

The complementizer signature

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1. Introduction

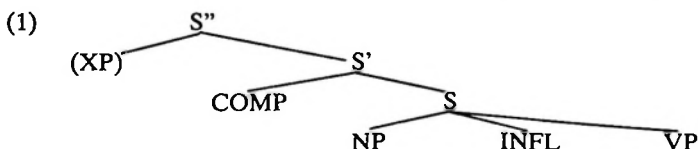
A review of the literature growing out of the Extended Standard Theory in the last ten years leaves the unmistakable, and correct, impression that one of the major areas of concern of syntacticians working within this general perspective has been the intricacies of the interaction between the placement of fronted *wh*-words, the morphosyntax of the sentence-initial complementizer, and the possible displacement of the subject NP that would otherwise follow the Comp position — displacement either leftward via *Wh*-movement, or rightward due to an inversion with a following finite verbal element. A stream of proposals have been offered to account for smaller or larger subsets of these phenomena, frequently involving baroque appeals to extensions of Case theory, X-bar theory, and binding theory, in studies ranging over English, French, German, Dutch, and other languages.

It is the purpose of this paper to present what is in certain respects a radically different approach to a wide range of facts of the sort alluded to above. This approach involves what we will refer to as the “complementizer signature” (already proposed in Goldsmith (1981b)), a handy name to refer to a set of morphosyntactic features that are localized, we will propose, on the Comp position. Our primary proposal can be simply expressed in the lingua franca of transformational grammar: it is that under certain general conditions, the application of a transformation will be accompanied by the occurrence of a transformation-specific feature on the Comp node of the sentence in question. The surface realization of that Comp node will then be dependent on the composite set of morphosyntactic features present at

surface structure. Put simply, when a transformation applies at the Sentence level, it leaves its signature on the Comp node, and the sum of the signatures left is spelled out morphologically on that Comp. The Complementizer node is thus seen to actually have a syntactic function — that of marking the degree of transformational deviation to be encountered in the clause away from the basic or neutral structure of the language.

When the proposal is considered in the abstract, away from the particular formulation adumbrated above, it can be seen to be by and large independent of any of the particular syntactic frameworks which are in vogue today; although its details may in some respects come into conflict with the details of current GB theory, for example, the conflict is more apparent than real. The deeper conflict that the current proposal may encounter — about which I will have very little to say — derives from the fact that it undermines the *faute de mieux* argument that has supported a good deal of argumentation in the current literature. That is, I will show that the Comp signature approach provides an extremely simple and elegant account of such phenomena as the No Complementizer Condition (Goldsmith 1981a), the *que/qui* alternation in French, and the “that-trace filter” in English; I will also show that it provides a simple method of grammatical book-keeping which allows for spare grammatical descriptions of more complex systems, descriptions which (if this general approach is correct) would be trivially easy for language-learners: that is, Comp-signature analyses can be trivially projected from the data at hand, as we shall see. From a historical point of view, we might view the current proposal as an exploration of what EST syntax would have looked like if the idea of free deletion in Comp had never occurred to anyone.

Let us begin with an idealized model of a grammar, but one which we shall suggest shortly is not far different from that of French and English. Assume that the phrase-structure of the sentence is as in (1), and that there are two transformations in the language, Move-wh and Subject-INFL Inversion (the latter which I shall refer to as simply “Inversion”).



The XP position under S'' is, *inter alia*, the landing site for wh-movement (i.e., for Move-wh); the Comp position, under S', is strictly reserved

for grammatical formatives of the category we typically call complementizers (one may see Goldsmith (1981a,b) for discussion defending this traditional view; it has recently been proposed within a Government-Binding framework in Chomsky (1986)). S" itself may be either the topmost (mother, root, initial symbol) node in the tree, or may be dominated by higher material in a tree.

For present purposes, we may assume that "Comp" is a non-decomposable categorial name (i.e., morphosyntactic feature). Let us refer to the formative which is of this category, but marked with no other morphosyntactic features, as the "neutral complementizer." In English, the neutral complementizer is *that*, with perhaps an optional null realization; in French, it is *que*; in German, it is *daß*.

If other grammatical processes intercede, additional morpho-syntactic information will be placed on the Comp node in the syntax. We assume that regardless of where in the derivation one wishes to speak of the grammatical formative being "inserted," its contribution to the sentence's well-formedness is determined at surface structure. The condition which must be met is (2):

(2) **Feature Realization Condition:**

The lexical entry of an element in a grammatical position (e.g., COMP, but not N, A, V) must be fully specified for all of the morphosyntactic features marked on the node in question.

The primary consequence of (2), the Feature Realization Condition, is that, all other things being equal, the neutral complementizer can *only* appear on a Comp position which has received no further morphosyntactic specifications.

Two questions naturally arise, then: (1) how can additional morphosyntactic information be placed on a Comp node?, and (2) what is the outcome if there is no grammatical formative in the lexicon of a language that is specified for the complex of features on the Comp position?

The answers to these questions, in turn, are: (1) additional morphosyntactic features can be placed either by simple language-specific rules, or, much more importantly, by the Comp-signature Convention to which we turn directly; and (2) if no element exists that matches the morphosyntactic requirements of a Comp node, then the Comp node remains unfilled, and thus phonologically null.

We offer a formulation of the Comp-signature convention here, making reference to the basic sentential schema in (1):

(3) **Comp-signature Convention:**

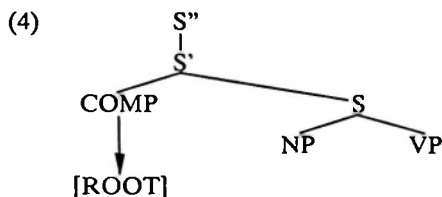
If a transformation (e.g., Move-wh or Inversion) applies to a sentence S and involves an element immediately dominated by that S, a morphosyntactic feature identified with that transformation (its "signature") is placed on the Comp position of that S.

The unconventionality of this convention requires several words of qualification and of warning. First of all, the wording in (3) suggests a certain order of cause-and-effect, that the transformation is a free agent and leaves its "trace," its signature as a morphosyntactic feature, when it applies. While this is not a bad metaphor (and is, indeed, probably the easiest way to think about the matter from the point of view of EST), it is only a metaphor and not an inherent claim of the theory by any means.

Second, the application of a rule such as Move-wh leaves its signature in Comp just in case it applies to an element immediately dominated by S, which means in (1), whenever Move-wh moves a subject, but not an object, NP. Inversion, however, will always leave its signature in Comp. It goes beyond the limits of this paper to discuss nonconfigurational languages (i.e., languages without a VP node), but it should be clear that certain subject/non-subject asymmetries would be lost in such languages; extraction from non-subject positions would potentially have a direct effect on the Comp signature.

Finally, let us consider one other way in which the Comp position may be marked with morphosyntactic information in addition to the Comp-signature Convention. There is strong — overwhelmingly strong, in my opinion — reason to recognize a Comp position for all Ss, including (and this is the relevant point) main clause sentences. Nonetheless, main clause Comps rarely are phonologically overt, and when they are, it is because of some further grammatically special element or construction that is involved (e.g., English "Oh, that this too, too solid flesh would melt!," or French "Qu'elle entre!"). In general, main clause Complementizers are phonologically null, then, and from the perspective just outlined, the most natural way to describe this is by allowing a universal convention to place a morphosyntactic feature (call it ROOT) on the Comp position of a main clause. I will refer to this convention as the Root-Comp convention; its effects are illustrated in (4). As already explained, if there is no special complementizer in the grammatical lexicon of the language marked with the feature "ROOT", then the Comp in (4) will remain phonologically null. A natural further hypothesis, though one which is logically independent of the other parts of

the proposal, is that all root transformations are of the class that leave a Comp signature.



Let us now see how the principles outlined so far produce the results suggested above: they account naturally and in a unified manner for (1) the effects of the No-Complementizer Condition, (2) the *that*-trace filter, and (3) the *quel/qui* alternation in French.

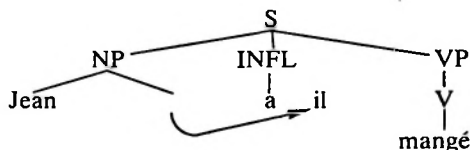
2. The No Complementizer Condition

The reader will recall that the No Complementizer Condition (Goldsmith 1981a) was proposed in order to account for certain cross-dialect facts of French, and cross-linguistic facts involving French, English, and Igbo. In all the cases discussed — and for the moment I shall restrict the discussion to the case of Subject Clitic Inversion in French — an Inversion process involving (part of) the subject NP and the INFL (or AUX) node was shown to be subject to the odd condition that the Inversion could not apply if there were an overt complementizer: hence the name, the No Complementizer Condition.

Let us review here the main points of the data covered by the No Complementizer Condition. The rule of Subject Clitic Inversion (first discussed in detail by Kayne (1972)) puts a clitic subject pronoun to the right of the finite verb (which in French appears quite generally in INFL), as schematized in (5). Following Kayne's original formulation, this rule moves a subject clitic from a position essentially under the subject NP node (though Kayne's precise formulation is slightly at variance with this). Whether this particular assumption is followed, or whether the subject clitic is "inserted," or inverted from a position under INFL, is irrelevant for our present purposes, since in any of these cases the Comp signature conventions will work in parallel fashion. The rule of Subject Clitic Inversion frequently applies in main clauses (as in (6)), but can also apply in embedded clauses (as in (7)); however, when it applies in either main or embedded

clauses, its application is in complementary distribution with an overt complementizer.

(5) Subject Clitic Inversion.



- (6) a. *(Jean) a-t-il mangé?*
 (Jean) has-he eaten?
 b. *Quand (Jean) a-t-il mangé?*
 When (Jean) has-he eaten?
 c. *Aussi la police a-t-elle répondu aussi vite que possible.*
 And-so the police [has-it] responded as quickly as possible.
- (7) *Il est évident que si habiles soient-ils, les candidats de la gauche n'auront aucune chance aux élections.*
 It is clear that however adroit they be, the candidates on the left will not have a chance in the elections.

This complementarity is striking both in cases like that of (7), where the clause with the Inversion can be paraphrased as in (8a), with an overt (neutral) complementizer; Inversion is then impossible, as we see in (8b).

- (8) a. *Il est évident que si habiles qu'ils soient,...*
 It is clear that however adroit that they are...
 b. **Il est évident que si habiles que soient-ils,...*
 It is evident that however adroit that are-they...

Similarly, certain sentence adverbs may appear presententially; those that do so fall into several categories regarding the behavior they require of the following complementizer. Some (e.g., *bientôt* "soon") require a null complementizer, as in a normal main clause (9a); some require no complementizer and Inversion, as in (9b); some take an overt neutral complementizer *que*, as in (9c); in this case, inversion is quite impossible. Other

adverbs allow more than one kind of behavior, as with *peut-être* (9d,e), but the main point as far as the No Complementizer Condition is concerned is that in no case do we ever find that Inversion is allowed when there is an overt complementizer, as in (9f).

- (9) a. *Bientôt (*que) Marie sera de retour.*
 Soon (*that) Mary will be back.
- b. *Aussi la police a-t-elle répondu aussi vite que possible.*
 And-so the police responded as quickly as possible.
- c. *Heureusement que j'étais là.*
 Fortunately that I was there.
- d. *Peut-être Jean est-il parti.*
 Perhaps Jean has-he left.
- e. *Peut-être que Jean est parti.*
 Perhaps that Jean has left.
- f. **Peut-être que Jean est-il parti.*
 Perhaps that Jean has-he left.

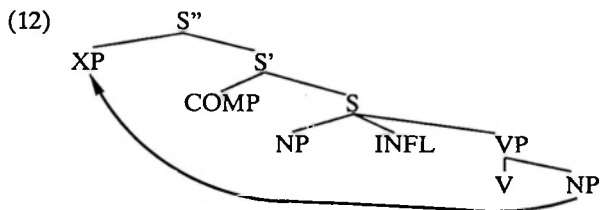
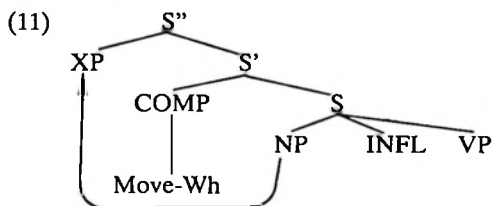
If we view this range of phenomena from the perspective of the Complementizer Signature, we see it is exactly what we would expect to find. When the rule of Inversion applies, it leaves its signature (so to speak) in Comp. A Comp position bearing the morphosyntactic feature [INVERSION] can never be filled on the surface with the neutral complementizer *que*, by (2), the Feature Realization Condition; that is all that needs to be said. Such a Comp position *could* be filled by a complementizer marked INVERSION, if such a complementizer should exist in the lexicon, but in its absence, no complementizer may fill the position. We will suggest below, though, that there *is* an INVERSION complementizer in French, *est-ce que*, with certain other properties.

3. The *that*-trace filter

The *that*-trace filter in English works in precisely the same way. As is well-known, wh-extraction from a subject position is incompatible with an immediately preceding overt complementizer, and contrasts such as those in (10) have been repeatedly discussed in the literature. In (11), the relevant syntactic construction is sketched with extraction from subject posi-

tion; in (12), with extraction from non-subject position. The Comp-signature convention guarantees that in case (11) and only in that case will the Comp-signature of Move-wh be left on the Comp in question. In that case, then, the Comp position cannot be filled on the surface by the neutral complementizer (*that*), by (2), the Feature Realization Condition. Hence, in the absence of any other complementizer in the English lexicon bearing the morphosyntactic features [COMP, MOVE-WH], the Comp position must remain empty, giving us the correct surface forms. Nothing similar happens in (12), as predicted, since movement is from a non-subject position, a position not dominated by S, and hence the Comp-signature Convention (3) does not allow the [MOVE-WH] marking on the Comp node. Thus this phenomenon is directly handled with no additional mechanism of any sort.

- (10) a. Who did you say (that) John had met?
 b. Who did you say — had helped John?
 c. *Who did you say that — had helped John?

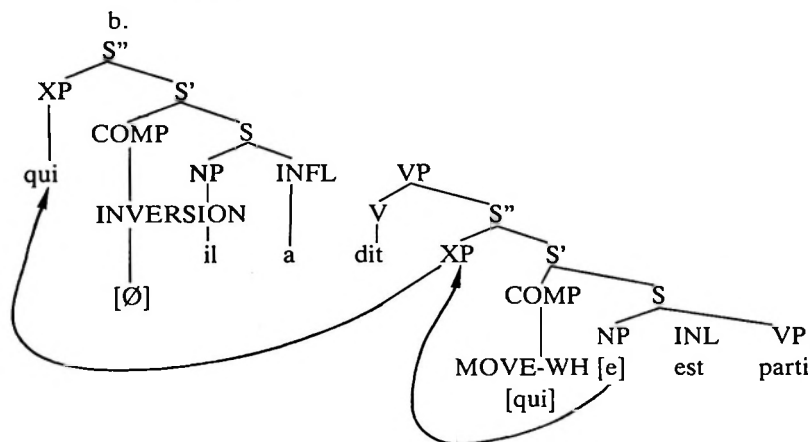


4. *que/qui*

The well-known *que/qui* alternation in French can now be seen to follow trivially from the framework developed so far, in a far neater way than any of the accounts offered to date. In English, the Comp signature of (11) is phonologically null, while in French, in a parallel construction (cf. (13)), the complementizer will be realized as *qui*, a fact which has been referred to as the *que/qui* alternation. That is, it has been argued (in Kayne (1974) and

elsewhere) that the *qui* found in subject relatives, as in *le livre qui est noir* 'the book which is black', or in (13a), is not synchronically related to the (animate) interrogative and relative pronoun *qui*. The "real" *qui* appears in relatives only in oblique positions, and in direct questions, while any Comp position which is followed by a trace left by Move-Wh will surface as *qui*, not as *que*. (This process, which has seen many formulations over the years in the literature, is often referred to as "Mas-QUE-rade," based on a suggestion in Kayne's paper attributed to Roger Higgins.)

- (13) a. *Qui a-t-il dit qui était parti?*
Who did he say QUI had left?



Within the present framework, the presence of *qui* as a possible complementizer fills a lexical gap: it is simply the element whose lexical specification is [COMP, MOVE-WH]. English, not having such an element, requires the Comp to be morphologically and phonologically null when the subject has been removed by Move-wh; French, on the other hand, and for historical reasons irrelevant to the synchronic analysis, has such an element, and it is obligatorily placed in its appropriate position. Thus in neither language is there a filter, or a condition on proper binding, or even a need for empty categories: there is only morphosyntax reflecting the basic transformations that have applied.

5. Doubly-filled dialects and *est-ce que*

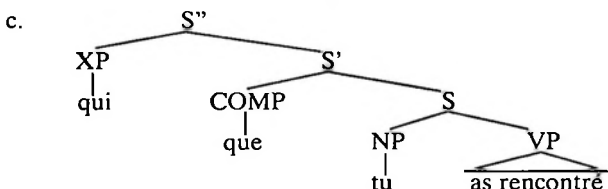
Given what we have proposed so far, the expected situation is one in which the presence of a filled XP position is compatible with an overt complementizer. Modern standard French, German, and English largely prohibit this situation, and it was this univocality among the prominent European languages that figured centrally in the position sketched over fifteen years ago in EST that placed the target of Wh-Movement as the Comp position. If this turned out to be more generally true, it would be a serious embarrassment for the Comp signature theory; but in fact from a further look at languages it has been clear for quite a while that there is no widespread prohibition against the cooccurrence of an overt complementizer and a preposed Wh-phrase, as in, for example, Québécois French (14):

- (14) a. *Qui que t'as rencontré?*

Who COMP you have met?

- b. *Quand que t'es parti?*

When COMP you have left?



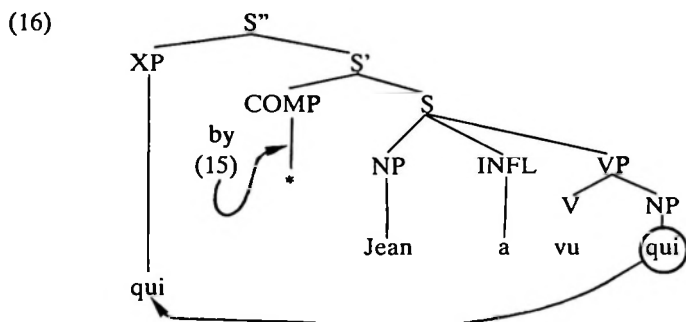
The question becomes now inverted: precisely how will the Comp signature approach deal with the cases of standard French or English?

The most natural approach within this framework is to extend the range of ways in which a Comp position may be endowed with morphosyntactic features. Let us say that a Wh-word that precedes a Comp will trigger rule (15) in languages such as standard French and English, a rule which assigns a morphosyntactic feature which I will call here "star" [*].

- (15) [+Wh] [_{Comp}]

If no further lexical resources are added to a language, the addition of a rule such as (15) has the effect of increasing the number of sentences in which no overt complementizer may appear. Thus we would have a deriva-

tion as in (16) for a relative clause or for a question, either direct or indirect.

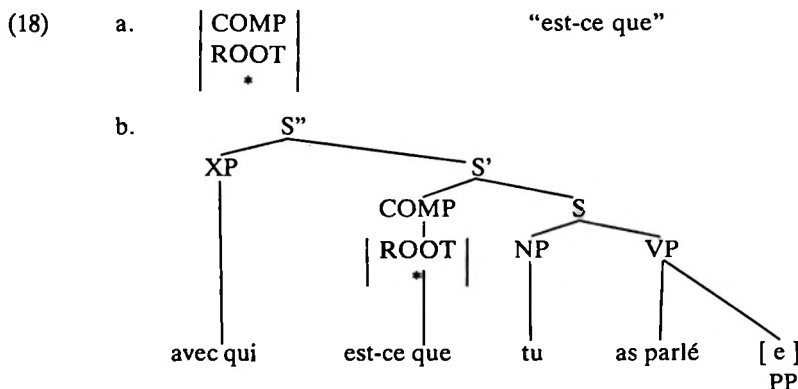


So far, this predicts that relatives, direct questions and indirect questions should all share the property of having the *wh*-word directly followed by the subject, with no complementizer. This is correct for relatives (17a) and for indirect questions (17b), and it is even correct for direct questions in modern spoken French, as in (17c), but it is not quite correct for modern standard French, where direct questions from non-subject position either involve an inversion (17d,e), or the form *est-ce que*, as in (17f), which we suggest is a complementizer. Let us consider this last form for a moment.

- (17) a. *la personne avec qui j'ai parlé*
the person with whom I spoke
b. *je ne sais pas avec qui j'ai parlé*
I do not know with whom I spoke
c. *Avec qui tu as parlé?*
With whom you have spoken?
d. *Avec qui as-tu parlé?*
With whom have you spoken?
e. *Avec qui a parlé Odile?*
With whom has spoken Odile?
f. *Avec qui est-ce que Odile a parlé?*

Although *est-ce que* is still written as if it involved an inverted subject, verb, and complementizer, the evidence is persuasive that it no longer has that analysis, and in fact can contrast semantically with the inverted form of the cleft construction. These points are made clearly in Obenauer (1977), and I refer the interested reader to that source for discussion.

What distinguishes a direct question from an indirect question or a relative clause, within the context of signature theory, is the of the feature ROOT in the first case. This leads us to a simple account of *est-ce que* in standard French, then: it is the lexical entry in (1a), as illustrated in (18b).



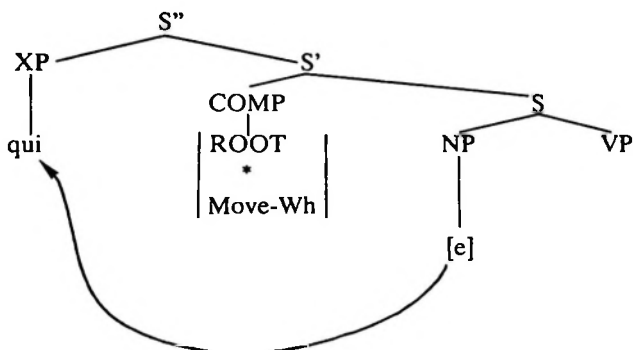
This analysis works in straightforward fashion whether the *wh*-word comes from an oblique position, as in (18), or from a non-oblique position. The particularly complex *wh*-word *quoi/que*, discussed in detail in Goldsmith (1981) cliticizes to the following complementizer *est-ce que*, yielding the phonological word *qu'est-ce que*, but in ways that are syntactically entirely regular.

The complementizer *est-ce que* is closely related historically to the complementizer *est-ce qui*, whose lexical entry is given in (19). This complementizer is used, as the theory requires, for questioning out of subject position, most strikingly seen in inanimate questions involving the sequence *qu'est-ce qui*.



Thus, as (19) indicates, *est-ce qui* is used in direct questions when a *Wh*-word is preposed and it has been moved out of subject position, which is the condition for *Move-wh* leaving its feature on the *Comp* node; this is illustrated in (20).

(20)



6. Conclusion

I have tried to show in this paper that by reconsidering from a new perspective a fairly wide range of familiar data we can arrive at a very simple analysis that dispenses with a large amount of theoretical apparatus. We retain a familiar and traditional notion of what syntactic rules are, and we make use of the Complementizer position to mark what kind of construction the following sentence participates in. One might even conceive of this project as being one which classifies constructions with unary features, which are then used to classify sentential determiners — i.e., complementizers — in much the way that nominal determiners classify their phrase (marking case, Wh-feature, etc.). Regardless of whether one wishes to pursue that analogy, in any event, we have arrived at a rather different, and quite simple, view of the complementizer system of several well-studied languages.

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This is an offprint from:

CARL KIRSCHNER and JANET DECESARIS (eds)
STUDIES IN ROMANCE LINGUISTICS

John Benjamins Publishing Co.
Amsterdam/Philadelphia

1989

(Published as Vol. 60 of the series
CURRENT ISSUES IN LINGUISTIC THEORY)

ISSN 0304-0763 / ISBN 90 272 3554 6

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