

Remarks and Replies

Remarks on Free Relatives and Matching Phenomena

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The syntax of free relatives has attracted considerable attention recently, particularly in relation to so-called matching phenomena. In these remarks, we will reconsider a variety of proposals to account for matching and nonmatching properties, and how they relate to the structure of free relatives in several languages and to the theory of grammar in general. In section 1, we discuss two competing analyses for free relatives proposed for Modern English and Dutch. Section 2 deals with the distribution of matching and nonmatching free relatives in Catalan. Section 3 extends the analysis proposed for Catalan to Old English; section 4 considers how the analysis for Dutch outlined in section 1 relates to two varieties of the language that differ in grammaticality markings, and discusses Modern French as well.

In general, we propose that if a language has obligatorily matching free relatives in subcategorized position and may have nonmatching free relatives in nonsubcategorized position, the preferred analysis for these constructions places the *wh*-phrase in *Comp*—a node that must be accessible to the matrix clause.

1. The Two Analyses for Free Relatives

A free relative is *matching* (Grimshaw (1977)) if the *wh*-phrase that is its initial constituent is of the same category as the constituent that immediately dominates the clause: *I know* _{NP}[_{NP}[*what*] *you know*]. There have been two competing hypotheses for the analysis of these relatives: the *Comp proposal* and the *Head proposal*. In the first analysis, the *wh*-phrase is located in the *Comp* position, and the antecedent is empty (for example, see Kuroda (1968), Quicoli (1972), Hirschbühler (1976), Groos and Van Riemsdijk (1979)): *I know* _{NP}[_{NP}[*e*] _{S'}[_{Comp}[*what*] _S[*you know*]]]. We will refer to this structure as

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a *headless free relative*. In the second analysis, the *wh*-phrase is in the head or antecedent position, followed by either S or S' (Hirschbühler (1976), Grimshaw (1977), Bresnan and Grimshaw (1978)): *I know* _{NP}[_{NP}[*what*] _S[*you know*]]. We will term this type of structure a *headed free relative*, and use *head* as equivalent to *antecedent*. As demonstrated by Bresnan and Grimshaw (1978), if the *wh*-phrase is the antecedent, the matching effect follows under the \bar{X} -theory, because the head of a phrase must be of the same category as the phrase itself; thus, the obligatory matching found in Modern English constitutes one of the main arguments for their analysis. However, Groos and Van Riemsdijk (1979) show that matching is also required in some languages where it appears that the *wh*-phrase is in Comp. In Dutch (and German), a headed restrictive relative that functions as a direct object must have its antecedent preceding the matrix verb, but the relative clause itself may be next to the antecedent, as in (1a), or appear extraposed after the main verb, as in (1b). The whole NP cannot be extraposed, (1c) (with the reservation that such sentences are stylistically marked in some styles). The Dutch examples come from Groos and Van Riemsdijk (1979).

- (1) a. Ik heb de vis die over was opgegeten.
 I have the fish that left was eaten
 'I have eaten the fish that was left.'
 b. Ik heb de vis opgegeten die over was.
 I have the fish eaten that left was
 c. *Ik heb opgegeten de vis die over was.
 I have eaten the fish that left was

Free relatives may appear extraposed after the matrix verb, as in (2).

- (2) Ik heb opgegeten wat (er) over was.
 I have eaten what (there) left was
 'I have eaten what was left.'

Groos and Van Riemsdijk conclude that the clause following *opgegeten* in (2) is an S' with *wat* in Comp, and that it cannot be considered an NP. Dutch is matching, as indicated by (3b) and (3c).

- (3) a. Ken jij de jongen met wie zij flirt?
 know you the boy with who she flirts
 'Do you know the boy with whom she flirts?'
 b. *Ken jij met wie zij flirts?
 know you with who she flirts
 c. Ken jij wie zij net kuste?
 know you who she just kissed

Kennen 'know' subcategorizes a direct object NP, as seen in (3a). A free relative with an NP *wh*-phrase in initial position is grammatical as object of *ken* in (3c), but a free relative with an initial PP is not, (3b). The conclusion must be that the matching effect

is not essentially connected to the Head Analysis. Groos and Van Riemsdijk propose that the theory of grammar allow for the Comp position to be accessible to the subcategorization requirements of the matrix verb, when the antecedent of the relative is empty. Thus, in (3c) the *wh*-phrase in Comp satisfies the subcategorization frame of *kennen*, and in (3b) it does not. In brief, obligatory matching effects do not automatically imply that free relatives are headed in a given language. Catalan presents an interesting configuration of matching and nonmatching free relatives that (1) provides evidence for the hypothesis that the theory of grammar must allow the Comp position to be accessible in the sense just mentioned, (2) gives independent support for the existence of both headed and headless free relatives in a language, and (3) further motivates the proposal that matching effects are not necessarily found in connection with headed free relatives, as we show in the following section. Moreover, as we show in section 4, Groos and Van Riemsdijk's proposals for Dutch face certain problems, and it is Catalan that best supports accessibility to Comp.

2. Catalan and Matching Phenomena

2.1. We first recapitulate the analysis of Catalan free relatives proposed in Hirschbühler and Rivero (1981a,b)). There are four kinds of restrictive relatives that begin with *wh*-phrases in Catalan; not all of them have the same stylistic status ((4c), for instance, is literary). The difference in mood between *diu* (indicative) and *digui* (subjunctive) does not affect the argument.

- (4) a. Qui diu això ment.
 who says this lies
 b. El qui diu això ment.
 the who says this lies
 c. Qui que digui això ment.
 who that says this lies
 d. Qualsevol que digui això ment.
 whoever that says this lies

In headed relatives, the Comp position must be filled by only one element, and it cannot be empty; either the complementizer *que* 'that' or a relative phrase must occupy the Comp, as in (5a) and (5b), respectively, but both items cannot be present or absent at once (see Hirschbühler and Rivero (1981a) for a detailed analysis).

- (5) a. L'home que diu això ment.
 the man that says this lies
 b. L'home amb qui has parlat ment.
 the man with who you-have talked lies

We assume that free relatives are identical in their properties to headed relatives. Under that hypothesis, the presence of the complementizer *que* in (4c,d) indicates that the *wh*-phrase occupies the antecedent position; otherwise the Comp would be doubly filled.

In (4a,b) *qui* and the compound relative *el qui* are in Comp; otherwise this node would be empty.¹ In brief, the simplest analysis of free relatives places the *wh*-phrase in Comp if there is no complementizer, making (4a,b) headless free relatives as in (6a), and locates the *wh*-phrase in antecedent position if it is followed by the complementizer, assigning the status of headed free relatives to (4c,d), as in (6b). Additional arguments for this proposal will be provided by matching phenomena.

- (6) a. $NP[NP[e] S'[Comp[\left\{ \begin{array}{l} qui \\ el\ qui \end{array} \right\}] s[diu aix\delta]]]$
 b. $NP[NP[\left\{ \begin{array}{l} qui \\ qualsevol \end{array} \right\}]] S'[Comp[que] s[digui aix\delta]]]$

2.2. The hypothesis that the Comp is accessible to the subcategorization requirements of the matrix verb when the antecedent of a free relative is empty predicts that headless free relatives such as those in (6a) will be obligatorily matching when in subcategorized position, but in nonsubcategorized position they may be nonmatching, if there are no additional principles to prevent this situation. Headed relatives like (6b) should always be “matching” since the element in the head position (i.e. the NP) must be of the same category as the phrasal node that dominates it (Bresnan and Grimshaw (1978, 337–338)) in the \bar{X} -theory. This is exactly the situation found in Catalan with regard to the distribution of headless and headed free relatives. Consider (7) and (8). *Invitar* subcategorizes for an NP object and *qui* is an NP in (7a), a well-formed sentence. In (8a) the PP *amb qui* does not fulfill the subcategorization requirements of *invitar*, and the sentence is ungrammatical.

- (7) a. *Invito qui has invitat.*
 I-invite who you-have invited
 b. *Invito* $NP[NP[e] S'[Comp[NP[qui] s[has invitat]]]$
 (8) a. **Invito amb qui t'en anirás.*
 I-invite with who you-will leave
 b. *Invito* $NP[NP[e] S'[Comp[PP[amb qui] s[t'en anirás]]]$

¹ In Hirschbühler and Rivero (1981a), we argue for an analysis of (4b) that views *el qui* as a compound relative in Comp, as in (6a), and reject an alternative that views *el* as antecedent and *qui* as being in Comp, as in (i):

- (i) $NP[NP[el] S'[Comp[qui_i] s[t_i diu aix\delta]]]$

One reason to prefer (6a) over (i) is that deletion of NP-relatives in Comp is obligatory in standard Catalan in cases where the antecedent is clearly filled:

- (ii) a. **l'home qui parla*
 the man who talks
 b. *l'home que parla*
 the man that talks

In (iib) the *que* form is the complementizer, and the NP-relative *qui* must delete, in view of the deviance of (iia). If *el* was in antecedent position in (4b), *qui* could not remain in Comp. Also, in cases of PP relativization, the P precedes *el qui* and never intervenes between *el* and *qui*, as mentioned by Calveras (1930).

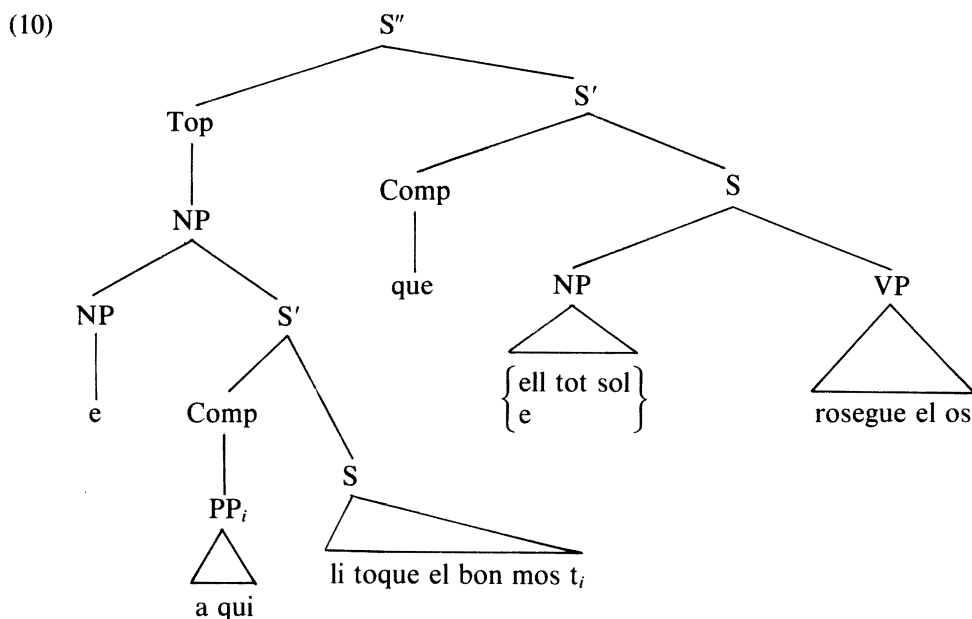
Consider examples (9a,b).

- (9) a. A qui li toque el bon mos, que rosegue el os.²
to who him befalls the good bite that he-chew the bone

Calveras (1930, 177)

- b. A qui li toque el bon mos, que ell tot sol rosegue el os.
to who him befalls the good bite, that he all alone chew the bone
'The one who gets the good bite let him also chew the bone all by himself.'

Adopting current analyses (Hirschbühler (1975), Chomsky (1977), Rivero (1980), among others), we assume that (9a) and (9b) are left-dislocated structures, with the Top generated in the base, and that they do not involve movement. Tree (10) is the structure for (9a,b), and the difference pertains to the lexically filled or empty subject. Catalan, like Italian and Spanish, allows null subjects.



The free relative is in the Top, a nonsubcategorized position, and need not be matching (i.e. the category of the *wh*-phrase need not be of the same type as the one that immediately dominates the relative S': $NP[S' [PP[a\ qui \ . \ .]]]$). We see two reasons to assume that the phrase in Top position in (10) is an NP. First, in cases where the analysis is unproblematic, only NPs are allowed, whether modified by a relative clause or not, as in (11a,b):

² For additional examples, see Calveras (1930, 203–212, 236). The properties we discuss are not restricted to proverbs, and nonmatching free relatives are not archaic in flavor.

- (11) a. *A l'home, que $\left\{ \begin{array}{c} \text{ell tot sol} \\ \phi \end{array} \right\}$ rosegue el os.

'To the man, that he all alone chew the bone.'

- b. *A l'home $\left\{ \begin{array}{c} \text{a qui} \\ \text{que} \end{array} \right\}$ li toque el bon mos, que $\left\{ \begin{array}{c} \text{ell tot sol} \\ \phi \end{array} \right\}$ rosegue el os.

'To the man who gets the good bite, let him also chew the bone all by himself.'

- c. L'home $\left\{ \begin{array}{c} \text{a qui} \\ \text{que} \end{array} \right\}$ li toque el bon mos, que $\left\{ \begin{array}{c} \text{ell tot sol} \\ \phi \end{array} \right\}$ rosegue el os.

'The man who gets the good bite, let him also chew the bone all by himself.'

Second, in this type of left-dislocation, the Top phrase can be interpreted as a referential expression, and in (10) it denotes an individual or a set of individuals, a use associated with NPs and not PPs. See also footnote 5 in relation to Old English.

It could be proposed at this point that the Catalan relatives in (9) and the one in (7) are of different types. In the matching case the *wh*-phrase is in the head position, and in the nonmatching case it is in Comp. This is the analysis adopted by Allen (1980) for a similar situation in Old English, a proposal that we discuss in the next section. This solution leaves unexplained the distribution of nonmatching relatives, since it arbitrarily requires that headless free relatives be generated only in nonsubcategorized positions.

If the *wh*-phrase is in Comp in both (7) and (9), and this node is accessible to subcategorization, the observed distribution of matching and nonmatching free relatives follows, together with the absence of the complementizer *que* in these cases.

Let us turn now to headed free relatives, as in (6). These can never be nonmatching in nonsubcategorized position, as seen in (12a):

- (12) a. *A qualsevol $\left\{ \begin{array}{c} \text{a qui} \\ \text{que} \end{array} \right\}$ li toque el bon mos, que $\left\{ \begin{array}{c} \text{ell tot sol} \\ e \end{array} \right\}$

to whoever that him befall the good bite, that he alone
rosegue el os.
chew the bone

- b. Qualsevol $\left\{ \begin{array}{c} \text{a qui} \\ \text{que} \end{array} \right\}$ li toque el bon mos, que $\left\{ \begin{array}{c} \text{ell tot sol} \\ \phi \end{array} \right\}$ rosegue el os.

'Whoever gets the good bite, let him also chew the bone all by himself.'

Example (12a) is parallel to (11b), and (12b) is to be compared with (11c). The *qualsevol a qui* sequence in (12b) clearly requires *qualsevol* in the antecedent position and *Wh* Movement of *a qui* to the Comp. The parallelism of the *qualsevol* free relatives followed by the complementizer *que* or a *wh*-phrase and the headed relatives with a non-*wh* antecedent in (11) provides further support for the proposal that free relatives with the complementizer *que* are headed.

In brief, there are two types of free relatives in Catalan, headed constructions that

must always be matching, and headless structures that are matching in positions where the Comp is accessible to subcategorization. There are three reasons behind the headless analysis for free relatives without the complementizer *que*: (1) the parallel grammar of headed and headless relatives under such an assumption, (2) the existence of nonmatching free relatives whose *wh*-phrase is clearly in Comp in nonsubcategorized position, and (3) the fact that relatives having a *wh*-phrase in antecedent position cannot be “non-matching” in that same environment. The subject position is not subcategorized, and we will consider it once we examine the situation in Old English.

3. Old English and Matching Phenomena

Allen (1977; 1980) has shown that Old English has four types of free relatives. Two of them are headed, with either a demonstrative head, as in (13), or a *wh*-phrase, as in (14). The Old English examples are from Allen (1980), unless otherwise indicated.

- (13) a. *ðæt is, ðæt man for-gife, ðam ðe wið hine gegylte*
 that is that one forgive him-dat. that against him sins
 ‘that is, that one₂ forgive him₁ who sins against him₂’

Ver. III.170

- b. $NP[NP[\text{ðam}]] S'[[[\text{ðe}]] S[\text{wið hine gegylte}]]$

- (14) a. *Fæder and moder moton heora bearn to swa hwylcum cræfte*
 father and mother must their child to so which-dat. occupation
gedon swa him leofost byð.
 put as him most pleasing is
 ‘Father and mother must put their child to whatever occupation is most pleasing to him.’

Alc.P.XIX.54

- b. $NP[\text{swa hwylcum cræfte}] \dots S'[_{Comp}[\text{swa}] S[\text{him leofost byð}]]$

In (14) the relative clause is separated from the antecedent. Because these relatives are headed, they must be matching in all positions, much like the Catalan headed free relatives in (4c,d) and (6) in the previous section. Later on, we return to the distribution of these two types. The last two types of Old English free relatives are headless, with a demonstrative, (15), or a *wh*-phrase, (16), in Comp.

- (15) a. *And ðone ðe ðu nu hæfst, nis se ðin wer.*
 and him-acc. that thou now hast not-is he-nom. your husband
 ‘And him who you now have, he is not your husband.’

Alc.P.V.37

- b. $NP[NP[e]] S'[_{Comp}[NP[\text{ðone}]] \text{ðe}] S[\text{ðu nu hæfst}]]^3$

³ The bracketing in (15b) is a reformulation of Allen’s analysis (1977, 111–112), so as to make comparison with Catalan easier. Allen’s analysis does not have an empty antecedent, and the demonstrative *ðone* is Chomsky-adjoined to S’ by *Wh* Movement.

(i) $NP[S'[[\text{ðone}]] S'[_{Comp}[\text{ðe}]] S[\text{ðu nu hæfst}]]]$

These comments apply to examples (16) (Allen (1980, 281–282)) and (17).

- (16) a. And to swa hwilcere leode swa we cumað, we cunnon
 and to so which-dat. people-dat. as we come we know
 ðære gereord.
 their language
 ‘And whatever people we come to, we know their language.’

Alc.Th.Vol.II p. 474.2

- b. NP[NP[e] S'[Comp[PP[to swa hwilcere leode] swa] s[we cumað]]]

Headless free relatives in Old English need not be matching. This is reflected either in terms of case marking or in a categorial way. Thus, in (16a) the *wh*-phrase is a PP but the dominating node is an NP, both in Allen's analysis and in our bracketing in (16b). In (15a) the demonstrative *ðone* is in the accusative, a case required by the embedded *hæfst*, independent of the nominative case of the *se*-pronoun with which it is associated in the main clause. Allen proposes that headed free relatives appear only in place, as in (13a), or in topicalized position, as in (17), taken from Allen (1977, 113):

- (17) a. Ac ðam ðe on helle beoð ne gehelpð nan forððingung.
 but those-dat. that in hell are not helps no intercession
 ‘But those that are in hell, no intercession helps.’

Alc.P.XI.242

- b. NP[NP[e] S'[Comp[NP[ðam] ðe] s[on helle beoð]]]

Headless free relatives appear only in left-dislocated position, with a “resumptive” pronoun or phrase elsewhere in the clause, as in (15a) and (16a).

No devices are provided to restrict the distribution of headless and headed free relatives to the positions just mentioned. An interesting question is why their occurrence is restricted in such a manner. Adopting the modular approach, we must allow headless and headed relatives to be freely generated in all positions, and provide additional principles to account for the surface configurations in (13)–(17). First, let us consider free relatives in situ, such as the one in (13a). If the free relative generated in that position is headed, it must be matching. If the free relative is headless, we must distinguish two situations: in one case the *wh*-phrase matches the category or the case of the dominating phrase, and in the other case it does not. The hypothesis that accessibility to Comp is part of the grammar of Old English makes the right prediction; it excludes nonmatching free relatives from subcategorized position, because the phrase in Comp must satisfy the subcategorization requirements of the matrix. In particular, in (13a) only a dative demonstrative is allowed in Comp because *for-give* subcategorizes for a dative. In brief, example (13a) is open to a double analysis if the idea that headless free relatives in subcategorized position must be matching holds for Old English as well. Otherwise, headless free relatives must be excluded from subcategorized position in an arbitrary way, simply by stipulation.

Second, consider free relatives in topicalized constructions such as those in (17). Allen proposes that Topicalization in Old English is a rule that moves a phrase to clause-

initial position; in (17) the free relative itself has moved from a position as complement of *gehelpð* to the front of the sentence. Again, nothing need be said about headed free relatives in this situation. Nonmatching free relatives would be excluded under the assumption that subcategorization requirements are checked before Topicalization applies. That is to say that the free relative in (17) would be in a subcategorized position, and the demonstrative in Comp could only be the dative required by *gehelpð*. However, since matching must be checked after *Wh* Movement within the relative clause, we propose that subcategorization requirements are satisfied at S-structure⁴ and are inherited from the trace, excluding topicalized free relatives from being nonmatching.

Third, consider the relatives in left-dislocations, such as those in (15a) and (16a). Allen proposes that the left-dislocated phrase is generated in the base in its surface position. Because this position is not a subcategorized node and does not inherit requirements from the trace as topicalized phrases do, our proposals correctly predict that nonmatching headless free relatives are possible, as is the case for Catalan.⁵

In summary, in this section we have shown why in Old English a free relative must be matching in subcategorized position and may be nonmatching in nonsubcategorized position; in addition, subcategorization requirements are inherited from a trace. Another way to express this conclusion is as follows: a headless free relative assigned a thematic role directly (in situ) or through the trace it binds (topicalization) must be matching, and a headless free relative with no thematic role may be nonmatching (left-dislocation). This distribution is easily reflected if there is no restriction concerning where headless free relatives can be generated, and if the Comp is accessible in Old English, as it is in Catalan.

⁴ It is possible that the level at which subcategorization is checked is LF, as apparently required by certain cases in Catalan (see Hirschbühler and Rivero (1981b)).

⁵ In left-dislocated structures, headless free relatives are possible, but headed ones do not seem to be. Nothing in our proposal, or in Allen's account, predicts this state of affairs. Two suggestions come to mind with regard to this problem. (a) Perhaps it could be proposed that so-called left-dislocated structures in Old English contain two clauses, rather than an NP as topic followed by S'. Example (15a) should be analyzed approximately as in (i), under this approach.

(i) $S' [S' [_{Comp} [\text{ðone } \text{ðe}]] S [\text{ðu nu } \text{hæfst}]] S' [nis se \text{ ðin wer}]]$

Under this analysis, a headed relative will never appear in initial position, and the general prediction is that left-dislocated NPs of any kind would not be found. However, in view of (15a), (16a), and similar examples given by Allen, we feel that analysis (i) is not plausible because the left-dislocated phrases in these structures are interpreted like regular referential NPs, and not like S's, in the sense of Modern English examples such as (ii):

(ii) Some Mauians say that Canadians built the first condominiums, but whoever started the trend, condos turned out to be popular.

(*Globe and Mail*, Toronto, Dec. 6, 1980)

Also, Cynthia Allen has pointed out to us (personal communication) that left-dislocated NPs are possible in Old English even though they are not included in her discussion. (b) A second approach would be to assume that (15a) is analyzed as in (15b) and to provide an explanation for the fact that the head must be empty. In Old English, nouns are morphologically marked for case, and it is unclear what would be the element governing the left-dislocated phrase for case assignment purposes. Suppose that the phrase is not assigned case; then any type of antecedent would be excluded because it would not exhibit the appropriate morphology. This would predict that left-dislocated NPs that were not headless free relatives would be excluded from the language, if these phrases were not assigned an unmarked case by default, so to speak, or agreed in case with the resumptive pronoun.

Let us return briefly to subcategorization vs. thematic role assignment. The Old English examples so far discussed may suggest that free relatives must be matching in positions in which a thematic role is assigned, and not simply in subcategorized ones, since in S-structure the topicalized phrase is not in a subcategorized position, strictly speaking. It is nevertheless possible to consider that the topic is subcategorized via the trace it binds. In Catalan, however, it is clear that subcategorization is the relevant notion for matching purposes, because free relatives in subject position—a nonsubcategorized one (Chomsky (1965, 96))—may be nonmatching:

- (18) a. Al que (= a el que) s'enganya pren cautela i s'apanya.
 to who one-cheats takes precautions and manages
 'The one who is cheated becomes careful.'

Calveras (1930, 236)

- b. NP[NP[e] s'[Comp[PP_i[a el que]] s[s'enganya t_i]]
 c. *A qualsevol que s'enganya pren cautela i s'apanya.
 to whoever that one-cheats takes precautions and manages

Example (18c) shows that headed relatives with a *wh*-antecedent must be matching in subject position, as expected. For Old English, Allen reports that there are no examples of subject free relatives in situ that do not match categorially. It could then be inferred that there are no counterexamples to the claim that free relatives must be categorially matching in subject position, suggesting that phrases that have a thematic role must exhibit this type of matching. Allen (1977, 109) provides only one example of a free relative in subject position where cases do not match, even though categories do:

- (19) a. He is se liflica wylspring and ðam ðe he on wunað
 he is the vital well-spring and him-dat. that he in dwells
 ne ðyrst on ecnyse.
 not thirst in eternity
 'He is the vital well-spring, and he who he dwells in will not thirst in eternity.'

- b. NP_{nom.} [NP[e] s'[Comp_{dat.} [ðam] ðe] s[. . .]]

In (19), *ðam ðe* is in the dative, as required by the embedded clause, and the relative is the subject of the matrix, a nominative position. Because there are no surface cases, this distinction is not found in Catalan, but perhaps case matching in Old English is similar to category matching in Catalan, the only type available. In other words, it can be suggested that case matching and category matching ("complete matching") are required in positions that receive a thematic role, while case matching is required in subcategorized positions; thus, we can make a distinction between thematic positions that are subcategorized in the sense of Chomsky (1965) and those that are not. In the first instance, matching requirements are stricter. Obviously, we are making these observations on the basis of very limited materials in Old English, to indicate a topic for further research.

4. Dutch and Modern French Revisited

4.1. As noted in section 1, Groos and Van Riemsdijk have proposed that the theory of grammar must allow the Comp to be accessible for subcategorization requirements. Using this hypothesis, we have accounted for the distribution of matching and non-matching free relatives in Catalan and Old English. It seems clear at this point that the need for accessibility to Comp cannot be denied. However, as we now show, Dutch is perhaps not as clear and convincing a case of this situation as Catalan or Old English.

Let us reconsider the extraposition argument presented in section 1. Groos and Van Riemsdijk argue that extraposed free relatives are *S*'s and not NPs, because NPs do not extrapose but *S*'s do. However, there is a limited class of NPs whose extraposition is not totally excluded: those with quantified heads, as in (20).⁶

- (20) Jan is verbaasd dat ik voor dit feestje uitgenodigd heb
 Jan is surprised that I for this small party invited have
 al diegenen die mij met dit werk geholpen hebben.
 all those who me with this work helped have

In (20) an NP containing a quantified head *al diegenen* and a restrictive relative *die... hebben* appears after the verb *uitgenodigd heb*, in a position equivalent to that occupied by the free relative in (2). Thus, it could be argued that free relatives are parallel to quantified NPs, that is, NPs that extrapose and have a *wh*-phrase in the head.⁷

However, as we have seen, one of the predictions of the Comp Accessibility Hypothesis is that in languages with headless free relatives that use this condition only subcategorized positions need to fulfill matching requirements. In that case, if the *wh*-phrase is in Comp, we expect free relatives in left-dislocated position in Dutch not to be matching obligatorily.

In one variety of Dutch—the one discussed by Groos and Van Riemsdijk, as far as we can ascertain—nonmatching free relatives in dislocated position are ungrammatical, as in (21b), but matching ones are acceptable, as in (22):

- (21) a. De man met wie jij aanhetspreken was, die vind ik heel leuk.
 the man with who you speaking were that-one find I very nice
 'The man you are speaking with, I find him very nice.'
 b. *Met wie jij aanhetspreken was, die vind ik heel leuk.
 with who you speaking were that-one find I very nice
 'With the one you are speaking, I find him very nice.'
- (22) Wie jij uitgenodigd hebt, die wil ik niet meer zien.
 who you invited have that-one want I no longer see

⁶ We are thankful to Annie Zaenen for an interesting discussion dealing with this section, and to Leo van Schie for help in connection with the examples.

⁷ It could be suggested that quantified NPs modified by relative clauses are postposed by the same rule that moves the NP in (1c) in certain jargons. However, as far as we can ascertain, there is a qualitative difference between these two types of extraposed NPs, with the extraposition in (20) not restricted to administrative jargons. If (1c) and (20) are the result of the same rule—perhaps Heavy NP Shift—Groos and Van Riemsdijk's argument is weakened in an equivalent manner.

Notice that if the *wh*-phrase of free relatives in this variety of Dutch were in the head, the obligatory matching in all positions would be unproblematic.

However, Groos and Van Riemsdijk notice that even in cases of matching free relatives it is not possible for many speakers to relativize PPs, and they provide an additional filter that rejects PPs in the Comp of free relatives, which accounts for the ungrammaticality both of our (21b) and of (23), taken from their paper:⁸

- (23) *De regering weigerde tenslotte in zee te gaan met wie
 the government refused finally to terms to come with who
 ze weken achtereen onderhandeld had.
 she for weeks on end negotiated had
 'The government finally refused to come to terms with whom it had been negotiating for weeks on end.'

In brief, the extraposition argument carries less weight than supposed, and the PP filter obscures the potential evidence from left-dislocated constructions and, more generally, from free relatives in nonsubcategorized position.

As Groos and Van Riemsdijk point out, there are speakers who find (23) grammatical. In this variety, if the *wh*-phrase is in Comp, example (21b) should also be grammatical, which is the case for an informant who accepted these two examples without reservations. The same informant accepted extraposition of quantified NPs, as in (20). In this case we can conclude that the *wh*-phrase of Dutch free relatives is in Comp, though the evidence is not provided by extraposition phenomena, but by the correlation of matching and subcategorized vs. nonsubcategorized positions, as in Catalan and Old English.

In conclusion, it is the variety of Dutch that has no PP filter that provides the clearest evidence for the Comp Analysis and the Accessibility Hypothesis.

4.2. In this section we show that obligatory matching in all positions does not correlate in an automatic way with the Head Analysis. Unlike the variety of Dutch just discussed, Modern French is matching in all positions, including the left-dislocated one:

- (24) a. Qui l'on invite le samedi, il faut qu'il parte le dimanche.
 who one invites Saturday it is-necessary that he go Sunday
 'Whoever we invite on Saturday, he must leave on Sunday.'

⁸ The PP filter is problematic. Groos and Van Riemsdijk appear to assume that in (23) *met wie* 'with who' is a PP in Comp and that the matrix contains an NP free relative, as in (ia), and not a PP with the preposition *met* preceding the free relative, as in (ib). Notice that in the example, the matrix and the embedded verb require the same preposition.

- (i) a. gaan_{NP}[_e] s'[_Comp[_PP[_{met} wie]]] s[ze weken achtereen onderhandeld had]]
 b. gaan_{PP}[_P[_{met}] NP[_NP[e]] s'[_Comp[_PP[~~met~~ wie]]] s[ze weken achtereen onderhandeld had]]]

Analysis (ib) requires the deletion of the second preposition under identity with the matrix preposition, as proposed in Hirschbühler (1976) for similar, but grammatical, examples in French. If (ib) was a possible structure, the PP filter would not account for the deviance of (23), which raises doubts about the filter and the possibility of excluding (21b) through it.

- b. *A qui l'on parle le samedi, il faut qu'il nous réponde
 to who one speaks Saturday it is-necessary that he us answer
 le dimanche.
 Sunday
 'To whoever we speak on Saturday, he must answer on Sunday.'

Thus, the matching effect is not the automatic consequence of accessibility to Comp, if it is proposed that the *wh*-phrase of free relatives is in Comp (Hirschbühler (1978; 1980)). Also, PPs can be relativized in matching free relatives, as in (25).

- (25) Je le dis pour qui je dois le dire.
 I it say for who I must it say
 'I say it for whom I must say it.'

Therefore, the ungrammaticality of (24b) is not due to the impossibility of relativizing PPs in free relatives, as in certain varieties of Dutch. As a consequence, must the Head Analysis be selected for French?

A comparison of free and regular headed relatives in standard and nonstandard French suggests that even here the Comp Analysis is preferable. Let us see why. First, the Head Analysis implies that there are two different phrase structure schemata for relatives:

- (26) a. $XP \longrightarrow XP S'$
 b. $XP \longrightarrow XP S$

Second, it predicts the existence of the four types of relatives in (27), only two of which are grammatical in standard French:

- (27) a. $NP[le\ garçon\ S[que\ tu\ as\ rencontré]]\ est\ malade$
 the boy that you have met is sick
 b. * $NP[le\ garçon\ S[tu\ as\ rencontré]]\ est\ malade$
 the boy you have met is sick
 c. * $NP[qui\ S[que\ tu\ as\ rencontré]]\ est\ malade$ ⁹
 who that you have met is sick
 d. $NP[qui\ S[tu\ as\ rencontré]]\ est\ malade$
 who you have met is sick

Thus, additional devices are required to ensure that a non-*wh*-head must be followed by *S'*, and a *wh*-head by *S*. Notice that if only (26a) is available, (27b) is automatically excluded; if the *wh*-phrase is in Comp in free relatives, a filter against a doubly filled Comp in headed relatives will also be used to exclude (27c): $NP[NP[e]\ S'[Comp[qui\ que] \dots]]$. Finally, the specific analysis in (27c) can be ruled out if relative words are prohibited outside the Comp position.

⁹ Example (27c) is grammatical as a direct question, with *qui* as an interrogative word: 'Who that you have met happens to be sick?'

Third, when standard French is contrasted with certain nonstandard varieties where the doubly filled Comp filter is inapplicable, as in (28) (see Kayne (1976)), an interesting difference emerges that the Comp Analysis handles very simply, but the Head Analysis does not.

- (28) a. Le type à qui que tu as parlé c'est Pierre.
 the guy to who that you have spoken is Peter
 b. Qui que tu veux que j'invite?
 who that you want that I invite

A similar contrast between the standard and nonstandard varieties appears in free relatives. The nonstandard equivalent of (27b) is *Qui que tu as rencontré est malade?* Under the Comp Analysis, the difference between the two varieties rests on the presence or absence of the doubly filled Comp filter. As we have already indicated, under the Head Analysis standard French requires two separate phrase structure rules for relatives, and, as a result, the contrast involving the distribution of the *wh*-phrase and the complementizer *que* cannot be explained in a unitary fashion. That is, for questions and headed relatives, as in (28), standard and nonstandard French differ with regard to the filter, but in the case of free relatives the two phrase structure rules in standard French, with the additional restrictions mentioned above, provide the necessary distinction.

In brief, the simplest and most revealing solution with respect to the presence or the absence of the complementizer *que* is to place the *wh*-phrase in Comp in all varieties of French. We thus conclude that the ungrammaticality of (24b) should not be taken to indicate that French free relatives are of the headed type, just as the deviance of (21b) in certain varieties of Dutch does not imply that free relatives are of the headed type. For an additional argument in favor of the Comp Analysis based on the properties of *quoi* 'what', see Hirschbühler (1978). Example (24b) can be ruled out by a filter specifying that in free relatives, the *wh*-phrase in Comp must be of the same category as the phrasal node dominating the relative clause.

5. Conclusions

In these remarks we have reconsidered a number of analyses for free relatives in a variety of languages, emphasizing the aspects that relate to the position of the *wh*-phrase and to matching properties. When a free relative is nonmatching, the *wh*-phrase must be in Comp; when it is matching, the *wh*-phrase is not automatically in the head, but may be in Comp, and in such a case this node is accessible to the subcategorization requirements of the matrix. Catalan has headed and headless free relatives; headed constructions must be matching, whereas headless free relatives are matching in subcategorized position and may be nonmatching otherwise, justifying in a clear way the need for accessibility to Comp in the theory of grammar. Old English seems to conform to an equivalent pattern, indicating in addition that topicalized phrases inherit subcategorization requirements from the traces they bind.

The obligatory character of matching effects in all positions in one variety of Dutch and (to a lesser extent) the reconsideration of extraposition of S's and NPs seem to support the Head Analysis. However, because the relativization of PPs in free relatives is not possible, clear evidence in favor of the Comp or the Head Analysis is not easily available. In the variety that allows PP relativization, the Comp Analysis is required because of the nonmatching free relatives in left-dislocated position. Under the Comp Analysis, the difference between the two varieties of Dutch rests on the restriction on PP relativization, which is independently required. Thus, the Comp Analysis seems preferable in general, even for the variety where the evidence is not strong.

In standard and nonstandard varieties of French, we have argued for the Comp Analysis on the basis of the distribution of the complementizer *que*.

We have established the need to distinguish two structures for free relatives (i.e. headed and headless) and have provided further evidence for accessibility to Comp in Universal Grammar, in view of Catalan and Old English.

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Bilingual Code-switching and Syntactic Theory

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The phenomenon of bilingual code-switching has generally been assumed to belong to the domain of the sociolinguist, and has received little attention from scholars interested in grammatical theory. Nevertheless, an investigation of this realm of data from the perspective of theoretical linguistics turns out to be doubly fruitful. First, a generative model of the code-switching process¹ constitutes a significant advance; many of the surface constraints on code-switching that have been proposed in the literature can be shown to follow from the manner in which monolingual grammars cooperate to produce hybrid sentences under this model. Second, and perhaps more important to theoretical linguistics, code-switching promises to provide a fertile new source of evidence bearing on a wide range of questions in current grammatical theory. Although this study barely begins to exploit the potential of this new domain of data, the generative model of Spanish-English code-switching developed here supports two assumptions of the Government-Binding framework of Chomsky (1981): the constituent structure of noun phrases under X-bar theory and lexical projection of portions of the constituent structure under VP. In addition, this study substantiates the cross-linguistic identity of category labels.

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¹ Previous formal treatments of bilingual code-switching include Barkin and Rivas (1979) and Sankoff and Poplack (1980). Joshi (1982) discusses code-switching in terms of processing constraints. In addition, there is a large body of earlier research concerned with identifying and describing syntactic constraints on code-switching, including Gingràs (1974), Lipski (1977), Pfaff (1979), Poplack (1979), Reyes (1976), Sridhar (1980), and Timm (1975).