

CATALAN RESTRICTIVE RELATIVES: CORE AND PERIPHERY

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This paper presents an analysis of headed and free (headless) restrictive relative clauses in Catalan in the framework of the Extended Standard Theory. Rules of grammar are considered an aggregate of independent dimensions that belong either to core grammar or to peripheral grammar. The peripheral dimensions restrict the core aspect, but do not conflict with it.

The rules involved in the derivation of headed and free relatives are (a) WH-movement and (b) deletion of the WH-phrase in COMP. One filter blocks an empty COMP, and another blocks a doubly-filled COMP. Deletion in COMP has an obligatory character in standard Catalan; this is a peripheral dimension that is unproblematic for the language learner. Catalan deletes any category in COMP up to recoverability, including PP's; this is the core situation found in French, but it is restricted by addition of a peripheral dimension that allows only NP-deletion.

The interpretation of the core/periphery dichotomy developed in this paper may provide a fruitful framework for comparative grammar and historical research.

INTRODUCTION

1. This paper presents a grammar of restrictive relatives in Catalan using the Extended Standard Theory (EST). In §2, we deal with headed relatives; in §3, with free (headless) relatives. We provide a detailed analysis of these Catalan constructions to establish a basis for comparative work with other Romance languages already described in the framework used here—in particular, French (Kayne 1976, Hirschbühler 1978, 1980), Italian (Cinque 1978), and Spanish (Rivero 1980a,b). In §4, although comparative research goes beyond the scope of the present paper, we will outline parameters along which different grammars within one family of languages can be contrasted, by using the distinction 'core/periphery'. Here we only present the core/periphery dichotomy in a preliminary way. Chomsky 1975, 1977, 1980 defines sentence grammar as the formal grammar of a language, with a further subdivision into core and non-core (or peripheral) aspects. Core grammar specifies the principles that account for the unmarked aspects of a language; these are invariant across languages, and are not learned by the language learner, or are extremely easy to learn. Peripheral grammar includes language-particular rules and marked processes.

The core/periphery distinction can be interpreted in several ways. For instance, Chomsky 1977 speaks of a given rule of sentence grammar as either belonging to the core or being outside it. Thus WH-movement (i.e. Move α) is presented as a core rule of English, while certain processes moving *tous* to the left in French belong to the periphery. Peripheral processes may go against core conditions at a cost, thus generating 'irregular' constructions, under what is termed the logic of markedness.

In a somewhat different interpretation, Koster 1978 develops a notion of rules of sentence grammar with two sorts of dimensions: core aspects and

auxiliary hypotheses. In this view, auxiliary dimensions belong to peripheral grammar, and are used for counter-examples to the predictions made by the core parameters.

In this paper, we will emphasize another possible interpretation of the core/periphery distinction. A rule of sentence grammar is an aggregate of dimensions: some belong to the core, and are unmarked; others belong to the periphery, and are marked. The peripheral dimensions impose further restrictions on the core, in the sense that only a subset of what is allowed by the unmarked dimensions should actually be generated by the sentence grammar of the language in question. As an anonymous reader has put it, the periphery corrects over-generation in the core, not under-generation. For instance, if we assume that the rule of deletion in COMP in relatives has some dimensions determined by core grammar, and others by peripheral grammar, the following comparison between Catalan and French can be made. We propose that a relative phrase placed by WH-movement in COMP can be deleted up to recoverability with no restrictions attached as to its category, as regards the aspect(s) determined by core grammar. Catalan exhibits the unmarked case that allows, in particular, the deletion of a PP relative in COMP when it is non-distinct from a PP antecedent (see §2.31). Modern French has restricted the rule to delete only NP's in COMP, as a marked dimension in our view, and cannot delete PP's in COMP. Note, however, that what is generated in French is in no way exceptional, because the core dimension allows for deletion of NP in COMP, among other cases.

We now proceed to the description of relatives in Catalan, and will return to the core/peripheral distinction once we have completed our analysis of headed and free constructions.

THE ANALYSIS OF HEADED RELATIVES

2. We will first outline the main characteristics of our proposal. We adopt Ross' 1967 analysis of relative clauses, and assume that WH-movement places a WH-phrase in COMP to the right of the complementizer node WH. Regardless of its syntactic function, the phrase containing the relative element is obligatorily deleted subject to recoverability, and no constraints are placed on the deletion. In particular, oblique relative phrases surface in COMP if unrecoverable; otherwise, they are deleted. The categories affected by the deletion rule are all those moved to COMP by WH-movement which happen to be recoverable—namely NP's, PP's, AdvP's, and ADJP's. The COMP must contain a relative phrase or the complementizer *que* 'that', but it cannot contain both—a situation accounted for by two separate filters.

2.1. We assume that restrictive relatives in Catalan are generated by the following phrase-structure rule:

- (1) NP → NP \bar{S}

An additional rule will be provided later for relatives with PP antecedents. We use Ross' analysis on the basis of arguments presented by McCloskey 1979 for Modern Irish, which can also be used for Catalan. For example, neuter demonstratives such as *això* 'this, that', which can function as full NP's, can also

be antecedents of restrictive relatives (as shown in Figure 1):

- (2) a. *Què en farem d'això?*
 what will-we-do of this?¹
 b. *Això que dius no ho vull saber.*
 this that you-say not it want know
 'I do not want to know what you say.'

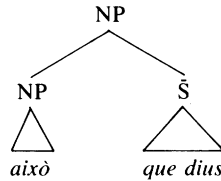


FIGURE 1.

The choice of the NP-S analysis over the NOM-S analysis (Stockwell, Schachter & Partee 1973, and subsequent work) or the DET-S analysis (Smith 1964, Chomsky 1965) does not seem to be crucial for our purposes.

Following Bresnan 1970, we assume that the internal structure of \bar{S} is given by the usual rule:

- (3) $\bar{S} \rightarrow \text{COMP S}$

2.2. We propose that the Catalan COMP has this structure:

- (4) $\text{COMP} \rightarrow \text{WH WH-phrased}$

Here WH is the position where the general complementizer *que* is inserted. It requires no further subclassification into +WH for interrogatives, and -WH for declaratives, including relatives, for several reasons: (a) the slot can be filled by *que* 'that' in both declaratives and interrogatives (cf. 5 with 6-7). Thus +WH and -WH are not in complementary distribution in Catalan, as proposed by Bresnan for the equivalent distinction in English. Also, it cannot be claimed that Cat. *que* is only the realization of the features in -WH, as recently proposed by Chomsky & Lasnik 1977 for Eng. *that*. (b) +WH and -WH are no longer required if semantic interpretation is done at surface level, as in recent proposals in the EST. (c) +WH and -WH do not seem to be relevant for complement selection in English (Grimshaw 1977, 1979); this eliminates one of the traditional arguments for the distinction. We will assume that *que* is placed in WH position by a rule of lexical insertion which, like other rules in the EST, is optional. We will return later to its apparently obligatory character. The WH-phrased node in 4 identifies the location that can be filled by *si* 'whether' in the base, as in 6, or left empty to receive a WH-phrased which is moved, as in 7:

- (5) *Noteu que a vegades ha de prendre banys de sol.*
 notice that at times he-has to take baths of sun
 (6) *Et pregunto (que) si saps la lliçó.*
 you I-ask (that) if you-know the lesson
 (Badia Margarit 1962, II:250)

¹ Catalan examples are provided with word-by-word glosses and, if necessary, English translations.

- (7) *Et pregunto (que) de què es tracta.*
 you I-ask (that) of what it-is-about
 'I ask you what it is about.'

In 6–7 the presence of *que* is optional, and depends on the application or non-application of a rule of lexical insertion. In 7 we see that WH-movement locates a WH-phrase to the right of WH. We assume at this point that WH-movement applies in questions and relatives in an identical fashion.² If rule 4 is correct, it suggests that languages can vary as to the position to which they move a WH-phrase within the COMP. Within the Romance family, Catalan and Spanish pattern alike in moving the WH-phrase to the right of WH, as we see when comparing 6–7 to the following:

- (8) a. *Te pregunto (que) si sabes la lección.*³
 b. *Te pregunto (que) de qué se trata.*

However, French moves the WH-phrase to the left of the WH position, as indicated by the following colloquial example:

- (9) *Je me demande quand qu'il viendra.*
 I myself ask when that he will-come

These differences could be attributed to the PS rules for the COMP. In Catalan, the *si* in 6 is not the result of movement, but of lexical insertion in a position provided by the base rules; if the node is left empty at that level, it can be filled by WH-movement. As a consequence, a *si* and a WH-phrase cannot co-occur:

- (10) **Et pregunto* $\left\{ \begin{array}{l} \textit{si de què} \\ \textit{de què si} \end{array} \right\}$ *es tracta.* (cf. 7)

Thus the core dimensions of WH-movement need not be supplemented by peripheral dimensions to reflect these distinctions.⁴

Assuming that the structure of the COMP in relatives and questions is identical,

² This assumption is motivated by the fact that the same categories move in questions and in relatives (i.e. NP's, PP's, ADJP's, and AdvP's), and that phenomena falling under the general term of Pied-Piping are identical in questions and in relatives. In other words, even though we will not provide examples of questions in Catalan, we can say that each type of relative has its isomorphic question; this does not mean that the lexical inventories of interrogative and relative pronouns are identical.

³ *¿Que si sabes la lección?* is an emphatic direct question, with the clause introducer *que* followed by the question word *si*. It is unlikely that such examples are derived from indirect questions, with deletion of the main clause; thus they provide evidence that the position for question words in COMP is to the right of the complementizer *que*.

⁴ As pointed out in §1, for us a core dimension is a universal or unmarked aspect, while peripheral dimensions reflect diversity of phenomena that do not contradict the core; rather, they reflect peculiarities of a language, or differences between stages in the history of a language. As we show in §4, contrastive studies within a family of languages could be mostly considered comparisons of peripheral dimensions, and linguistic change defined in part as variation in the periphery.

we conclude that relatives cannot have a doubly-filled COMP. Cf. 11b with 7:

- (11) a. *El llibre de què parlem és el meu.*
 the book of which we-speak is mine
 b. **El llibre que de què parlem és el meu.*⁵

We propose the following surface filter to eliminate 11b and similar cases:⁶

- (12) *_{COMP}[*que* REL]

In general, tensed embedded clauses do not allow a phonologically empty COMP. This position must be filled by a relative, an interrogative, or a complementizer. The filter in 13 reflects this situation (the symbol *e* is the terminal identity element):

- (13) *_{COMP}[*e*] (in tensed clauses)

In brief, we propose that the Cat. COMP contains two positions: (a) WH, followed by (b) a slot where *si* or a WH-phrase is located. In relatives, one of the positions must be filled, but not both, as ensured by the two filters.

2.3. We now proceed to the derivation of headed relatives—considering in particular the relativization of PP complements, subjects, objects, time complements, cases with resumptive pronouns, ‘null’ possessives, and adjectives and adverbs in tensed clauses. We close the discussion with a brief consideration of infinitival relatives. Examples are given in the order just mentioned:

- (14) a. *És la subvenció amb {la qual, què} publica*
 (it) is the grant with which he-publishes
 les seves obres.
 his work
 b. *És el obrer amb {el qual, qui} hem parlat tant.*
 (it) is the worker with whom we-have spoken so-much
 (15) a. *El tren que va a Barcelona és aquest.*
 the train that goes to Barcelona is this-one
 b. *La noia que ha trobat el llibre és la seva filla.*
 the girl that has found the book is his/her daughter
 (16) a. { *El llibre* }
 b. { *L'home* } *que hem trobat és interessant.*
 {the book, the man} that we-have found is interesting

⁵ We assume that, in 11b, *que* is a complementizer and *de què* a relative phrase. As we will show later, we take all instances of *que* in relatives to be realizations of the complementizer, not relative pronouns; thus it is not the case that 11b is deviant because it contains two relative pronouns in the COMP. *Què* is tonic, *que* is non-tonic, and the two forms differ in vowel quality.

⁶ Here REL is a cover term for relative pronouns. We assume that WH-movement does not distinguish between relative and interrogative phrases; but this does not imply that the two sets are totally identical in terms of feature composition. Thus *quin* ‘which’ belongs only to the interrogative system in educated Catalan, while in non-educated Catalan it can be used as a relative. The filter in 12 takes advantage of the assumed distinction. In other Romance languages such as French, the lexical differences between the two sets are more evident; e.g., *comment* ‘how’, *combien* ‘how much’, and *pourquoi* ‘why’ can only be used in questions.

- (17) a. *El dia que vindràs els trobaràs a*
the day that you-will-come them you-will-find at
casa.
home (Fabra 1969:93)
- (18) a. *És un riu que s'hi ha negat molta gent.*
(it) is a river that there have drowned many people (Fabra, 95)
b. *L'individu a qui tu creus que el mestre li*
the-person to whom you think that the teacher him
ha donat el llibre ...
has given the book (Fabra, 95)
- (19) *El pare que els fills han mort a la guerra ...*
the father that the sons have died in the war (Fabra, 95)
- (20) a. *No vulguis saber {lo, l'} entremaliat que és aquell nen.*
not want know the mischievous that is that child
'You cannot imagine how mischievous that child is.' (Badia
Margarit 1962, I:161)
b. *Pensa en {lo, el} tard que arribava.*
think about the late that he-arrived
'Think how late he arrived.' (Badia Margarit 1962, I:161)
- (21) *No hi tinc res més {que, a} dir.*
not I-have nothing else {that, to} say
'I have nothing else to say.'

From the above paradigm, we can establish a partial inventory of relative pronouns. *El qual* 'the which' is inflected for gender and number in its two lexical elements, and can have animate or inanimate antecedents (it is normally avoided in the spoken language); *qui* 'who' is uninflected, and used for animate antecedents; *què* is for inanimates. For reasons to be given in §2.32, we do not consider the *que* 'that' in 15–17, 18a, and 19–20 as a relative pronoun.

2.31. In 14a–b, WH-movement locates the relative phrase in COMP, with obligatory Pied-Piping of the P,⁷ as in other Romance languages:

- (22) ${}_{NP}[la\ subvenció\ \bar{s}[COMP[WH\ amb\ \left\{ \begin{array}{l} la\ qual_i \\ què \end{array} \right\}]\ \bar{s}[publica\ les\ seves\ obres\ t_i]]]$

The filter in 12 ensures that the only grammatical output is one where WH is not lexically filled by *que*: **la subvenció que amb {la qual, què} publica les seves obres*. Larger PP's also Pied-Pipe, as in other Romance languages:

- (23) *És un estudiant de les aptitudes del qual puc respondre.*
(it) is a student of the aptitudes of whom I-can vouch
(Badia Margarit 1962, I:26)

⁷ Several approaches have been developed to account for Pied-Piping. Bresnan 1976 uses the distinction between context and target predicates in the structural description of Relativization, together with the Relativized A-over-A Principle. Chomsky 1973 locates a WH-feature at different levels in the tree; in this approach, the WH-placement rule should be restricted by principles which are equivalent to the Relativized A-over-A Principle. We will not discuss the formal means to effect Pied-Piping, because our interest lies in the behavior of the relative once it is in COMP.

2.32. In 15–16, we proposed that WH-movement locates the relative in COMP; it is subsequently erased by a rule of obligatory deletion subject to recoverability. If the complementizer *que* is inserted in the base, the empty COMP filter is satisfied, and the sentence is well-formed. If *que* is not inserted, the sentence will be ungrammatical. The derivation of 15b is as follows:

$$(24) \text{NP}[la noia \bar{s}[\text{COMP}[\text{WH}[que] \left\{ \begin{array}{l} la\ qual_i \\ qui_i \end{array} \right\}]] \bar{s}[t_i\ ha\ trobat\ el\ llibre]]]$$

\downarrow movement
 \downarrow deletion

Therefore, we identify the *que* in 15–16 with the complementizer, and not with a relative pronoun, along the lines of the analysis first proposed by Kayne 1976 for French, and subsequently used for Italian (Cinque 1978) and Spanish (Rivero 1980a). The proposal accounts for the complementary distribution of *que* and the ‘true’ relatives *el qual*, *qui*, *què*, in subject and object relativization, predicting the ungrammaticality of the following examples:⁸

(25) **la noia {qui, la qual} ha trobat el llibre*

(26) **l' home {el qual, qui} hem trobat*

The proposal also accounts for the ungrammaticality of *que* in PP-relativization, where deletion is impossible for reasons to be discussed later:

$$(27) L'home \left\{ \begin{array}{l} amb\ el\ qual \\ amb\ qui \\ *amb\ que \end{array} \right\} hem\ parlat\ és\ el\ meu\ pare.$$

‘The man {with which, whom, *that} we have talked is my father.’

Under the influence of Spanish, certain varieties of Catalan have developed compound relative sequences of the type *el(s) qui* and *el(s) que*. These forms can be added to the inventory of relatives without changing the analysis proposed in this section. Therefore sequences of the type *l'home amb el {qui, que} hem parlat* are totally parallel to the relatives in 27. *Amb el que* and *amb el qui* are PP's that contain relative phrases; they move into COMP and are not deleted. The complementizer *que* does not surface: **que amb el que*, **que amb el qui*. However, Catalan does not have a compound relative *el què* or *la què*: *la subvenció amb la que publica les seves obres* but **la subvenció amb la què publica les seves obres* (cf. 14a). The existence of *el quilque* sequences is more problematic where free relatives are involved, as we shall see in §3. In brief, the complementizer *que* appears where relatives cannot, and vice versa. Other

⁸ Traditionally, Catalan is divided into two main groups of dialects, eastern and western (Badia Margarit 1951). The eastern group has four dialects: the central variety of Barcelona and Tarragona, that of the Balearic Islands, that of Southern France, and that spoken in Italy. The western group has two varieties, the one spoken in Lérida and that spoken in the Valencian region. (The classification is based on phonetic and morphological factors.) In Balearic Catalan, and particularly in the Minorcan variety, the *qui* relative pronoun is not deleted in COMP when it has a subject or an object function. Thus, the versions of 25–26 that contain a *qui* are well-formed in Minorca. We assume that, in this case, the deletion rule is optional. In §4, we will mention some of the theoretical consequences of this optionality.

arguments provided by Kayne 1976 and Cinque 1978 can be used for Catalan. Given that this analysis is now well-established for the Romance family, we see no need to discuss it in more detail here.

Relative pronouns which function as NP's are obligatorily deleted in our proposal, and are recoverable. The notion of recoverability which is required involves both structural and lexical aspects; these two dimensions must be specified with respect to the antecedent of the relative clause, and in relation to the trace left in embedded position after WH-movement. The structural parameter involves the position of the antecedent in relation to the WH-phrase in COMP and the syntactic function of the phrase. The antecedent must c-command the phrase in COMP, where c-command is defined as in Reinhart 1976: a node B c-commands a node A if B does not contain A, and if A is dominated by the first branching category dominating B. This restricts both what can count (a) as antecedent in a relative structure, and (b) as a controller for the deletion. We assume that the WH-phrase in COMP is co-indexed with the antecedent, and that the antecedent is the controller of the trace when the relative is deleted. The syntactic function of the phrase in COMP is established through the trace left by WH-movement. The lexical dimension requires that the phrase to be deleted should be non-distinct from the head of the antecedent (the head of a phrase of type X is defined as the X^0 within the \bar{X} -notation; i.e., it is the lexical category N for most relatives). A lexical category has a feature matrix; it can be unspecified, positively specified, or negatively specified with respect to a given feature in the matrix. Two lexical categories are distinct just in case one is positively identified with respect to a feature, while the other is negatively specified for that same feature. Normally, a relative pronoun contains a subset of the features present in the head of the antecedent (i.e. gender, number, and animacy). The lexical features found in the head of the antecedent, combined with the trace in the embedded position, provide the information necessary to establish the subcategorization and selectional requirements that the WH-phrase deleted in COMP must meet.

The deletion rule does not apply to larger subject or object NP's which contain a relative and move to COMP as the result of Pied-Piping:

- (28) a. *El nen el pare del qual ens ha saludat, està malalt.*⁹
 the child the father of who us has greeted is sick
 (Badia Margarit 1962, I:261)
- b. *És un home la integritat del qual no asseguraria.*
 he-is a man the integrity of who not I-would-assure
 (Badia Margarit 1962, I:261)

Obviously, the deletion of the larger NP in COMP would violate recoverability.

As mentioned above, deletion does not apply to the relativized PP in 14,

⁹ Thus Catalan patterns with Spanish, but not with contemporary French: **L'enfant le père duquel nous a salué est malade*. Such facts lead Kayne 1976 to propose an obligatory rule of NP-deletion in COMP. The ungrammaticality of the French sentence results from the non-application of that rule; if the rule applied, it would violate recoverability. We will return in §4 to the contrast between Catalan and Spanish, on the one hand, and French, on the other.

because the output would be unrecoverable, given that the specific lexical content of P could not be determined. Larger PP's moved into COMP as the result of Pied-Piping cannot be deleted for similar reasons; see 23. In examples 14, 23, and 27–28, the WH-phrase cannot be deleted alone; but this characteristic does not follow from recoverability principles. In general, a WH-phrase which is a subconstituent of a larger phrase in COMP is undeletable even when recoverable. Thus an object relative is not deleted in an example like this:

- (29) a. *Perdé una posició per obtenir la qual havia treballat*
 I-lost a position for obtain which I-had worked
tota la vida.
 all the life (Fabra, 93)
 b. $_{SN}[_{SN}[una\ posició] \bar{s}[_{COMP}[per\ obtenir\ la\ qual]_i] s[_{havia\ treballat\ tota\ la\ vida\ t_i}]]]$

Traditionally, the deletion rule has been stated in a way that affects the entire constituent dominated by COMP. A variety of technical proposals have been made to achieve this result (e.g. Chomsky 1973, and more recently Kayne 1981, Cinque 1980), but we will not choose here among the different alternatives.

Deletion of a PP in COMP becomes possible when the antecedent of the relative is a non-distinct PP. The process is apparently optional:¹⁰

- (30) a. *Això va passar en aquella ciutat que hi ha tants*
 this happened in that city that there are so-many
carrers per urbanitzar.
 streets to plan (Solà 1972:110)
 b. *En aquella ciutat* $\bar{s}[_{COMP}[_{WH}[que] \text{ en la qual}] s[_{hi\ ha\ tants\ \dots}]]]$
 (31) a. *Això va passar en aquella ciutat en {la qual, què} hi ha*
 this happened in that city in which there are
tants carrers per urbanitzar.
 so-many streets to plan
 b. *En aquella ciutat* $\bar{s}[_{COMP}[_{WH}[e] \text{ en la qual}] s[_{hi\ ha\ \dots}]]]$

We maintain, nevertheless, that in each case deletion is obligatory up to recoverability, as the grammar provides two different analyses in these instances. The PP can be rewritten as PP \bar{S} , in addition to the PS rule given in 1. Ex. 30 is the result of this new rule; the PP in COMP is non-distinct from the antecedent, and the deletion is obligatory, as indicated in Figure 2 (overleaf).

The PP \bar{S} structure is independently required for sentences of the type *Pere ha parlat a favor del nen i contra la nena que estaven casats* 'Peter spoke for the boy and against the girl that were married.' In this instance, no single NP can serve as antecedent for the relative—which must then be attached to the PP, as the following analysis indicates:

- (32) $_{PP}[_{PP}[_{PP}[a\ favor\ del\ nen] i_{PP}[contra\ la\ nena]] \bar{s}[_{que\ estaven\ casats}]]]$

¹⁰ Constructions like 30a are considered colloquial, but are found, alongside the construction with the PP in COMP, in the speech of educated Catalans. We propose that the two analyses are options within one grammar.

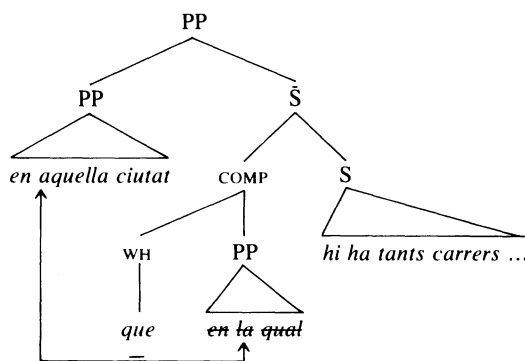


FIGURE 2.

The PP in COMP and the PP antecedent are non-distinct because the heads of their two immediate constituents (P and NP) are non-distinct.

Ex. 31 can be analysed in terms of Rule 1; the antecedent is the NP *aquella ciutat*, and the PP in COMP cannot be deleted for the reasons given in connection with 14. This is shown in Figure 3.

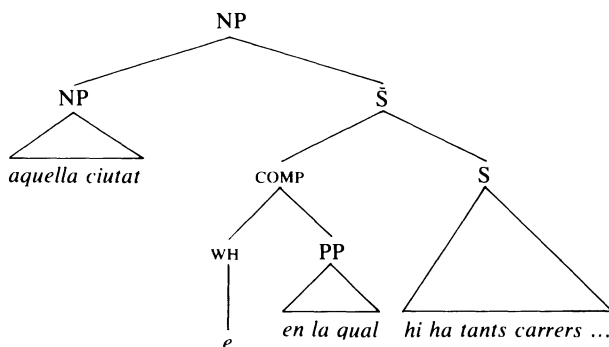


FIGURE 3.

Traditional grammars discuss the properties of relative clauses with PP antecedents, classifying them along semantic lines (i.e. Place, Manner, Direction, and Time). Our analysis indicates that those distinctions play no role, and supports a configurational approach as discussed in Chomsky 1965. From a more recent perspective, the facts discussed here are at odds with the Noun Phrase Accessibility Hypothesis (Keenan & Comrie 1977, 1979), as pointed out by Cinque 1978, 1981 for similar Italian phenomena.

At this point we can introduce the relative *on* 'where'. Its properties under deletion make it parallel to a PP containing a relative. Thus *on* does not delete in cases equivalent to 14, because the process would lead to unrecoverability:

- (33) a. *La ciutat on hi ha tants carrers per urbanitzar*
 the city where there are so-many streets to plan
és Manresa.
 is Manresa

b. **La ciutat que hi ha tants carrers per urbanitzar és Manresa.*

When the antecedent is non-distinct from the relative *on*, the deletion becomes recoverable, giving rise to 34—which has, therefore, two syntactic sources, since a structure with the relative is also possible:

- (34) *en aquella ciutat on hi ha tants carrers per urbanitzar*
 in that city where there are so-many streets to plan

The optionality of the deletion in 30 and 34 is apparent only if the double analysis already mentioned applies here as well. Further reasons to analyse *on* as a PP will be presented in §3.

2.33. Let us now turn to the time complement in 17. The complement of *vindràs* ‘you will come’ is prepositionless: *Vindràs aquest dia* ‘You-will-come that day.’ Deletion applies obligatorily.

In summary, prepositionless relatives are obligatorily deleted regardless of syntactic function when they are recoverable, and *que* must surface. Relative phrases of the PP type are deleted obligatorily if recoverable, but are not deleted otherwise, regardless of syntactic function.¹¹

At this point, we should pause to consider the previous analysis in view of the core and peripheral dimensions of the deletion rule. We claim that modern Catalan represents the core rule for the Romance languages: delete WH-phrase up to recoverability. Catalan patterns like Spanish, and unlike contemporary standard French:

- (35) *Fui a la ciutat {que, a la cual} fuiste tú.*
 ‘I went to the city {that, to which} you went.’
 (36) *Je suis allé dans la ville {*que, dans laquelle} tu es allé.*

We suggest that French has restricted the deletion rule in its evolution by adding a marked dimension—with the result that, in the modern language, only relative NP’s delete in COMP. For instance, the 17th century language allowed the same variations as modern Catalan, in that the PP relative could be deleted

¹¹ There remains a set of examples where deletion of a PP in COMP appears to violate recoverability. For Catalan, two situations can be distinguished: the antecedent may be a PP, with a P different from that of the relative phrase that is deleted; or the antecedent may be prepositionless, while the missing phrase would have contained a preposition, as in

aquella casa que venen arròs
 that house that they-sell rice

Que is equivalent to *en què* (see Calveras 1929:231 for a discussion of this and similar cases). Traditional grammarians consider these types of examples to be both popular and marginal. Our analysis does not generate these constructions, and we would attribute their marginal character to the fact that they seem to go against the type of recoverability usually required in most languages. Maling 1977 has identified some apparently unrecoverable deletions in Modern Greek. Ingria 1979, discussing similar Greek examples, proposes a rule of accusative pronoun deletion in discourse grammar—together with the deletion of a P governing an accusative relative, when the P is recoverable through subcategorization, and selectional aspects. We do not know at present if the Catalan examples mentioned by Calveras are amenable to such an analysis.

if recoverable:

- (37) a. *Toutes ces illustres marques ne peuvent être conservées*
 all these illustrious marks cannot be preserved
que par les moyens qu'elles ont été acquises.
 that by the means that-they were acquired
 (Guez de Balzac, *Prince*)
- b. *Il offrit de ce faire rendre la chose pour le prix*
 he offered to to-him have returned the thing for the price
qu'on l'avoit baillée.
 that it-had-been bailed
 (La Rochefoucauld, *Apol. 1, II:451*)
- c. *Il sait les faire servir dans les temps et*
 he knows (how) them have served in the time and
dans l'ordre qu'il a résolu.
 in the-order that he has decided
 (Bossuet, *Histoire, III:1*)

This well-known phenomenon was discussed by Haase 1898; he is the source of the above examples. In 37a, *par les moyens que* is equivalent to *par les moyens par lesquels*; in 37b, *pour le prix qu'* is equivalent to *pour le prix pour lequel*; in 37c, *dans les temps et dans l'ordre que* is equivalent to *dans les temps et dans l'ordre dans lesquels*, with a conjoined PP as antecedent.

2.34. We now turn to relative clauses with resumptive pronouns, as in 18. Such constructions are considered colloquial in Catalan grammars; the version without *li* 'to him', corresponding to 18b, is considered standard. In 18a, the relative clause is introduced by the complementizer *que*, and the embedded clause contains a resumptive pronoun *hi* 'there' associated with the antecedent *un riu* 'a river'. In 18b, there is a PP with the WH-phrase *qui* in COMP, and a resumptive pronoun *li* in the embedded clause. We assume that WH-movement places *a qui* in COMP, leaving a PP-trace in postverbal position. Then deletion in COMP would leave an unbound trace, given that the NP antecedent is not an appropriate controller for the PP-trace; thus the rule cannot apply. A comparison between 18a–b eliminates a movement analysis for 18a, since the deletion of the PP in COMP (i.e. *en el qual* or *en què*) should not be possible, as in 18b. Therefore, we propose that 18a has no relative pronoun in the embedded clause in the base; the *que* complementizer, when inserted, fulfills the requirements of the empty COMP filter; and the resumptive pronoun *hi* is generated in its superficial position. Structures 38a–b correspond to 18a–b respectively. Only relevant aspects are indicated in the strings. A sentence similar to 18b—but with the complementizer *que*, not *a qui*—is base-generated in the way proposed for 18a, and contains no unbound PP-trace as a result:

- (38) a. NP[un riu s[COMP[WH[que]] s[s'hi ha negat molta gent]]]
 b. NP[l'individu s[COMP[WH[e] a qui] s[tu creus que el mestre li ha donat el llibre t_i]]]

Catalan has two methods for relativization—the resumptive pronoun strategy and the movement strategy—and may combine them in a given derivation, as in 38b.

2.35. We now turn to the relativization of genitives, as in 19. First it must be pointed out that there are several types of relatives involving possessives. Ex. 19 exhibits the standard procedure which we label the NULL GENITIVE. Ex. 39a is literary; ex. 42 is perhaps formal, but found in the speech of non-literate speakers. Exx. 40a–b are criticized from a normative perspective because of their use of *qual* and *quin* as genitives in the sense of ‘whose’:

(39) *el pare el fils* $\left\{ \begin{array}{l} \text{a. del qual} \\ \text{b. de qui} \end{array} \right\}$ *ha mort a la guerra*
 the father the son of whom has died in the war

(40) *el pare* $\left\{ \begin{array}{l} \text{a. qual} \\ \text{b. quin} \end{array} \right\}$ *fils ha mort a la guerra*
 the father whose son has died in the war

(41) *Hi havia un home d'aspecte misteriós ... que amagava*
 there was a man of-aspect mysterious that hid
sos traços una barba trista i desigual.
 his features a beard sad and uneven
 (Calveras 1929:245) (= that a sad and uneven beard hid his features)

(42) *Un dels cims de la serra de Begues,*
 one of the peaks of the mountains of Begues
que no li se 'l nom
 that not it I-know the name (Calveras 1929:246)
 (= that I do not know the name of it; Dative of Interest)

Exx. 41–42 are parallel to the ones with resumptive pronouns discussed in §2.34: ex. 41 contains a possessive; 42, a Dative of Interest *li*. Other functions are also possible and require no special treatment. Exx. 39a–b involve relativization with NP Pied-Piping with no insertion of *que* and no deletion in COMP; they are parallel to the structures in 28. It is also possible to extract the possessive phrase in isolation: *el pare de qui hem visitat el fils* ‘the father of who we visited the son’. Exx. 40a–b are also cases of NP Pied-Piping with a relative in determiner position, similar to constructions with *cuyo* ‘whose’ in Spanish (*el padre cuyo hijo ha muerto en la guerra*). The relatives *quin* or *qual* move with the dominating NP into COMP; deletion would be unrecoverable, and *que* cannot surface. The lexical inventory of relatives must include these two forms in this style, but the syntax remains unchanged. *Quin* can also be used in a non-possessive sense, much like the relative *qui*, in certain varieties considered substandard or dialectal; but it offers no syntactic peculiarities, and is omitted from our discussion.

We propose that examples like 19 do not involve WH-movement: the NP *els fils* contains no syntactic complement, and its relation to the antecedent *el pare* involves the discourse-grammar techniques used in configurations such as *The father is blond. The children are not*. There must be a plausible connection, determined pragmatically, between the ‘possessor’ and ‘possessee’. Thus utterances like *l'home que la ciencia admiren* ‘the man that the science they admire’ are unacceptable in the sense of *l'home la ciencia del qual admiren* ‘the man whose science they admire’ or *l'home qual ciencia admiren* (Badia Margarit 1962, I:262). The acceptability of relative clauses with null genitives

depends, as a consequence, on the pragmatic link that the speaker establishes between the N in antecedent position and a suitable NP in the embedded clause. Thus a speaker who accepted *el pare que hem visitat el fils* 'the father that we visited the son' objected to *l'home que hem visitat el fils* 'the man that we visited the son', replacing it by *l'home de qui hem visitat el fils* 'the man of who(m) we visited the son'. We believe the source of the objection is that the link between *pare* and *fils* is evident, while the connection between *home* and *fils* is not.¹²

2.36. Let us now consider the relativization of adjectives and adverbials, as in 20.¹³ The complement of *saber* in 20a or of *pensar en* in 20b has the following structure: a neuter article *el* or *lo* is followed by the adjective or adverb in the position that is normally occupied in relatives by a noun; then follow the complementizer *que* and the embedded clause, with a gap corresponding to the adjective or adverb in antecedent position. From the perspective of traditional views on PS grammar, these constructions are problematic. As Lyons (1968:330–32) has pointed out, rules of the form $SN \rightarrow \dots N \dots$ lack the essential connection which is felt between the dominating category (SN) and the head (N). A traditional PS grammar does not overtly reflect the fact that SN is not a mnemonic symbol, but a constituent which is necessarily nominal because it has N as an obligatory head. The \bar{X} -notation establishes the necessary relation between categories and supercategories by stipulating that phrase-node expansions are of the form $X^n \rightarrow \dots X^{n-1} \dots$, where X^n and X^{n-1} have the same feature composition (Chomsky 1970, Jackendoff 1977; i.e., the notation takes endocentric constructions to be the unmarked case). When we consider the relative in 20a, for instance, we note that if the sequence *l'entremaliat que és aquell nen* is considered as an NP, and *entremaliat* is defined as the head, the category and the supercategory do not have identical features. From the point of view of the \bar{X} -notation, these constructions are marked; and we can see two ways of reflecting this character. First, if we try to develop a core grammar of PS rules, these configurations cannot fit that component, but must be described by peripheral rules generating exocentric constructions, such as Figure 4.

¹² Semantic relativization involves binding of a variable. It seems that this could be maintained for 19 under the pragmatic approach if we extend the proposal of Cooper 1976 and of Bach & Cooper 1978 that the translation of NP's contains a free property variable, or a complex expression made up solely of variables that would be assigned some value pragmatically. It would then be possible to give to *els fils* an interpretation similar to that of *els fils del qual (pare)*, which would include the variable necessary for relativization.

¹³ Catalan grammarians see the influence of Spanish in these constructions, and reject them from a normative point of view. The preferred versions are:

- (a) *No vulguis saber com és d'entremaliat aquell nen.*
not you-want to know how is of mischievous that child
- (b) *Pensa com arribava de tard.*
think how he-came of late

Spanish constructions with similar properties to these have been discussed in Rivero 1980b. French constructions that also resemble the Catalan examples are treated in Milner 1978.

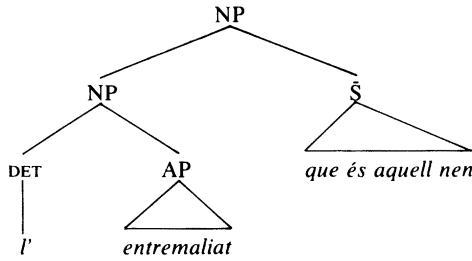


FIGURE 4.

The second approach is to have a core of PS rules which generates endocentric constructions for relatives; and is not supplemented by peripheral base rules; e.g., peripheral transformations raise an adverb or an adjective in the embedded clause to the antecedent position, violating structure-preservation. The derivation of the surface structures in 20 which are correlated with these two positions are: there is WH-movement of an adverbial or adjectival phrase in \bar{S} , and (a) the phrase is deleted once in COMP because it is recoverable, or (b) it is raised into the empty antecedent position. In either case, when *que* surfaces as the complementizer, the requirements of the empty COMP filter are satisfied. Either proposal predicts the ungrammaticality of 'true' relative pronouns in COMP:

- (43) **No vulguis saber l'entremaliat* $\left\{ \begin{array}{l} \textit{qu\`e} \\ \textit{el qual} \\ \textit{el que} \end{array} \right\}$ *és aquest nen.*

And neither proposal conflicts with the hypothesis that deletion is obligatory up to recoverability.¹⁴

2.37. Catalan has a limited class of infinitival restrictives, to which the analysis proposed for finite relatives is readily applicable. Consider this example:

- (44) *La pobra no tenia cap amic amb qui parlar.*
 the poor (one) not have any friend with who to-talk

This is a case of PP-relativization. *Amb qui* moves to COMP, and cannot be deleted; *que* does not surface. Object relativization involves deletion of the object relative, once it moves to COMP, and insertion of *que* in WH, to avoid the empty COMP filter. Thus, corresponding to 21a, we have:

- (45) NP[*res més*] S[COMP[WH[*que*] qu_i] S[PRO *dir t_i*]]

See Rivero 1980a for a similar analysis for Spanish infinitival relatives. Another variety of infinitival relativization from object position is also found, and this is the preferred alternative from a normative point of view; it is 21b. These constructions are similar to French structures of the type *Je n'ai rien à dire*,

¹⁴ The exocentric base has been proposed by Knowles 1978 and García-Bellido 1980. The transformational version is defended by Rivero 1980b. The reader is referred to these articles for a more detailed discussion of Spanish, and also to Plann 1980, which appeared after this article was written.

and are briefly mentioned by Kayne 1976. If they are to be considered along the lines suggested in our previous discussion, it could be proposed that *a* is an alternative way to fill the COMP by lexical insertion, with the result that the empty COMP filter is satisfied:¹⁵

$$(46) \text{NP}[\text{res m\`es s}[\text{COMP}[a\text{-}q\text{u\`e}_i] \text{s}[\text{PRO dir } t_i]]]$$

To summarize this section, WH-movement moves a phrase into COMP. Any type of WH-phrase or larger phrase containing a WH-element is obligatorily deleted, if recoverable, once in COMP. Thus, the categories affected by the deletion rule are those moved to COMP which happen to be recoverable, namely NP's, PP's, AdvP's, and AdjP's. As we shall see below, free relatives participate in all the devices proposed for headed relatives.

THE ANALYSIS OF FREE RELATIVES

3. The outline of this section is as follows. In §3.1, we specify the two competing hypotheses for the analysis of free relatives: the COMP vs. the Head proposal. In §3.2, we identify four types of candidates for free relatives in Catalan:

(a) Relatives that begin with a simple WH-phrase (*qui* 'who', *on* 'where', *qu\`e* 'what') and exhibit no complementizer *que*, as in ex. 47 below; we label these *qui* relatives.

(b) Relatives that begin with sequences like *el qu\`el* *que*, which can be analysed as compound relatives or as combinations of antecedent material followed by a simple relative or the complementizer (ex. 49); we call these *el qui* relatives.

(c) Constructions with a quantificational WH-phrase (*qualsevol* 'whatever', *quisvulga*, *quisvulla* 'whoever', *onsevulla* 'wherever') followed by the complementizer *que* (ex. 51); some seem archaic in flavor. We call them *onsevulla que* relatives.

(d) Relatives with a simple WH-phrase (*qui* 'who', *qu\`e* 'what', *on* 'where') followed by the complementizer *que*, (ex. 52); we call them *on que* relatives.

In §3.3, we examine these four constructions with respect to the COMP and the Head proposals, and we analyse types (c)–(d) as headed relatives. We eliminate the NP-S analysis in favor of the NP- \bar{S} hypothesis, which makes free relatives parallel to headed relatives in every respect; WH-movement places a relative in COMP, and the rule of obligatory deletion operates where applicable, subject to recoverability. The filters which block an empty COMP or a doubly-filled COMP ensure that this position contains a relative or the complementizer *que*, but not both.

¹⁵ There are no infinitival relatives where the relativized position is that of the subject: **Cerco un home {que, a} parlar en Joan* 'I am looking for a man to talk to John.' Chomsky 1980 has proposed rules of case assignment along with a filter against NP's that contain lexical material, but are not marked with case. In this system, the subject of an infinitive does not receive case. Given that a WH-word is lexical material, the relativized position in an infinitival clause cannot be the subject.

3.1. A free relative is a construction where the first constituent is a WH-phrase:

- (47) *Qui diu això, ment.*
 who says that lies

The recent literature has contained two competing hypotheses for the analysis of these relatives: the COMP proposal, and the Head proposal. In the first, the WH-phrase is located in the COMP position, while the head or antecedent is empty of lexical material, as in Figure 5 (e.g. Kuroda 1968, and others later).

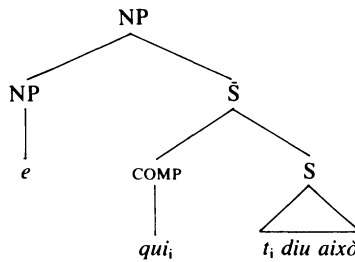


FIGURE 5.

In the second analysis, the WH-phrase is in antecedent position; and the complementizer is empty or absent because the embedded clause is an S, not an \bar{S} , as in Figures 6a–b (see Bresnan & Grimshaw 1978, Hirschbühler 1978).

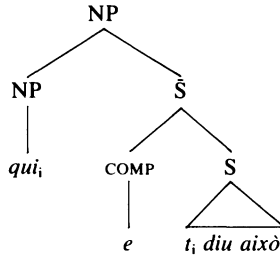


FIGURE 6a.

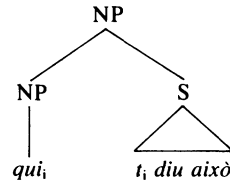


FIGURE 6b.

The Head analysis was first proposed to account for the ‘matching effect’ (Hirschbühler 1976, Grimshaw 1977): when the matrix sentence requires a category XP, and there is a free relative occupying the position of that category, the relative must have an initial WH-phrase of the category XP (*I read what you wrote* vs. **I read to what you referred*). This matching requirement follows automatically if the WH-phrase is in the antecedent position, since the head of the relative matches the features of the dominating category under the \bar{X} -notation. The COMP alternative, by contrast, has been proposed to account for the absence of the complementizer *que* in free relatives like 47. We return to these properties later.

3.2. A variety of Catalan constructions may be classified as ‘free relatives’, depending on the analyses proposed and the inventory of relative phrases. Type (a) is introduced by simple WH-words which can also appear in regular

headed relatives, and have no complementizers. Examples are 47, and the following:

- (48) a. *Aniré on tu vulguis.*
I-will-go where you want
b. *Què dona la pauta ... és l'estructura.*
what gives the tone/rhythm is the structure (Solà, 127)

Solà finds 48b in the writings of Badia Margarit.

Type (b) constructions are introduced by *el quilel quello que* sequences, under conditions to be discussed later:

- (49) *El {qui, que} diu això, ment.*
the {who, that} says that lies
'The one who says that lies.'
(50) *{Lo, El} que us interessa és la universitat.*
the that you interests is the university
'What interests you is the university.'

In type (c), relatives are introduced by quantificational elements such as *qualsevol* 'whoever'. These phrases cannot function as relatives when preceded by an antecedent. The *que* is obligatory:

- (51) a. *Anirà a cercar-lo onsevulla que*
they-will-go to look-for-him wherever that
s'hagi amagat.
he-has hidden (Fabra, 98)
b. **Anirà a cercar-lo onsevulla s'hagi amagat.*

Type (d) constructions are introduced by simple WH-phrases, which can function as relatives and be preceded by antecedents in headed relatives, followed by *que*. These are literary:

- (52) a. *Anirà a cercar-lo on que s'hagi amagat.*
they-will-go to look-for-him where that he-has hidden (Fabra, 98)
b. *Qui que segueixi atentament aquest curs s' haurà*
who that follows attentively this course himself will-have
ensenyorit.
become-an-educated-person (Solà, 126)
c. *Què que sigui, tinc por dels grecs.*
what that it is I-have fear-of-the Greeks (Solà, 127)¹⁶
'Whatever it is, I am afraid of the Greeks.'

3.3. In what follows, we consider how the two hypotheses in §3.1 fit the different candidates for the relatives in Catalan. As we shall see, constructions of types (c)–(d) are headed relatives in every respect.

3.31. *Qui* RELATIVES. In principle, both the Head and the COMP analyses indicated in Figs. 6a–b are possible for this type. Recall that, in §2, we proposed two filters for headed relatives: one to block an empty COMP, and one to block

¹⁶ Solà finds 52b in the introduction to the grammar of the well-known Catalan grammarian Marvà, and 52c in a recent translation of the *Aeneid*.

a doubly-filled COMP. If we apply these to free relatives, we must assume that *qui* is in COMP and cannot be deleted, because the process would violate recoverability (*que* does not surface)—or that *qui* is in antecedent position and there is no COMP, so that the empty COMP filter is inapplicable. In other words, we must eliminate Fig. 6a as a possible analysis, and choose between Figs. 5 and 6b. If we chose 6b, it would be necessary to provide additional PS rules (i.e. NP → NP S) especially geared to free relatives; this complication in the grammar would make the wrong predictions for headed relatives and noun complements, allowing them to occur without a COMP position:

(53) **El llibre hem trovat és interessant.* (cf. 16a)

- (54) a. *El fet que estigue aquí em molesta.*
 the fact that he-is here me bothers
 b. **El fet estigue aquí em molesta.*

When we consider the different constructions mentioned in §3.2 below, it will become clear that additional PS rules reserved for free relatives are not required,¹⁷ which leads us to accept the analysis of Fig. 5.

We assume that Catalan observes the matching requirement, on the basis of the grammaticality markings of the following:

- (55) a. *Invito (a) qui has invitat.*
 I-invite (to) who you-have invited
 'I invite whom you have invited.'
 b. **Invito amb qui 't'en anirás.*
 I-invite with who you-will-leave

The source of the deviance in 55b is that the material in COMP, i.e. *amb qui*, does not satisfy the requirements of the matrix verb *invito*. To account for matching effects under Fig. 5, we adopt the proposal of Groos & van Riemsdijk that, in free relatives of some languages, the COMP position must be accessible to the subcategorization requirements of the matrix clause when the antecedent is empty.¹⁸ Figure 7 (overleaf) is the constituent analysis for 55b.¹⁹ The PP in COMP does not satisfy the requirements of the matrix verb, and the result is deviant.

In the previous section, we proposed treating *on* 'where' as a PP. Now we are in a position to motivate this proposal further. Our hypothesis predicts the contrast in grammaticality in the following:

- (56) a. *He comprat la casa on vius.*
 I-have bought the house where you-live

¹⁷ For a more detailed discussion against the XP-S analysis in a variety of languages, see Hirschbühler 1978, Groos & van Riemsdijk 1979.

¹⁸ Groos & van Riemsdijk show that, in Dutch and German free relatives, the WH-phrase is a constituent of the embedded \bar{S} . However, the matching effects hold, and the relative phrase must fulfill the subcategorization requirements of the matrix verb. This leads to the conclusion that the COMP position is accessible to certain aspects of the matrix clause.

¹⁹ The matrix verb requires an NP direct object, which may be preceded by the preposition *a* if [+human], as in 55a. We have not represented this preposition in the tree, assuming that it is the result of an insertion rule.

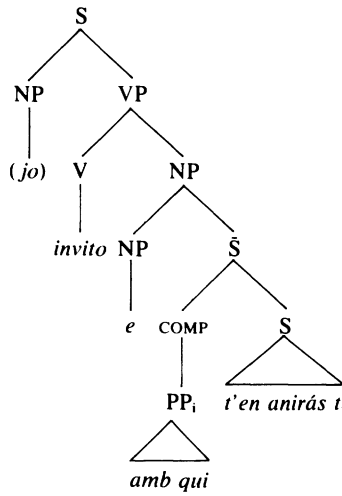


FIGURE 7.

- b. *??He comprat on vius.*
I-have bought where you-live

Here *he comprat* subcategorizes an NP: *He comprat la casa*. Ex. 56b is deviant under the interpretation in which *on vius* is a direct object, but not under the one where there is an empty object and *on vius* is a Place complement: 'I have bought (something) where you live.' The deviance results from the fact that *on* is not an NP. In the following examples, *estic* subcategorizes a PP in 57a; and *on* in 57b should be analysed as a PP:

- (57) a. *Estic a la casa on vius.*
I-am in the house where you-live
b. *Estic on vius.*
I-am where you-live

There appear to be a number of counter-examples to the claim that free relatives in Catalan are matching. Consider the following proverbs taken from Calveras (1930:236):

- (58) a. *A qui l'adulació halaga, si la pren la paga.*
to whom flattery pleases if it he-takes, it he-pays
'He who likes flattery, and accepts it, pays for it.'
b. *Al que li pique que se rasque.*
to-the (one) that him it-itches that himself he-scratch
'Let the one who itches scratch himself.'

Here the free relative begins with a PP, as required by the embedded verb; but the embedded clause is correlated with a subject role in the matrix, i.e. an NP position. We would like to propose that the free relatives in 58 are in TOPIC position. Free relatives in argument position must be matching, as in 55–57, but those in non-argument position (58) may escape the requirement. To analyse these types of examples, we can adopt recent proposals for left-dislocated and topicalized structures (Chomsky 1977). The free relative is generated in TOP position by the PS rules in the base, and a resumptive pronoun, or a null

subject, occurs elsewhere in the string, as in Figure 8, which corresponds to 58b.²⁰

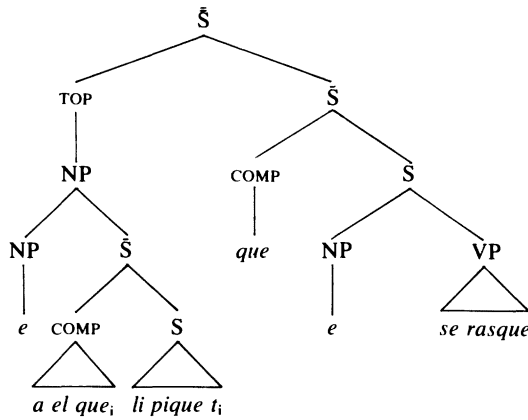


FIGURE 8.

We have not yet discussed the internal structure of free relatives, but in this case we treat *a el que* as a compound relative in COMP, with an empty antecedent inside an NP in TOP. We assume that the matrix has an empty subject to be co-indexed with the NP in TOP. As the presence of the complementizer *que* suggests, the relative is not within the highest \bar{S} in the tree.

Since non-argument positions, such as the node TOP in Fig. 8, are not subcategorized with respect to the matrix verb, it is not surprising that the free relative in those positions need not be matching. The free relative that occupies a subcategorized configuration must meet the requirements of the matrix verb.

3.32. *El qui* RELATIVES. Several factors here are difficult to separate descriptively. For the sake of exposition, let us present two ideal systems, A and B. The A system has the form *el qui* for human males, subject or object, and *el que* for the neuter, subject or object; *la qui* is reserved for human females. Thus *el qui us interessa* is equivalent to 'the man who is of interest to you', while *el que us interessa* is equivalent to 'whatever is of interest to you'. In this system, which is close to the one some grammarians would like to see as the norm (and which resembles Eastern Catalan), the *quelqui* opposition rests on the [\pm human] distinction.²¹ The B system is similar to that of present-day Spanish: *el que* is for human males, regardless of function; *la que* is for human

²⁰ Clefts, which we assume contain free relatives, may be non-matching:

Amb el que vaig més és aquest.

with the one I-go more is that one (Calveras 1930:188).

We omit discussion of these constructions; but we feel that their non-matching properties can be explained along the same lines as relatives in non-clefts. (See also Hirschbühler & Rivero 1980.)

²¹ Other regions of Catalonia, Valencia, and the Balearic Islands have preserved different article systems; e.g., Valencia uses *lo* for masculine and neuter. *Lo qui us interessa* may be equivalent to 'the man who is of interest to you', while *lo que us interessa* means 'whatever is of interest to you'.

females; and *lo que* is for the neuter (a use that Catalan normative grammarians dislike). Thus *el que us interessa* is equivalent to 'the man who is of interest to you' and *lo que us interessa* is 'whatever is of interest to you'. In system B there is no *quelqui* opposition, and the [\pm human] distinction rests on the articles *ello*. These are two ideal systems, however, since a single Catalan speaker may use all the listed forms with the meanings given—together with forms such as those mentioned in fn. 21—if from a dialectal area with an article system which differs from the one in modern standard Catalan.

We now turn to the constituent analysis and the derivation of these relatives under system A. Two analyses are available in principle. In view of the use of *lalles/els/el qui* as compound pronouns in headed relatives in some styles and dialects of Catalan (see §2.32), it is logical to assume that examples such as 49a have an empty antecedent, and a relative *el qui* in COMP, as in Figure 9.

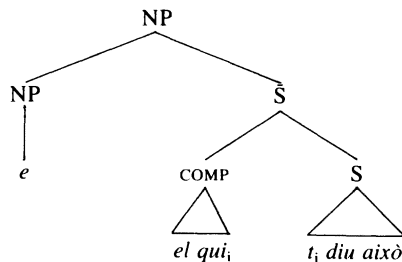


FIGURE 9.

Under this approach, we simply have an inventory of relatives, including *el qui* (or *el que* for the neuter), which surface in cases where deletion would be unrecoverable, namely certain PP-relativizations in headed relatives (but not subject, or object) and free relatives in general:

- (59) *No ens creiem fàcilment el qui hem atrapat*
 not us we-believe easily the who we-have caught
dient una mentida.
 saying a lie (Fabra, 95)

'We cannot believe easily the one we have caught telling a lie.'

This analysis treats *el qui* as a phrase parallel to *qui* in 47; the compound relative cannot be deleted, because it lacks an antecedent. Fig. 6a is not viable for these relatives, because of the empty COMP filter; in other words, *el qui* cannot be the antecedent of an \bar{S} -relative. The same analysis applies to *la qui* relatives; but it is slightly problematic for the neuter *el que*, because headed relatives do not exhibit neuter compound relatives. However, this is a minor difficulty, because lexical nouns in antecedent position can only be feminine or masculine. We will label this first proposal the 'Compound Relative Analysis.' Several factors indicate that *el qui* relatives may have a second structure, which we will label the 'El Antecedent Analysis.' First, in certain styles, *el qui* is not used in headed relatives, but only *qui* in the oblique; thus no simple evidence exists for the compound status of *el qui*. Second, relatives with no lexical N can also be of the following type:

- (60) a. *Aquell qui diu això, ment.*
 that (one) who says that lies
- b. *Tothom qui diu això, ment.*
 every (one) who says that lies

Forms like *aquell* ‘that (one)’ and *tothom* ‘everyone’ cannot be considered as part of complex relatives, but are clearly antecedents; this can be deduced from examples like 61, where *aquell* is separated from the relative by a P (the structure we propose for 61 is Figure 10):

- (61) *Aquell amb qui vaig més és company teu.*
 that with who I-go more is companion yours
 (Calveras 1930:206)

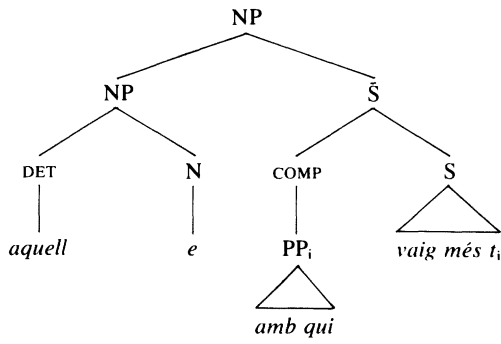


FIGURE 10.

All this suggests that *el qui* can be considered a sequence with *el* in antecedent position and *qui* in COMP, as in Figure 11.

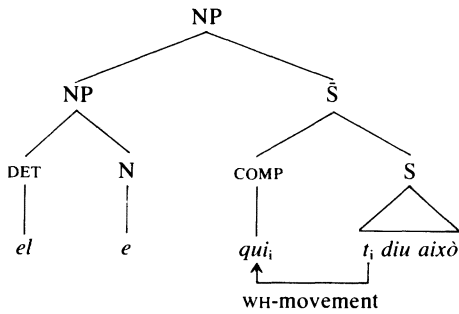


FIGURE 11.

An examination of the assumptions required to make this analysis viable will lead us to prefer a structure in which *el qui* is in COMP as a complex relative. Let us first point out that the neuter construction receives a somewhat different treatment under this analysis. Consider this example:

- (62) *El que m'afligeix més és de veure els dolents oprimir els bons.*
 the that me pains most is to see the bad oppress the good

The structure of the relative is shown in Figure 12.²²

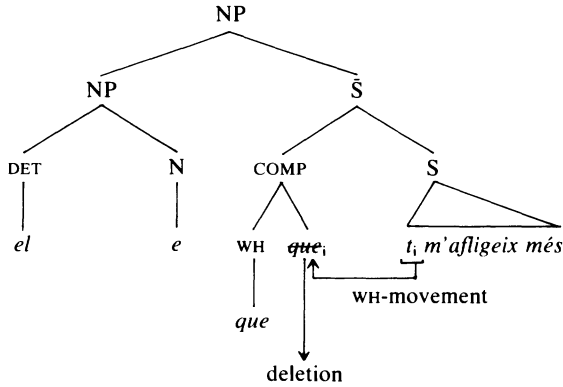


FIGURE 12.

The article *el* is in antecedent position, the subject relative in the embedded clause moves into COMP, and is deleted there. The complementizer *que* surfaces. Thus the proposal predicts the ungrammaticality of strings like **El què m'afligeix més ...*, and reflects our view that Catalan does not have a *que* form which is a simple relative pronoun; however, problems with this construction and deletion in COMP will be discussed later. A comparison of the derivations in Figs. 11–12 raises the problem of the nature of the rule of deletion in COMP. In §2, we maintained that the rule was obligatory up to recoverability. However, in Fig. 11 a subject *qui* relative remains in COMP; an object *qui* remains in 59. This is a pronoun which is obligatorily deleted under similar conditions in headed relatives, as seen previously. Furthermore, even though we are now describing an idealized system (A), it must not be forgotten that most Catalan speakers mix the two systems we have set up, so that examples like 49 are found in the speech of the same speaker; the deletion of *qui* in COMP appears to be optional in a derivation like Fig. 11. It could still be maintained that the rule of deletion is OBLIGATORY UP TO RECOVERABILITY in both system A and system B (the Spanish one), and that it is the co-existence of these two systems which gives an appearance of optionality to deletion in COMP.²³ In the A system, *qui* is not deleted because it preserves the animacy feature,²⁴ which the article

²² An analysis in which *el* is considered a personal pronoun is not possible. Personal pronouns in Catalan can be modified by restrictive relatives; but the 3sg. form in the masculine is *ell*, not *el*. Thus *el que diu això* 'whoever says that' contrasts with *ell que diu això* 'that one (deictic) who is saying that'.

²³ The co-existence of two or more systems is a question that has worried Catalan grammarians since the time of Fabra (1868–1948), who established the norm for literary Catalan. We feel that our proposal is a formal codification of some of the suggestions found in several Catalan grammars, e.g. Fabra 1969 and Badia Margarit 1962. In particular, we have greatly benefited from the extremely rich and suggestive description of the relative system found in Calveras.

²⁴ In free relatives with *el*, the masculine/feminine opposition is restricted to humans, i.e. to natural gender, and not to grammatical gender. When there is no antecedent in discourse—or in

system does not reflect; *el* is used for an animate or a neuter antecedent. Therefore, deletion of *qui* in COMP would violate recoverability. In the case of *la* as an antecedent, deletion of *qui* in COMP would be recoverable. An ideal system for recoverability purposes—a core grammar, so to speak—is not system A, but one we can label system C; it would include surface forms *el qui* for human males, *la que* for human females, and *el que* for the neuter. Thus a relative like *el qui diu això* would involve only movement, while *la que diu això* would imply movement and (recoverable) deletion. It could be suggested that analogy with the masculine system interferes to create a unified [\pm human] opposition based on the *quel/qui* contrast. In that case, we are led to postulate an exception to the application of the core-grammar rule of deletion in COMP for a specific case, namely *la qui* relatives. This addition cannot be considered a peripheral dimension in the sense used up to now (i.e., it is not a particular aspect of a rule which is outside the core, but does not contradict it); rather, it is what Koster terms ‘an auxiliary hypothesis’: a stipulation that allows us to maintain the principles of core grammar, explaining phenomena that fall outside what is predicted by those principles through marked, language-particular rules.

Consider again the derivation of sentences with neuter *el que*, as in 62. As mentioned before, there are no *el què* free relatives; this leads to the proposal that deletion in COMP is the only alternative for a neuter relative. However, the obligatory rule of deletion should not apply here because, strictly speaking, it would violate recoverability in the same way as the deletion of *qui* in Fig. 11. Therefore a special process to delete a specified formative *què* is required.²⁵

In our view, the multiplicity of unmotivated devices required to maintain the hypothesis that the forms *el/la* are in antecedent position, and the *qui/que* forms in COMP, leads to the rejection of this proposal in favor of the analysis that treats *el qui*, *la qui*, *el que* as compound relatives in COMP with an empty antecedent—a conclusion reached by Calveras 1929 for very different reasons.

Let us turn to the B system, and see how it can interact with system A under the Compound Relative proposal already selected as the simplest hypothesis. If it is proposed that the sequences *el que*, *la que*, *lo que* in the B system must be treated as compound relatives in COMP, the only addition required is to enlarge the inventory of compound relatives. If we blend the A and B sys-

context, in the sense of Hankamer & Sag 1976—the opposition between masculine and feminine pronouns is restricted to humans. This is clearly seen in the following French examples:

- (a) *Celui qui a bu boira* ‘The man who drank will drink.’
- (b) *Celle qui a bu boira* ‘The woman who drank will drink.’
- (c) **Celui qui est écrit sera lu* ‘The one that is written will be read.’

Ex. (c) is ill-formed if interpreted as referring to an object—the only reasonable interpretation, unless there is an antecedent (e.g. a mention of some books in discourse, or in the situational context). We feel that the human interpretation of Cat. *el quilla qui* relatives falls under the same category, and will discuss it no further.

²⁵ An alternative conception of recoverability would consider the deletion of one of the WH-words (e.g. *què*) to be recoverable so long as the surface exhibits a contrast.

tems, we obtain a total of five compound forms (in the singular), as shown in Table 1.²⁶

	MALE	FEMALE	NEUTER
<i>el qui</i>	+		
<i>la qui</i>		+	
<i>el que</i>	+		+
<i>la que</i>		+	
<i>lo que</i>			+

TABLE 1.

El qui and *la qui* are unambiguous, but *la qui* has the same role as *la que*; *el que* is ambiguous between *el qui* and *lo que*. Both redundancy and ambiguity are added to the lexical inventory, but no syntactic modifications result. WH-movement and obligatory deletion in COMP apply as in headed relatives.

System A is one of compound relatives only; but it is possible that system B combines the *El Antecedent Analysis* and the *Compound Relative Analysis* (as proposed by Rivero 1980a for Spanish). A Spanish example like the following has the derivation of Figure 13 in such a proposal:

- (63) *el que admiramos*
the that we-admire

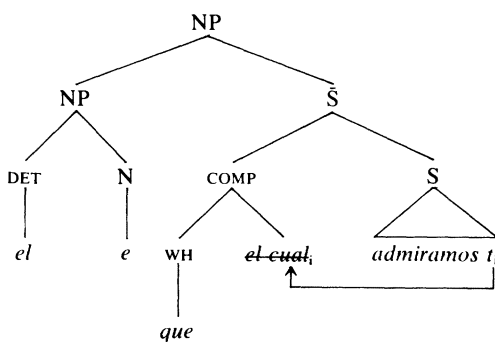


FIGURE 13.

Ex. 63 is a headed relative with an empty N, and the relative is deleted obligatorily once in COMP because it is recoverable; the article system preserves

²⁶ As indicated in fn. 21, other article systems exist—especially the variety using *lo* for masculine and neuter. If a speaker combines systems A and B with the one in fn. 19, the result is the proliferation of forms reflected in the following table (which includes the opposition between neuter and masculine items only).

	MASCULINE	NEUTER
<i>el qui</i>	+	-
<i>el que</i>	+	+
<i>lo qui</i>	+	-
<i>lo que</i>	-	+

This system reflects the actual speech of a speaker born in the Tarragona region, in a location that uses the *lo* article system; this speaker moved to Barcelona and acquired the standard variety, which today is a combination of the A and B systems.

the [\pm animate] distinction. This analysis applies to relatives whose function is non-oblique in the embedded clause. When the relative originates in oblique position, it is not deleted; the *el que* sequence is a compound relative in COMP (this is shown in Figure 14):

- (64) *Este libro es del que te parlé.*
 this book is of-the that you I-spoke
 'This book is the one I spoke to you about.'

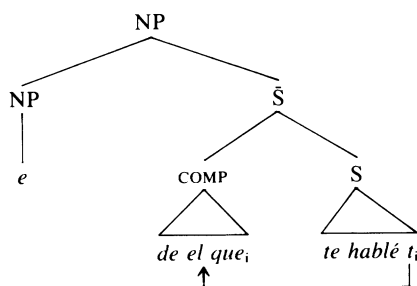


FIGURE 14.

No additional mechanisms are required, because this analysis for system B parallels that of headed relatives in every respect.

In conclusion, we have been led to accept a Compound Relative Analysis for relatives under system A. In system B, however, the *El* Antecedent Analysis for certain constructions fits the requirements of obligatory deletion, and of the processes applicable to headed relatives. This means that sequences like *el que* and *lo que* are, in principle, open to a double analysis in free relatives, because of the existence of two paradigms. One analysis treats relative constructions beginning with the sequence *el que* as headed relatives; the other one considers them free.

At this point, it is interesting to indicate another type of construction in which the sequence *el que* is not open to a double analysis, and which is carefully separated from free relatives by traditional grammarians. Given that the N in antecedent position need not be lexically filled in the surface, the following relatives are well-formed:

- (65) a. *aquest llibre i el llibre que et vaig deixar*
 that book and the book that you I-lent
 b. *aquest llibre i el que et vaig deixar*

Obviously, the relative in 65b is a headed relative with a null N and a *que* that must be identified as the complementizer once the object relative disappears; see Figure 15, overleaf.

No other analysis is possible for 65b, for several reasons: (a) *el que* refers to a masculine inanimate entity, an interpretation which is impossible in free relatives; (b) material can intervene between *el* and *que*, as in *el altre que et vaig deixar* 'the other (one) that I lent you'; (c) contrary to what happens in free relatives, the *el qui* sequence is ungrammatical in the standard variety here described—

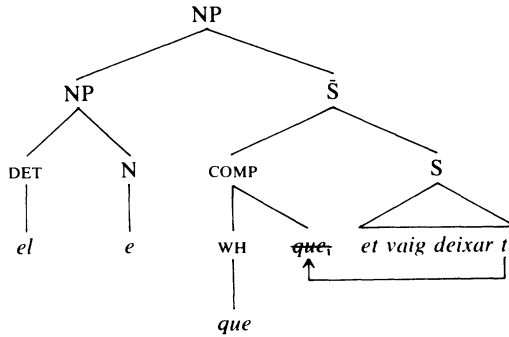


FIGURE 15.

- (66) a. *Hi havia el nostre metge i el que havien anat a cercar.*
 there was the our doctor and the that they-had gone to look-for (Fabra, 96)
- b. **Hi havia el nostre metge i el qui havien anat a cercar.*

Ex. 66b does not contain a free relative, but a headed one with an empty N that is deleted (or interpreted) with respect to the previous N *metge* ‘doctor’. Because the structure is a headed relative, its object WH-phrase (*qui* ‘who’) must be deleted, giving 66a as the only grammatical output—where the form *que* is identified as the complementizer. Even though the syntax of 66 is very similar to that of free relatives under the *El* Antecedent Analysis, there is no interference between the two constructions because of the different interpretation and distributional properties.

In all the analyses considered for *el qui* relatives, there is always an \bar{S} -structure with a COMP that dominates lexical material. This makes free relatives totally parallel to headed relatives, which must also have a filled COMP in the surface. The empty COMP filter applies identically to free and headed relatives. Before we conclude this section, it should be mentioned that an analysis which considers that the *el qui*-type sequence is in antecedent position with an S-relative as complement, as in Figure 16, requires the addition of PS rules which, as noted before in relation to *qui* relatives, forces us to posit separate mechanisms for headed and free relatives.

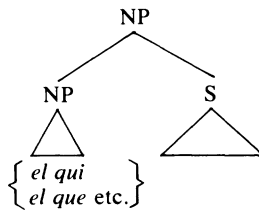


FIGURE 16.

3.33. *Onsevulla que* RELATIVES. The third type of relative lacking a nominal antecedent contains a phrase that can be analysed as a complex relative,

followed by the complementizer *que*. The filter blocking a doubly-filled COMP eliminates the analysis where there is no antecedent, and where the quantificational phrase and the *que* are two independent elements in COMP, as in Figure 17.

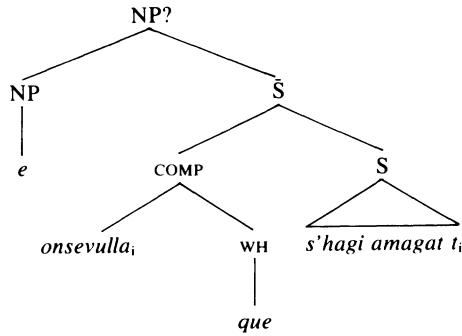


FIGURE 17.

In addition, such a proposal implies that WH-movement places the relative to the left of the complementizer, and not to the right as we have assumed.

The null hypothesis is to place *onsevulla* in antecedent position, with *que* surfacing as the consequence of the deletion of the relative once in COMP. Thus these structures should be analysed as headed relatives; see Figure 18.

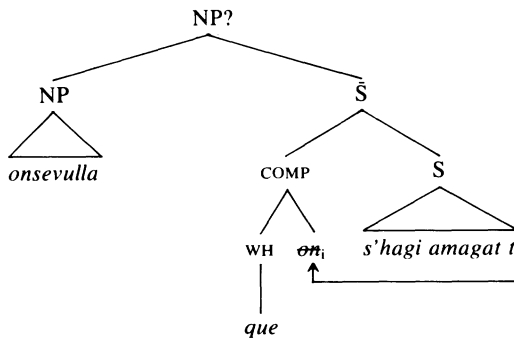


FIGURE 18.

In other words, we take the presence of the complementizer *que* to be an indication that the *onsevulla* phrase is not in COMP. Since neither an empty COMP nor a doubly-filled COMP is allowed, the only structure that can be assigned to 51 is that of Fig. 18.

3.34. On *que* RELATIVES. The fourth variety contains a WH-pronoun followed by a *que* complementizer. Our assumptions force us to conclude that *on*, *qui*, and *què* in 52 are in antecedent position, in view of the filter against a doubly-filled COMP; *que* is the complementizer that surfaces once the relative in COMP is obligatorily deleted, as in Figure 19 for 52b.

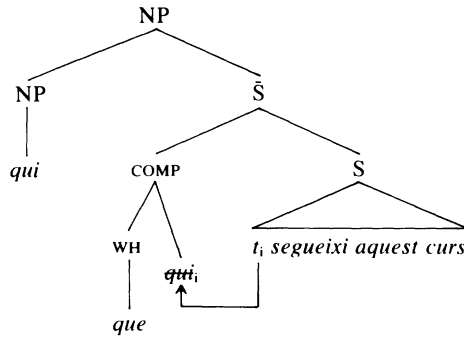


FIGURE 19.

As in the previous type of relatives, we take the presence of *que* to indicate that the WH-phrase is not in COMP. In §2, we postulated two types of PS rules for headed relatives: NP → NP \bar{S} and PP → PP \bar{S} . At the same time, we assumed that *on* was a PP, a hypothesis further motivated by its behavior in free relatives under the so-called matching phenomena. These two proposals combined allow us to analyse the relative in 52a as in Figure 20.

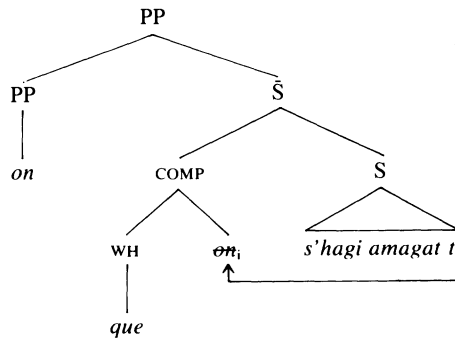


FIGURE 20.

If we compare free relatives of the type of *On s'ha amagat ...* with the type *On que s'hagi amagat ...*, we are led to propose that certain phrases have a double lexical classification as non-WH and WH-phrases; they can function as antecedents or as relative words in COMP. In either case, the presence vs. the absence of the complementizer is an indication of the role played by the pronoun; see Figure 21. Here the complementizer *que* cannot surface because the pronoun is undeletable and the COMP is already filled.

The theory does not distinguish between antecedent and non-antecedent position at the level of lexical insertion. In particular, under the transformational analysis, WH-phrases are generated in the position corresponding to their categorial status in the base—predicting, e.g., that any NP WH-phrase can be inserted in any NP position, including the antecedent one. Consider the situation in relation to English sentences of the type *What that you bought don't you like?* Here *what* is the antecedent of a relative clause beginning with the

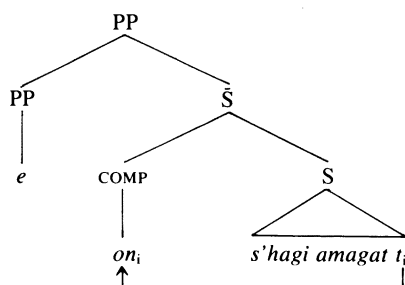


FIGURE 21.

complementizer *that*. The only interpretation available for *what* is that of an interrogative pronoun; in particular, the free-relative interpretation is excluded. It seems that, in general, WH-phrases have either an anaphoric or a non-anaphoric use, and a few have both. The anaphoric use is that of a relative pronoun; in the Romance languages, particularly in Catalan, this use is related to the COMP position. The relative pronoun is an anaphoric element which is interpreted with respect to an antecedent position. If the relative pronoun is in the antecedent position, it cannot play its anaphoric role, and the corresponding sentence would be uninterpretable under the 'relative' reading. The usual non-anaphoric use of a WH-phrase is the interrogative one found in the English example above (and the exclamative one, which we omit from the discussion; see Milner).

The prediction is that a 'true' relative cannot occur in antecedent position. However, as we have seen, Catalan exhibits words with a relative use (*on*, *qui*, *què*) in antecedent position in structures which do not have a question interpretation. It could be proposed that the structures are marked; but a better approach is to complicate the lexical entries of those elements, by providing a three-way classification for them. They can function as interrogatives; or as relatives transported by WH-movement; or they can be indefinite lexical items with a quantificational interpretation—in the strict sense, not WH-phrases.

To summarize this section, we propose that free relatives are parallel to headed relatives in basic structure and derivational history, and that they are sensitive to the filters against doubly-filled and empty COMP's. We take the presence of the complementizer *que* to indicate that the WH-pronoun is in antecedent position: in brief, when there is a *que* complementizer in the structure, the relative is headed. The absence of *que* indicates that the WH-phrase is in COMP, and the antecedent is empty (i.e. the relative is free).

CONCLUSIONS

4. We are now in a position to return to the core/periphery distinction mentioned in §1, and to outline a program of comparative research. To do this we will concentrate on the phenomenon of deletion in COMP. This aspect of the grammar of Catalan can be conceived as an aggregate of independent dimensions; the unmarked ones belong to core grammar, the marked ones to the periphery. As for the deletion rule discussed in §§2–3, our hypothesis is that 'Delete up to recoverability' represents the core aspect(s), while the obligatory

nature of the process in the standard language is a marked dimension. Let us see why.

The properties of core deletion rules have not been discussed in detail within the EST. However, in the present model the unmarked situation is for different types of rules not to be obligatory; in particular, transformations and lexical insertion rules are optional. If we extend the same requirements to core deletion processes (i.e. delete in COMP), these should apply optionally in the unmarked case, and be obligatory only at a cost under the logic of markedness.

Within this approach, the question of how the marked aspects may be learned needs clarification; the unmarked aspects are considered easy to learn. Since we have concluded that deletion in COMP in Catalan has an obligatory dimension which is marked, we will now briefly discuss the type of evidence that must be available to the learner in order to acquire marked or peripheral dimensions. Under a model that distinguishes core from periphery, a natural hypothesis is to assume that, as soon as learners have evidence for positing a rule of deletion, they formulate the process in accordance with core grammar—i.e. unrestricted as to the categories that it can delete, and optional. In order to account for the obligatory character of deletion, e.g. in connection with WH-NP's in 15–16, learners must know that not applying the rule leads to ungrammaticality; i.e., they must have access to negative information. In modern French, the same can be said with respect to PP's in examples like 36.²⁷ This conclusion conflicts with the position that the learner does not have access to negative evidence when acquiring a language, as proposed by Baker 1979. However, there is a major difference between the processes considered by Baker and those studied in this paper. Baker is concerned mainly with alternations involving specific lexical items, such as those found in the dative construction in English. But as regards rules such as deletion in COMP, which are structurally defined, we think that access to negative evidence is possible in an indirect manner. For example, if a WH-NP is never found in COMP, but only the *que* complementizer, learners will encounter numerous examples of this situation; they can then assume that the presence of the relative is impossible in that position. Thus a marked dimension in a rule can be learned, if access to negative evidence is available. This seems to be true for rules which are not narrowly restricted by lexical properties in their application.

In view of all this, let us go back to our statement that rules of deletion should be optional in core grammar. The proposal can be maintained with the result that the obligatory aspect in the Romance languages is a marked dimension that presents no problems for the learner.

In §1, we pointed out that the peripheral or marked dimensions of a rule restrict, but do not contradict, the predictions made by the core dimensions. If the unmarked aspect is optionality, the core generates a certain set of constructions; and the added peripheral dimensions (no deletion of PP's in French, and obligatoriness elsewhere) admit only a subset of what is generated by the

²⁷ In a few cases, it is possible to delete certain French PP's in COMP, under equivalence with a PP antecedent: *au moment que je pénétrais dans la clarté d'un lampadaire* 'at the moment that I entered into the light of a street light'. The above example is cited by Grevisse (1964:472), who takes it from Duhamel.

core. Assuming our approach, it is not possible to maintain the obligatory option as the unmarked case, since the peripheral dimension needed for the Romance languages under that assumption would systematically generate constructions not permitted by the core. If the predictions made by a putative core dimension of a rule are contradicted by the peripheral dimension (as in the approach developed by Koster), we suggest that a better strategy is to modify the core dimension so that it is not contradicted. This does not necessarily mean that the theory should exclude dimensions that contradict the core in all marked situations. If a scale of markedness could be developed, it seems to us that the peripheral dimensions we have identified in this paper are less marked than Koster's auxiliary hypotheses.

Let us return to the categories deleted in COMP. As shown in §2, Catalan NP's, PP's, AdjP's, and AdvP's are deleted if recoverable. In our view, this represents the core situation (i.e., delete up to recoverability). As mentioned previously, PP's in COMP are not generally deleted in French: this represents a marked situation that must be reflected through the addition of a peripheral dimension to the core aspect. If we assume that the core dimension is something like 'Delete α in COMP', where α represents any category, then the marked dimension in French is a narrower specification of α in terms of features. If we accept the system of Chomsky 1970, the peripheral dimension selects the matrix [+N, -V] to delete NP's only. This proposal allows us to reconsider the other marked dimension of the rule in French, namely its obligatory character, as proposed by Kayne 1976: **l'enfant le quel nous connaissons* 'the child whom we know' vs. *l'enfant que nous connaissons* 'the child that we know'. First we note that, in restrictive relatives with lexical antecedents, NP's in general are ungrammatical in the COMP position in French, as pointed out by Kayne. Thus the French equivalents of the Catalan examples in 28 are ill-formed: **L'enfant le père de qui nous a salué est malade*. This state of affairs is not reflected by the obligatory dimension of the deletion process, because if the rule were to apply, recoverability would be violated. One way to exclude the French sentence is to add a (peripheral) filter against NP's in COMP under the appropriate circumstances. Assuming the existence of such a device, it is no longer necessary to propose that the obligatory dimension is part of the deletion rule in French. The process can be considered optional (i.e. the core situation); the NP filter excludes those structures where deletion has not applied.²⁸

²⁸ If deletion in COMP in Catalan were considered optional, the following situations in which the rule applies obligatorily would require explanation: (a) relative NP's (i.e. objects and subjects); (b) time complements; (c) constructions with an adjective or an adverb in the antecedent position; (d) *onsevulla que* and *on que* 'free' relatives. Vergnaud 1979 relates the impossibility of 'true' subject and object pronouns in French restrictive relative clauses to the lack of anaphoric uses of subject and object non-clitic personal pronouns. In his view, **Jean croit que tu as vu lui* 'John thinks that you saw him' and **Le garçon le quel tu as vu est malade* 'The boy whom you saw is sick' are ungrammatical because *lui* and *le quel* do not have anaphoric uses in the traditional sense in non-oblique position. If this proposal could be extended to Catalan, the cases mentioned in (a), above, could have optional deletion; and the ungrammaticality resulting from the non-application of the rule would follow from the status of the relatives in these positions. The other cases would require additional mechanisms.

To sum up, in Catalan (and Spanish) the marked character of deletion in COMP is the specification of the obligatory parameter. In French, it could be tentatively proposed that the peripheral dimension includes the restriction of the categories that are deleted, but not the apparent obligatory quality.

In this conclusion, we have compared the grammar of related languages in their present state. However, we feel that the distinction between core and periphery as defined here can provide a fruitful framework for historical grammar, by establishing a way to compare the changes in the dimensions of a rule at different stages. If the processes of a language are seen as a conglomerate of core and peripheral dimensions, it would seem that the unmarked aspects of rules do not change, and that historical evolution affects only the peripheral dimensions.

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