The French subjunctive and the ECP

Brigitte Kampers-Manhe

0. Introduction

This paper proposes an adaptation of Kayne's (1984) analysis of NPs of the form *de NP* occurring in negative sentences in French. This analysis is presented in section 1. As the structure given to that type of NPs contains an empty QP, Kayne attributes the restrictions on their use to the ECP, which he formulates using the notion of percolation projection. The French data presented in section 2 show that he does not make the right predictions. Section 3 considers the effects of the ECP formulated in Chomsky (1986) on the occurrence of empty QPs in negative sentences and in other contexts. The Tense specifications of the embedded clause turn out to be crucial for the occurrence of an empty QP in an embedded clause when the antecedent is in the matrix clause. Ambar's (1991) proposal on Tense specifications is discussed in section 4. Section 5, finally, shows that an adaptation of the notion of barrierhood for CPs, based on their Tense specifications, allows us to keep the structure proposed by Kayne (1984) for NPs of the form *de NP* and to attribute the restrictions on their use to the ECP.

1. Kayne's analysis

French NPs of the form *de NP* can appear in certain negative contexts. The contrast between (1), which contains the negation *ne...pas* and (2), which does not, illustrates this:

(1)  Jean n’a pas trouvé de livres
     ‘John (neg.) has not found (of) books’
(2)  *Jean a trouvé de livres

According to Kayne (1984) such NPs present the structure given in (3), with an empty QP, the preposition *de* and an articleless NP:

(3)  [NP [QP e] de ...]
His analysis is based on the fact that the only difference between the object NP in (1) and the one in (4) is the presence of a phonetically realized QP in the latter:

(4) Jean n’a pas trouvé beaucoup de livres
    John (neg) has not found many (of) books’

Given the ungrammaticality of (2) and (5), both lacking negation, Kayne considers the negation ne...pas responsible for the use of NPs presenting the structure given in (3), and thus for the presence of an empty QP:

(5) *Jean a-t-il trouvé de livres?
    ‘Has John found (of) books?’

The empty QP has a more restricted distribution than negative polarity items, like any in English or quoi que ce soit in French, as shown by a comparison between (5) on the one hand and (6) and (7) on the other hand:

(6) Has he found any books?
(7) A-t-il demandé quoi que ce soit?
    ‘Has he asked anything?’

Taking these facts into account, Kayne suggests that the empty QP, being an empty category, is subject to the ECP, which he formulates as follows, using the notion of ‘percolation projection’, given in (9):

(8) ECP
    An empty category β must have an antecedent α such that (1) α governs β or (2) α c-commands β and there exists a lexical category X such that X governs β and α is contained in some percolation projection of X

(9) Percolation projection
    A is a percolation projection of B if A is a projection of B, or A is a projection of C, where C bears the same superscript as B and governs a projection of B, or a percolation projection of B

(Kayne 1984:58)

(Kayne 1984:57)

He assumes that, unlike in English, there is no co-superscripting between V and P in French, which explains the contrast between (10) and (11): as the trace of the wh-word is governed by P and its antecedent is contained in S’,
which is not a percolation projection of P, (10) is ungrammatical according to
the ECP:

(10) *Qui a-t-elle voté pour?
(11) Who did you vote for?

The same argumentation can be given for the ungrammaticality of (12): according to Kayne, pas is the antecedent of the empty QP. QP is, just like
the trace in (10), governed by P, its antecedent is contained in VP, which is
not a percolation projection of P.

(12) *Jean n’a pas parlé à [NP [QP e] de linguistes]
‘John (neg.) has not spoken to (of) linguists’

Kayne’s analysis of the de NP construction, combined with his definition of
the ECP, enables him to explain the ungrammaticality of (2) and (5), where
there is no antecedent available for the empty QP, and the grammaticality of
(1), as well as the contrast between (13) and (14):

(13) Jean ne voudrait pas que tu boives [NP [QP e] de bière]
‘John (neg.) would not like that you drink (of) beer’
(14) *Jean ne voudrait pas que [NP [QP e] de bière] lui coule dessus
‘John (neg.) would not like that (of) beer spill on him’

In (13) the empty QP is governed by the lower V, its antecedent pas being
contained in the matrix VP, a percolation projection of the lower V, the ECP
is respected. In (14), however, the empty QP is not governed by a lexical
category.

Kayne’s propositions seem to make the correct predictions: pas in a
matrix clause may bind an empty QP governed by V in every embedded
clause governed by the matrix V. Looking at some French data, however, it
appears that his analysis needs some adaptations.

2. The French data

Consider the following sentences:
Since (17) and (18) are well-formed, with the determiner de la instead of the empty QP, we can conclude that (15) and (16) are ungrammatical, because of the use of de NP, hence, if we accept Kayne's proposal, of an empty QP. According to the formulation of the ECP, however, they should be well formed. Taking a closer look at (15) and (16), we see that they differ from (13), cited by Kayne (1984), by the mood used in the embedded clause: indicative/subjunctive mood. The grammaticality of (19) and (20) confirms the idea that the restrictions on the use of an empty QP are due to the choice of the mood of the embedded clause:

(19) Je ne crois pas que Jean boive de bière
    'I (neg.) don't think that John drinks/drank (subjunctive) (of) beer'

(20) Je ne crois pas avoir dit de bêtises
    'I (neg.) don't think I have said (infinitive) (of) stupidities'

Pas seems to be able to bind an empty QP in an embedded subjunctive or infinitive clause, but not in an indicative one. Muller (1977), without mentioning this particularity, illustrates the distribution of NPs of the type de NP, with examples that confirm this idea:

(21) Je ne crois pas qu'il vienne de gens (subjunctive)
    'I (neg.) don't think that there will come (of) people'

(22) Je n'ai pas songé à vous offrir de cigarettes (infinitive)
    'I (neg.) didn't think of offering you (of) cigarettes'

At this point, we could try to restrict Kayne's definition of percolation projections in order to exclude sentences like (15) and (16). However, given the evolution of the definition of the ECP in the Barrier theory (Chomsky, 1986), it seems more adequate to revise Kayne's analysis in the view of the data given above following the Barrier model. Moreover, as de NP does not only occur in combination with pas, it seems meaningful to take the occurrence of de NP in other contexts into account in order to be able to give a uniform explanation of the restrictions on the use of that construction.
3. The ECP and empty QPs

The construction discussed above is very similar to the cases of what Obe­
nauer (1984) calls QAD, ‘quantification at a distance’, illustrated in (23), (24) and (25):

(23) \[\text{Il est [QP trop] venu [NP [QP e] de gens]}\]
    ‘There has too many come of people’

(24) \[\text{Il a [QP beaucoup] lu [NP [QP e] de livres]}\]
    ‘He has many read of books’

(25) \[\text{[QP Combien] il a-t-il lu [NP [QP t] de livres]?
           ‘How many has he read of books?’}\]

All those sentences contain an adverbial quantifier, respectively trop, beau­
coup, combien, which is separated from the quantified NP. The NP is then
analyzed as in (1), for example, with an empty QP, which is coreferential with
a quantifier in A’ position (preverbal position in (23) and (24), [SPEC-CP] in
(25)).

Like all empty categories, the empty QP must be properly governed,
according to the ECP. Chomsky (1986) gives the following definition of
proper government:

(26) \(\alpha\) properly governs \(\beta\) iff \(\alpha\) \(\Theta\)-governs or antecedent-governs \(\beta\)
     (Chomsky 1986:17)

Being in [SPEC-NP], the empty QP can only be antecedent-governed. In
Chomsky (1986), the notion of government is defined as follows:

(27) \(\alpha\) governs \(\beta\) iff \(\alpha\) m-commands \(\beta\) and there is no \(\Gamma\), \(\Gamma\) is a barrier
     for \(\beta\), such that \(\Gamma\) excludes \(\alpha\)
     (Chomsky 1986:9)

The ECP is responsible for the ungrammaticality of (28), where the empty QP
is not c-commanded by its antecedent trop, as well as (29) and (30), where
there is an intervening PP-barrier between the empty category and its ante­
cedent, respectively beaucoup and combien:

(28) \[\*\text{[NP [QP e]i de gens] sont [QP trop]i venu}\]
    ‘of people have too many come’

(29) \[\*\text{Pierre a [QP beaucoup]i parlé [PP à [NP [QP e]i de linguistes]]}\]
    ‘Peter has many talked to of linguists’
Rizzi (1990) shows that *pas* is in SPEC position: it occupies the SPEC position of NP (31), of AP (32), of AdvP (33) and of CP ((34), the second *pas*):

(31) Pas de livres
    ‘Not of books’
(32) Pas capable
    ‘Not able’
(33) Pas beaucoup
    ‘Not many’
(34) Il ne l’a pas dit pour [CP pas que tu pleures]
    ‘He did not say it in order not that you cry’

Note that (31), (32) and (33) are phrases uttered separately, without further sentential context. In the sentences we are examining, (1) for example, *pas* forms with *ne* a sentence negation. Following Pollock (1989), we assume the existence of a projection NegP, with *pas* in the SPEC position of NegP, and *ne* as its head. In (4), for example, *pas* is base-generated in [SPEC-NegP] and *beaucoup* occupies the position [SPEC-NP] occupied by *pas* in (31).

Just like the QPs in (23), (24) and (25), *pas* is the antecedent of the empty QP, and it is in an A’ position here. The explanation given for the ungrammaticality of (29) can also be given for (12): the antecedent *pas* is separated from the empty QP by a barrier blocking the government.

*Combien*, like *pas*, can govern an empty QP in an embedded clause, as in (35):

(35) Combien dis-tu qu’il a invité de filles?
    ‘How many do you say that he has invited of girls?’

(Obenauer 1984)

The government, however, does not seem to be dependent on the mood of the embedded clause: compare the grammatical (36), containing an indicative clause, and (37), with an embedded subjunctive clause, to the ungrammatical (15) and (16) given above:

(36) Combien crois-tu [CP t₁ qu’il a acheté t₁ de pommes]?
    ‘How many do you think that he has bought of apples?’
(37) Combien crois-tu [CP t₁ qu’il ait acheté t₁ de pommes]?
    ‘How many do you think that he has (subjunctive) bought of apples?’
The difference is due to the fact that the empty QP coindexed with *combien* is a trace, while the empty QP coindexed with *pas* is not; in (35), (36) and (37) there is a trace in the SPEC of the embedded CP, so that barrierhood is circumvented: the exact structure of (37), for example, is as follows:

\[(38) \text{Combien}_i \text{ crois-tu} [\text{CP}_i \text{ que } [\text{IP}_i \text{ il a acheté } [\text{NP}_i [\text{QP}_i \text{ de pommes?]}}]\]

We can now conclude that the ungrammaticality of (15) and (16) is due to the barrierhood of CP. According to Chomsky (1986), CP, if L-marked, is not a Blocking Category, and, therefore not an inherent barrier. If it immediately dominates a Blocking Category, it becomes a barrier (under inheritance). In (15) and (16), the embedded CP, complement of *croire*, is L-marked, and thus it is not a barrier. However, it immediately dominates IP, and inherits barrierhood. In (19) and (20), the configuration is the same: CP immediately dominates IP and should therefore constitute a barrier. Yet, (19) and (20) are grammatical. The only way to avoid barrierhood when movement is not involved seems to be the use of a subjunctive or an infinitive clause, like in (19) and (20). The question is: why should a subjunctive or infinitive CP fail to be a barrier?

The transparency of subjunctive CPs has often been noticed, cf., among others, Picallo (1985). It has been claimed too that subjunctive and infinitive clauses share the property of being [-Tense] (Picallo 1985, Drijkoningen 1988). Both claims, however need to be refined. To be able to answer the question asked above, we shall take a closer look at the Tense specifications of CPs, following the proposals of Ambar (1991).

4. The tense specifications of CPs

Ambar (1991) distinguishes between morphological tense (Tm) which is part of INFL, and semantic tense (Ts), which is a feature in the C position of CP. The idea of a Tense specification in C is not a new one: Hoekstra and Marácz (1989), for example, have proposed structure (39):

\[(39) \text{CP} [\text{C}[\text{T}_i] [\text{IP} \ldots <+\text{tense}> \text{I}_i\ldots]]\]

Ambar argues that Tm must be identified by Ts. The attribution of Ts to an embedded clause depends on the verb of the matrix clause: declarative or epistemic verbs select a clause with Ts, volitive verbs select a clause without Ts. On those specifications depend the anaphoric relations between the subject pronouns. Ambar illustrates this with the Portuguese sentence (40),
for example, where the subjects of the different clauses may be interpreted as coreferential:

(40) Os meninos\textsubscript{i} pensam/dizem que eles\textsubscript{i/k} têm razão
    'The children\textsubscript{i} think/say that they\textsubscript{i/j} are right'

    (Ambar 1991:6)

According to her, (40) has the structure of (41), with an embedded clause containing Ts and a pronominal AGR which must be free in its governing category, according to principle B of the Binding Theory:

(41) \texttt{[CP[C-Ts[Tp[Tm[AGR[\textsubscript{VP os meninos}\textsubscript{V- pens-}[CP[C-Ts[Tp[Tm[AGR[\textsubscript{Agr[\textsubscript{VP eles\textsubscript{V- te-razão}]]]]]]]]]]]]]]]]]}]

Tm of the embedded sentence, being identified by the embedded Ts, can govern the pronominal AGR and be its accessible subject. The governing category for AGR is the embedded CP: it is free in its governing category, the embedded CP. Therefore, coindexing with a higher AGR is allowed.

The coreference of the two subjects is responsible for the ungrammaticality of sentences like (42), as shown by the grammaticality of (43):

(42) *Je veux que je vienne
    'I want that I come'
    (43) Je veux que Jean vienne
         'I want that John comes'

As we have already noticed, volitive verbs select a CP without Ts. Tm of the embedded clause must be identified, through a successive head-to-head relation, by the Ts of the main clause. The governing category of the embedded AGR is the matrix CP, since the embedded Tm can only be a governor because it is identified by Ts of the matrix CP. Pronominal Agr must be free in the matrix CP, hence the ungrammaticality of (42).

Ambar's propositions present several advantages: first of all anaphoric relations in French and Portuguese are explained in a unified way. Secondly, they agree with the commonly accepted properties of the subjunctive mood: it does have morphological tense features: it has a present and a past form but semantically those tenses do not create a new reference point. It seems justified then to say that the subjunctive mood does not have Ts features. Finally, the possibilities of coreference between the subjects is not explained as depending on the mood of the embedded clause but on its Tense specifications.
THE FRENCH SUBJUNCTIVE AND THE ECP

Following Ambar's proposals, we are able to explain, for example, why coreference between the two subjects is possible in (44), though the embedded clause is a subjunctive clause:

(44)  Je ne crois pas que je parte demain
'I don't think that I'll leave (subjunctive) tomorrow'

_Croire_, being an epistemic verb, selects a complement CP with Ts. The governing category of the pronominal Agr is the embedded CP, hence the possible coreference with the matrix subject.

Let us now return to the question asked in section 3: what prevents a subjunctive or infinitive CP from constituting a barrier? We can now give an answer based on Ambar's proposals for Tense specifications.

5. _Ts and the ECP_

5.1. _CP with Ts / CP without Ts_. Let us formulate the following hypothesis: CP immediately dominating IP is a barrier if it contains Ts. If it does not contain Ts, it does not constitute a barrier. We can now give a more formal explanation for the ungrammaticality of (15), repeated here:

(15)  *Jean n'a pas dit que tu buvais [NP [QP e] de bière]

The government of the empty QP by its antecedent is blocked by the embedded CP containing Ts, since the epistemic matrix verb _croire_ selects a CP with Ts. Infinitive clauses, on the other hand, lack Tense specifications: hence the grammaticality of (20) and (22), repeated here:

(20)  Je ne crois pas avoir dit [NP [QP e] de bêtises]
(22)  Je n'ai pas songé à vous offrir [NP [QP e] de cigarettes]

As a volitive verb selects a CP lacking Ts, CP does not constitute a barrier in (13), hence the grammaticality of this sentence:

(13)  Jean ne voudrait pas que tu boives [NP [QP e] de bière]

5.2. _CPs complement of an epistemic verb in a negative sentence_. The grammaticality of (19) requires some further explanation: the embedded CP complement of an epistemic verb contains Ts, despite the fact that the embedded clause is a subjunctive one, as we have seen in 5.1. Therefore, the embedded
CP should act as a barrier and block the government of the empty QP by its antecedent pas. Yet, (19) is grammatical:

(19) Je ne crois pas que Jean boive [NP [QP e] de bière]

Croire normally selects an indicative clause, as shown in (45). When it is used in a negative sentence, however, both moods are possible in the embedded clause, as illustrated in (46) and (47):

(45) Je crois que Jean est/*soit un bon candidat
'I think that John is (indicative)/(* subjunctive) a good candidate'

(46) Je ne crois pas que Jean est un bon candidat
'I don't think that John is (indicative) a good candidate'

(47) Je ne crois pas que Jean soit un bon candidat
'I don't think that John is (subjunctive) a good candidate'

Both sentences, however, have a different meaning. In Kampers-Manhe (1991), we have argued that the difference between (46) and (47) is a question of scope, the embedded clause being in the scope of the negation in (47) and outside its scope in (46). The embedded CP in (47) has no independent propositional content. No new temporal reference point is introduced in the embedded clause: the Tense operator of the embedded CP is in the scope of the Tense operator of the matrix sentence. Following Ambar's proposals on Tense representation, we shall say that Ts of the embedded clause has no independent value: being in the scope of the matrix Ts, it has no value of its own, hence the use of the subjunctive mood.

Returning to sentence (19), we can say that the embedded CP is not a barrier, despite the fact that it contains Ts, because that Ts is in the scope of the matrix one. We now can review our hypothesis on the barrierhood of CP: CP immediately dominating IP is not a barrier if it contains no Ts or a Ts in the scope of the higher Ts. Adopting the formalism proposed by Haïk (1986) for the representation of scope, we could reformulate this as follows: the barrierhood of CP can be circumvented in two cases: if it contains no Ts or a Ts coindexed for scope with a higher Ts.

Summarizing, we can say that pas can antecedent-govern the empty QP in the configuration (48b) and (48c), where there is no intervening barrier, but the empty QP is not antecedent-governed in (48a) because of the intervening barrier CP:

(48) a *pas_i V [CP Ts [IP Tm [ V [NP [QP e] ...]]]]
   b pas_i V [CP [IP (Tm) [ V [NP [QP e] ...]]]]
   c [CP_kTs ... pas_i V [CP Ts_k [IP Tm [ V [NP [QP e] ...]]]]]
Note that the index $k$ in (48c) represents the scope index of the matrix $T_s$, adopted by the embedded $T_s$. In that case, there seems to be a head-to-head relation between the heads of the CPs. This could explain why the barrierhood of the embedded CP is circumvented.

The following ungrammatical sentences seem to falsify our hypothesis:

(49) *Paul ne regrette pas d'avoir dit [NP [QP e] de bêtises]
    'Paul doesn't regret to have said (of) stupidities'

(50) *Paul ne regrette pas que Marie ait acheté [NP [QP e] de pommes]
    'Paul doesn't regret that Mary has bought (of) apples'

In both sentences no empty QP may be used. Apparently, government by the antecedent $pas$ is blocked by the embedded CP. This should not happen, at least not in (49) where the embedded CP is an infinitive one and thus does not contain $T_s$. As for (50), the properties of the matrix verb, regretter must be taken into consideration.

5.3. The particularity of factive verbs. Regretter belongs to the class of factive verbs. Those verbs present the following particularity: the propositional content of their complement clause is presupposed. Regretter selects a clause with subjunctive mood, hence without $T_s$. The embedded CP should not constitute a barrier. Even when an empty QP is the trace of the movement of a wh-word, the sentence is ungrammatical: compare (51) and (52) to the grammatical (37) and (38):

(51) *Combien i regrettes-tu [CP t_i d'[IP avoir acheté t_i de pommes?]]
    'How many do you regret to have bought of apples?'

(52) *Combien regrettes-tu [CP t_i qu'[IP il ait acheté t_i de pommes?]]
    'How many do you regret that he has bought of apples?'

Movement of adjunct wh-words in such a context seems to be blocked in English too, as shown in (53), given by Rizzi (1990):

(53) *How i do you regret t_i that he solved the problem t_i?

To explain that kind of restrictions, Rizzi (1990) proposes that there is an extra BC, blocking category, in (53): NP. Factive verbs like regret select an NP containing a CP:

(54) regretter [ ---- NP[CP...]]

The same idea can be found in Ambar (1991), with independent arguments, and earlier in Kiparsky and Kiparsky (1968) among others.

Without discussing the arguments given by the different linguists, we follow their suggestion and we are then able to explain the ungrammaticality of (49), (50), (51) and (52): the embedded CP does not contain $T_s$, but there
is an extra XP, the dominating NP, creating a barrier and thus blocking the
government of the empty QP by its antecedent.

6. Conclusion

The analysis of the de NP construction, following Kayne (1984) with some
adaptations, has led us to a revision of the notion of barrierhood for CPs.
Along the proposals of Ambar (1991) on Tense representation, we have
assumed that there is no Ts feature in the CP of embedded infinitive clauses.
In embedded subjunctive clauses there is either no Ts in C or a Ts feature
bearing the same scope index as the Ts of a higher clause. These Tense
specifications turn out to be crucial for the barrierhood of CP. We have
adopted the hypothesis that CPs immediately dominating IP constitute a
barrier only if they contain Ts in C. Barrierhood can be circumvented when
there is no Ts in C or when Ts bears the scope index of a higher Ts. This
hypothesis enables us to account for the restrictions on the use of the con­
struction \[\text{NP [QP e ...]}\] in embedded clauses, when the antecedent of the
empty QP \(\text{pas}\) is in a higher clause. The restrictions we have found can be
attributed to the ECP.

References

P. Coopmans and A. Hulk, eds., Linguistics in the Netherlands, Foris, Dordrecht.
Bennis and A. van Kemenade, eds., Linguistics in the Netherlands, Foris, Dordrecht.
Kampers-Manhe, B. (1991) L’opposition subjonctif/indicatif dans les relatives, Rodopi, Amster-
dam-Atlanta.
Inquiry 20, 365-424.