posto].

search.1SG some student COMP send.INF to-the my place

‘I am looking for some students to send in my place.’

The problem with Caponigro’s statement is that (29), which is indeed grammatical, contains a manipulation that makes it quite different from (26), (27) and (28). This is the introduction of the complementizer *da*, indicated in bold in (29). By doing that, Caponigro is conflating two different constructions: infinitival clauses that are not introduced by a complementizer and infinitival clauses introduced by *da*. That we are facing two different constructions is confirmed by the fact that they display the opposite pattern in the domain under investigation here. We illustrated the occurrence of free relatives, *ever*+NP relatives and headed relatives in infinitival clauses with no complementizer in (26) to (29). In (30) to (32) we illustrate their occurrence in infinitival clauses introduced by *da*.

(30) \*Chi da promuovere a tutti costi risulta antipatico.

who COMP pass.INF at all costs looks nasty

(31) Qualunque studente da promuovere a tutti costi risulta antipatico.

Whichever student COMP pass.INF at all costs looks nasty

‘Whichever student that you are forced to pass becomes unpleasant’

(32) Ogni studente da promuovere a tutti costi risulta antipatico.

every student COMP pass.INF at all cost looks nasty

‘Every student that you are forced to pass becomes unpleasant’

We summarize the pattern of free relatives, *ever*+NP relatives and headed relatives in the following table:

	INFINITIVAL CLAUSES INTRODUCED BY NO COMPLEMENTIZER	INFINITIVAL CLAUSES INTRODUCED BY THE COMPLEMENTIZER <i>da</i>
Free relatives	√	*
<i>Ever</i> +NP relatives	*	√
Headed relatives	*	√

Let us take stock: Caponigro argues that *ever*+NP relatives and headed relatives do not have the same distribution in infinitival complements, but his conclusion is based on a mistake, namely the lack of distinction between two very different types of infinitival clauses. Once this distinction is made, it appears that the distribution of the different types of relative clauses has mirror properties in the two infinitival constructions. Crucially, the dividing line is once again between free relatives on one side and headed and *ever*+NP relatives on the other side<sup>4</sup>.

## 6. Absolute use of *ever*+NPs

Another property sets apart free relatives and *ever*+NP relatives, namely the possibility of using the *wh*-element alone, i.e. outside a relative clause environment: this absolute use, which is of course possible for non-*wh* DPs, is possible for *ever*+NP phrases but not for other *wh*-phrases. We illustrate this contrast in English (33), and Italian (34).

- (33) a. I want to go back to coaching at whatever level.  
b. \*I want to go back to coaching at what level.  
c. I want to go back to coach at any/that level.

- (34) a. Per mesi ho rifiutato qualunque impegno.  
For months (I) have rejected whatever engagement  
'I have been rejecting all type of engagement since months'
- b. \*Per mesi ho rifiutato quale impegno.  
For months (I) have rejected what engagement
- c. Per mesi ho rifiutato ogni/questo impegno.

For months (I) have rejected every/this engagement

‘I have been rejecting every/this engagement since months’

The interest of this contrast is that ‘whatever level’ in (33a) seems to act as the ordinary (quantificational) DP in (33c). Although modification by a relative clause is possible (as with any other quantificational DPs), it is not required. This absolute use strongly suggests that ‘whatever’ is an ordinary (non-*wh*) determiner, since it does not need to occur in a *wh*-dependency. Of course, the absolute use is impossible for a genuine *wh*-element (see 33b), which by definition requires a *wh*-dependency. The same asymmetry appears to hold in Italian, as illustrated in (34).

Caponigro does not contest these data. He argues however that diachronically in English (and in Italian) the absolute use of *wh*-ever expressions is attested much later than their use in *ever*+NP relatives (see Caponigro and Fălăuş 2018 for examples and references). This order of appearance, he claims, contradicts C&D’s assumptions that *wh*-ever expressions are simple determiners. We do not think this is true. As we will fully clarify in Section 8, where we detail our analysis of *ever*+NP relatives both in Italian and in English, we believe that *wh*-ever elements are complex words that are formed by a D-like element (*ever*) and a *wh*-phrase. This conflation typically happens in a relative clause, therefore D&C’s approach is consistent with the diachronic findings reported by Caponigro.

In order to check the productivity of the absolute use of *wh*-ever+NP in today’s English and Italian, we consulted two corpora in the two languages.

For English we consulted the COCA (Corpus of Contemporary American English; new version released March 2020), restricting the search on newspapers to have a better comparison with the Italian corpus. We looked at the first 200 occurrences of *whatever*+NP phrases in a 1000 hits sample of *whatever* occurrences, and calculated the proportion of absolute and relative uses.

For Italian, we consulted the *La Repubblica*-Corpus, including all the articles printed on this daily national newspaper from 1985 to 2000 (Baroni et al. 2004). Again, we only looked at the first 200 occurrences, this time of the phrase *qualunque*+NP. Table 1 summarizes the results.

	Absolute use	Use in <i>ever</i> +NP relatives
English <i>whatever</i> NP	28	171
Italian <i>qualunque</i> NP	113 <sup>5</sup>	70

Table 1: proportion of absolute and relative use of *ever*+NP expressions in the first 200 hits of two corpora of English and Italian.

Table 1 shows an interesting difference between English and Italian as for the relative frequency of the absolute use. In Italian, *qualunque*+NP is used more frequently as a simple DP (absolute use) than in relatives. In English, it is the opposite: *whatever*+NP is massively used in *ever*+NP relatives, but more seldom in a simple DP. If we give a closer look at the 28 occurrences of absolute use of *whatever*+NP in our corpus fragment, we see that 20 of them are tokens of the same item, namely the expression *for whatever reason* might be considered a frozen expression, at least to a certain extent. So in English, the absolute use appears to be neither frequent nor entirely productive. Quite the opposite holds for Italian.

This difference is not surprising at the light of the results of the experiments we have just discussed: in the contexts where they can be compared (compatibility with the complementizer, compatibility with a relative pronoun, and now absolute use) Italian and English systematically show a partially different picture. While in both languages *ever*+NP relatives cannot be assimilated to free relatives, Italian *ever*+NP relatives fully pattern with headed relatives, hence they are compatible with a complementizer (Exp. 1) and with a relative pronoun (Exp. 3), and freely allow an absolute use of their head. The status of English *ever*+NP relatives is partially different: they are only *marginally* compatible with the complementizer (Exp. 2) and a relative

pronoun (Exp. 4), and they only *marginally* allow an absolute use of whatever+NP. In section 8 we shall propose a principled account of this difference.

### 7. Adverbial use of *ever*+NP relatives

A final piece of evidence that Batty and D&C use to substantiate their claim that *ever*+NP relatives cannot be assimilated to free relatives is that *ever*+NP relatives seem to have an adverbial use (more precisely, a concessive use), while ordinary free relatives cannot. This is illustrated by the contrast in (35)-(36).

(35) [Whatever arrangements parents make], the school asks more.

(36) \*[What parents make], the school asks more.

Caponigro claims that headed relatives do not allow an adverbial use either: (37).

(37) \*[The arrangements parents make], the school asks more.

He oversees however an important exception to this generalization: headed relatives introduced by *any* (arguably the ones that are semantically closer to *ever*+NP relatives) can have a concessive meaning. An example is given in (38).

(38) Any note you can reach, I can go higher.

What is the factor which is responsible for the fact that headed relatives and *ever*+NP relatives are compatible with a concessive meaning, while free relatives are not?

Izvorski (2000) builds her semantic analysis on the observation that the adverbial use of *whatever* relatives introduces a set of alternatives, for example ‘whatever he does, he will win’ involves considering the alternatives ‘If John does  $x_1$ , he will win’, ‘If John does  $x_2$ , he will win’, ‘If John does  $x_3$ , he will win’ for any relevant  $x$ . Based on her semantic analysis, Izvorski suggests that only CPs can have the propositional meaning required by the concessive interpretation. According to her, free relatives introduced by bare *wh*-word cannot have a propositional meaning because they are inherent DPs, namely they denote either individuals (entities of type  $e$ ) or are generalized quantifiers (entities of type  $\langle\langle e,t \rangle, e \rangle$ ).

If Izvorski is right, the question why *ever*+NP relatives (and some headed relatives, like 38) can have a concessive use while free relatives cannot can be rephrased as follows: why are free relatives, and only them, inherent DPs, while headed relatives and *ever*+NP relatives are not? Each theory of free relatives can give a different answer to this question. We observe that D&C are well equipped to do that. According to them, free relatives of the ‘what I like’ type are the result of relabeling by the *wh*-word that undergoes *wh*-movement, so by definition they *must* be DPs. Importantly, on the other hand, headed relatives (including *ever*+NP relatives) involve a step in which the structure is a CP (the D label does not come from *wh*-movement, but from a determiner externally merged to this CP, cf. D&C for the full derivation). Therefore, they can assume that with “relatives” with a concessive meaning, the derivation stops at the CP step. The determiner introducing the alternative semantics (i.e. *any*) is internally merged in the base position and moves to Spec,CP together with its restriction in a raising derivation.<sup>6</sup> This cannot happen in free relatives because their derivation involves only the step that relabels the structure into a DP.

Under the alternative approach endorsed by Caponigro, on the other hand, both headed relatives and free relatives involve an external D. Therefore, his approach requires the assumption that this D layer can be absent in headed relatives, but not in free relatives. This appears to be a stipulation that lacks independent motivation.

To conclude: even abstracting away from the details of the analysis of the syntax-semantics interface of concessive *whatever* relatives, it is clear that the dividing line is where D&C's account predicts that it should be: headed relatives and *ever*+NP relatives on one side and free relatives on the other side.

## 8. What is the right analysis for *ever*+NP relatives?

On the basis of the discussion so far, we can go back to the two different views on *ever*+NP relatives introduced in Section 2, namely D&C's and Caponigro's.

As for Italian, the original account proposed by D&C schematically illustrated in (39) appears to be fully supported, *pace* Caponigro. In a nutshell, D&C argue that sentences like (39) are headed relatives and that 'whatever' is an external determiner. Since its *wh*-feature has been de-activated, 'whatever' is generated in its surface position. So the reason why *ever*+NP relatives behave like headed relatives is simple and straightforward: they *are* headed relatives.

- (39) Leggo [DP qualunque [NP [N libro] [IP tu scrivi ~~libro~~]]]  
read.1sing whatever book you write.subj  
'I read whatever book you write'

The picture is somewhat different in English. The four diagnostics that can be applied to English (compatibility with *that*, compatibility with a relative pronoun, adverbial use and absolute use) all confirm that *ever*+NP relatives are not free relatives. However, these diagnostics also show that *ever*+NP relatives cannot be fully assimilated to headed relatives either.

Confronted with this pattern, there are at least two ways to go. The first is Caponigro's proposal that there are two types of *ever*+NP relatives in English. Remember that, according to him, some are headed relatives (as proposed by Battye and D&C), while others are free relatives.

The way Caponigro distinguishes between the two types is the presence of the complementizer (“When *that* is present, the bracketed clause is a headed relative clause... When *that* is absent, the bracketed string is a true *-ever* free relative”, pg. 366).

(40) I read [whatever book you write].                      *Free relative according to Caponigro*

(41) I read [whatever book that you write].                      *Headed relative according to Caponigro*

A problem with this account is that it is not parsimonious. As complementizer deletion is an independently attested property of object headed relatives in English, if (41) is given a headed relative analysis, (40) can be analyzed for free as its counterpart with complementizer deletion. But if a structural analysis as a headed relative is already available for (40), attributing to it a second analysis in term of free relatives is theoretically costly. In addition, Caponigro’s approach does not seem to offer any account for why *ever*+NP relatives are structurally ambiguous in English, but not in Italian. This alone warrants the search of a more parsimonious approach in which all *ever*+NP relatives are given the very same analysis as headed relatives. We sketch this account here.

Let us assume that while in Italian the counterpart of *whatever* is a fully lexicalized determiner, *whatever* in English is a syntactically derived determiner. More specifically, *whatever* results from a movement operation by which the *wh*-element *what* incorporates into a higher quantifying head *ever*. A piece of evidence in favor of this analysis comes from Appalachian English (cf. Johnson 2015). In this variety of American English, *ever* precedes *what*, as shown in the following attested example<sup>7</sup>.

(42) You can ride **everwhat** three-wheeler you want. Besides, it's goin' to be what it's goin' be.

A natural analysis for (42) is that *ever* heads a DP, and *what three-wheeler* sits in the specifier of

its complement CP. Crucially, in the structure illustrated in (43), the nominal label is given by the determiner itself, not by the *wh*-phrase.

- (43) [DP ever [CP [what three-wheeler] [IP you want ~~what three-wheeler~~]]]  
*Appalachian English*

The order observed in Standard English can be analyzed as the effect of a D to D movement conflating *what* and *ever*. As a result of this syntactic movement, *whatever* can act as a determiner itself. This derivation is schematized in (44).

- (44) [DP  $\uparrow$  ever [CP [what three-wheeler] [IP you want ~~what three-wheeler~~]]]  
*Standard English*

According to this analysis, at the end of the day *ever*+NP relatives are headed relatives but in standard English they involve an additional step (the D to D movement) with respect to ordinary headed relatives. Crucially, this analysis has the potential to explain a pattern observed several times in this paper, namely the fact that, although *ever*+NP relatives are not free relatives, in English they cannot be fully assimilated to headed relatives. Let us see why by reviewing each relevant case.

### 8.1 Back to the absolute use

Let us start from the different productivity of the absolute use that we observed between Italian and English in Section 6. Remember that a search in two comparable corpora in the two languages shows that *qualunque*+NP is used more frequently as a simple DP than in relatives, while in English, it is the opposite: *whatever*+NP is massively used in relatives, but only seldom as a simple DP (and mostly in a frozen expression). This asymmetry is easily explained under our

approach. In Italian *qualunque* is a lexical item that shares the same distribution of any quantificational determiner: it can head a simple DP (absolute use) or a complex DP including a relative clause. In English, *whatever* is the result of a syntactic D to D movement, which conflates a determiner (*ever*) and a *wh*-element. As such, it is expected to occur only in relative clauses. The fact that *whatever*+NP can marginally be used absolutely but mostly in the frozen expression *for whatever reason*, suggests that a process of lexicalization similar to what led to *qualunque* in Italian might be at play synchronically, but it is probably at an early stage.

## 8.2 Back to the co-occurrence with the complementizer

Let us turn now to *ever*+NP relatives with a complementizer, which are somewhat marginal in English (see Experiment 2 for details). It is uncontroversial that English grammar incorporates a form of the Doubly-Filled Comp Filter which excludes the co-occurrence of a *wh*-phrase and a complementizer. This explains why (45) is judged ungrammatical in Experiment 2.

(45) \* The newspapers will criticize what that the government makes.

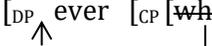
We propose that the Doubly-Filled Comp Filter explanation allows us to account for the intermediate status of (46), observed in Experiment 2.

(46) The newspapers will criticize whatever move that the government makes

Given the analysis inspired by Appalachian English, in (46) *derivationally* the Doubly-Filled Comp has been violated, since there is a step of the derivation in which the *wh*-phrase co-occurs with the complementizer. This step is illustrated in in (46').

(46') The newspapers will criticize [<sub>DP</sub> ever [<sub>CP</sub> [**what move**] **that** the government makes ~~what move~~]

However, the Doubly-Filled Comp violating configuration is destroyed in the very last step of the derivation, which involves D to D movement of the *wh*-word out of Spec,CP. This step is illustrated in in (46'').

(46'') [<sub>DP</sub> ever [<sub>CP</sub> [~~what~~ move that the government makes ~~what move~~]]  


Stated differently, *ever*+NP relatives in English are headed relatives but with a twist, namely the external determiner *whatever* is syntactically derived. *Ever*+NP relatives in Italian are headed relatives with no twist. Importantly, there is another difference between Italian and English *ever*+NP relatives, namely in English they are derived as *wh*-relatives (hence triggering a weak Doubly Filled COMP effect). In Italian, they are derived as *that*-relatives, because *qualunque* is a lexical determiner in which the *wh*-feature is not syntactically active and does not play any role in the derivation. As a result, no Doubly Filled COMP effect whatsoever is observed in Italian (see Experiment 1 for details).

This analysis of *ever*+NP relatives, which assigns to them the derivation of a *wh*-relative has an interesting consequence, namely it makes Caponigro's argument based on subject relatives irrelevant. Remember that his point is that, while subject *ever*+NP relatives can be complementizer-less (cf. 47), this is impossible for canonical headed relatives (cf. 48).

(47) You can read [whatever book is on the table].

(48) \*You can read [any book is on the table].

He interprets this difference as an argument against the assimilation of *ever*+NP relatives and headed relatives. However, if (47) is a *wh*-relative, it should be compared with the grammatical *wh* relative in (49), not with the ungrammatical *that*-relative in (48). So, the grammaticality of subject *ever*+NP relatives without a complementizer is expected.

(49) You can read [the book which is on the table].

### 8.3 Back to the co-occurrence with a relative pronoun

Let us move now to Experiment 4, concerning the compatibility with a relative pronoun. Remember that once again English *ever*+NP relatives do not pattern with free relatives but cannot be fully assimilated to headed relatives either.

Let us start from explaining why free relatives are not compatible with a relative pronoun. It is very natural to explain the ungrammaticality of (50) by an extension of the Doubly-Filled Comp Filter, which would also exclude the co-occurrence of a *wh*-phrase and of a relative pronoun.

(50) \*They will remember what which our decision depends on

The Doubly-Filled Comp Filter explanation allows us to account for the intermediate status of (51) by applying the same rationale applied above to explain the marginal compatibility with the complementizer: (51) derivationally involves a violation of the Doubly-Filled Comp Filter but the offending configuration is destroyed by the D to D movement forming *whatever*, hence its marginal status.

(51) The newspapers will criticize whatever action which the government has given importance to

#### 8.4 Back to concessive use

The last diagnostics to be discussed is the adverbial/concessive use of *ever*+NP. We have concluded, following Izvorski (2000), that concessive *ever*+NP structures are CPs, not DPs. One might ask how this can be reconciled with the analysis we just proposed for English *ever*+NP relatives, since we assumed that *ever* is externally merged as a determiner as in Appalachian English (52') and *what* undergoes D to D movement (52'')

(52) Whatever move the government makes (the opposition will protest).

(52') [DP *ever* [CP [ what move the government makes ~~what move~~]

(52'') [DP ~~what~~-*ever* [CP [ ~~what~~ move the government makes ~~what move~~]  
↑

A strict version of this analysis would predict the adverbial use to be impossible, as the final structure is a DP. Interestingly, this is what happens in Algonchian English according to Johnson (2015): the structure in (52') has only a DP distribution and cannot have the concessive use discussed by Izvorski. As for standard English, we propose that in addition to the determiner use illustrated in (52), *ever* can also have an adverbial use. In its adverbial function, *ever* can adjoin to the relative CP, as illustrated in (53), without changing its label into a DP.

(53) Whatever move the government makes (will infuriate the opposition).

(53') [CP *ever* [CP [ what move the government makes ~~what move~~]

(53'') [CP ~~what~~-*ever* [CP [ ~~what~~ move the government makes ~~what move~~]  
↑

In this section we have proposed an analysis according to which *ever*+NP relatives undergo the derivation of headed relatives in both English and Italian. However, while *whatever* in English is a syntactically derived *wh*-determiner (hence its derivation involves a temporary violation of the Doubly Filled COMP Filter), *qualunque* in Italian is a lexical non *wh*-determiner.

## 8. Free relatives in Romanian

Finally, Caponigro discusses what we believe to be a serious challenge to D&C's approach to free relatives, namely the pattern of Romanian, where free relatives introduced by a phrase are possible, as illustrated in (54), which is numbered (18) in Caponigro's paper.

- (54) Am citit ce carte/ce cărți ai citit și tu .  
have.1SG read what book/what books have.2SG read also you  
'I read what book(s) you read.'

Romanian is an isolated case in Romance in this respect and we propose that this is related to another property that sets Romanian apart, namely the fact that an overt demonstrative can precede the *wh*-word in free relatives.

- (55) Imi place ceea ce ai cumparat  
1SG.DAT like.PRS. DEM what AUX.PRS.2SG buy-PST.PTCP  
Lit. I like the what you bought (Dobrovie Sorin & Giurgea 2013: 638)

It is only natural to analyze a case like (54) just like the case in (55): in both, a demonstrative is externally merged, and the *wh*-element moves at the edge of the relative clause. The D-label that is necessary for relativization does not come from the relabeling movement of the *wh*-category, but from this demonstrative. Therefore no restriction on bare *wh*-element is observed: even if a phrase moves, there is a source for the D label, namely the external determiner.

Notice that this amounts to say that for Romanian (but crucially only for Romanian) one should assume a structure which corresponds to the analysis of free relatives proposed by

Caponigro (among many others): a CP involving a *wh*-movement embedded under an externally merged D which is silent. Therefore, one might ask what prevents an extension of this analysis to other languages. Our answer goes as follows. First, the postulation of a null category should be posited only if there is evidence (even indirect evidence) that it is present. Romanian does provide this type of evidence, while other languages do not. Second, if we assumed that a null determiner universally introduces free relatives, we would completely lose the robust cross-linguistic generalization that genuine free relatives are introduced only by bare-*wh* phrases.

Caponigro puts Romanian in the same boat with those varieties of American English that allow sentences as the following (10 in Caponigro's numeration).

(56) He read what books she read

However, assimilating English and Romanian in this is not accurate, since in sentences like (56) the *wh*-phrase must be plural, unlike what happens in the Romanian cases illustrated in (54). The fact that the noun must be plural suggests that the *wh*-phrase has a special status in (56). More generally, in the few cases reported in the literature where free relatives are introduced by a *wh*-phrase in English, the restriction of the *wh*-determiner must be either a plural noun, as in (56), or a mass noun as in (57):

(57) I gave him what money I had (Huddleston & Pullum 2002: 1068)

*Wh*-phrases in other syntactic contexts can be singular, of course. Theories that allow free relatives to be introduced by a *wh*-phrase face the challenge to explain this weird restriction on plurality/mass. Another challenge that these theories face is explaining why (alleged) free relatives introduced by a *wh*-phrase are exceedingly rare cross-linguistically. Caponigro mentions Romanian (for which we proposed an account) and Melchor Ocampo Mixtec, an interesting, if

little studied, language. Although more research is needed, we conjecture that for speakers who accept free relatives introduced like (56) and (57), ‘what’ has a double life as a non-*wh* determiner selecting plural/mass noun.<sup>8</sup>

## 10. Conclusion

In this paper, we focused on five main properties that set apart *ever*+NP relatives from free relatives:

- i. co-occurrence with a complementizer,
- ii. co-occurrence with a relative pronoun,
- iii. occurrence in infinitival clauses,
- iv. absolute use
- v. adverbial/concessive use.

Crucially, *ever*+NP relatives do not pattern with free relatives in any of these five domains, either in Italian or in English. This clearly shows that *ever*+NP relatives are not a counterexample against D&C’s theory of labeling, which predicts free relatives introduced by a *wh*-phrase not to exist. *Ever*+NP relatives are indistinguishable from headed relatives in Italian, so we take them to be headed relatives. As for English, we proposed that *ever*+NP relatives are a special kind of headed *wh*-relatives which involve D to D movement of *what* to *ever*.

We conclude by stressing a point on which Caponigro is right: “D&C’s proposal does not leave room for any gradiency or cross-linguistic variation: true free relatives introduced by *wh*-phrases are not expected to exist in any form in any language because they would violate general and non-gradient properties of grammar like the operation of labeling after internal merging.” In fact, assuming D&C’s account, there is no much space to play around. We take this to be a

positive feature of our approach and we welcome any attempt to show it wrong. However, Caponigro did not succeed in doing that.

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<sup>1</sup> The generalization that a complementizer cannot be omitted in headed subject relatives is challenged by the Yale Grammatical Diversity Project English in North America (cf. <https://ygdp.yale.edu/>), where subject relatives without a relative pronoun or the complementizer are attested in many varieties of English. In a previous version of this manuscript we included an experiment that compared grammatical judgments about triples like the following:

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(i) You can read any article is triggering much controversy

(ii) You can read whatever article is triggering much controversy

(iii) You can read the article is triggering much controversy

We do not report this experiment because it is affected by a possible confounding, namely sentences like (iii) may suffer from a global syntactic ambiguity that would render the sentence acceptable even for speakers who lack subject contact relatives (the sentence might in principle be interpreted as meaning “you can read that the article is triggering controversy”). However, we made the experiment available at: <http://www.llf.cnrs.fr/fr/node/6760>.

<sup>2</sup> A reviewer, building on Dillon et al. (2017), notes that the absence of multiple modes in the response distribution may not be sufficient to exclude a bimodal response behavior. This reviewer asks whether the intermediate status of *ever*-relatives in English, even in absence of clear evidence for bimodality, may be an indication that participants assign two competing syntactic analyses to them. However, it is not clear what these analyses are. Certainly, they cannot be those proposed by Caponigro, as he claims that the presence of the complementizer distinguishes between the two syntactic analyses that he assigns to *ever*-relatives. Since our experimental stimuli all contain the complementizer, they should be assigned a single analysis under Caponigro’s account.

<sup>3</sup> Regarding sentence (21), Caponigro says in footnote 14 that D&C “present this sentence as fully acceptable; my consultants find it significantly degraded”. However, Caponigro’s claim is factually wrong, because this sentence (or its Italian counterpart) was never discussed in any publication by Cecchetto and Donati. Although in this footnote Caponigro says that (21) is degraded, in the text he does not put any star or question mark on it and he contrasts it with (22). We conclude that, according to Caponigro, whatever the absolute status of (21) is, there is a sharp contrast with (22).

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<sup>4</sup> An anonymous reviewer suggested that we could have run an experiment to check this distribution in infinitival environments, as we did for the two other properties distinguishing headed relatives and free relatives. However, infinitival relatives in Italian have been the object of a number of studies (Napoli 1976; Cinque & Benincà 2018 a.o.) and the pattern presented here is even acknowledged in reference grammars (Cinque 1988).

<sup>5</sup> The remaining cases are postnominal uses: 1 in total in the English corpus (*Baharak canal is redone, its cost of over \$1 million will have no benefit whatever*); 17 in the Italian one. Notice these postnominal distribution can be seen as a special case of absolute use, and thus goes in the same direction of the data schematized in Table 1: a much wider absolute use in Italian, as opposed to English.

<sup>6</sup> In Section 8 we go back to concessive relatives after discussing the details of the derivation of *ever*+NP structure in English.

<sup>7</sup> (42) is taken from a pulp fiction book (Mullenax, *Vile Things: Extreme Deviations of Horror*, Come Press 2009: p. 16). Other examples are discussed in Johnson (2015).

<sup>8</sup> D&C propose that sentences like (56) should be assimilated to *-ever* free relatives but this is questionable, as Caponigro shows by applying Baker's (1995) and Dayal's (1997) *namely* test.