On the Presence and Absence of That in That-Relative Clauses*

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0. Introduction

In Modern English, the extraction of subjects is impossible if the complementizer that is adjacent to them. This is called a that-t(race) effect. Typical examples are illustrated in (1):

(1) a. What do you think (*that) t pleases Tom?

b. I know a girl who John believes (*that) t loves Tom.

There are cases, however, in which extraction of subjects is allowed in spite of the presence of that. In the cases of subject relativization in (2), that-t effects are suspended:

(2) a. The thing *(that) t pleases Tom is interesting.

b. The girl *(that) t believes that Tom loves her is my daughter.

In addition, although that cannot be deleted in (2), it can be deleted in relative clause constructions involving object or adjunct relativization if the relative head and the relative clause are adjacent to one another:

(3) a. I met a girl (that) Tom loved.

b. I bought a book (that) Tom mentioned.

(4) a. Did you hear the reason (that) John left early?

b. That was the day (that) I saw you.

That-relative clauses involving subject relativization are thus

interesting in two ways. First, that cannot be deleted in cases of
subject relativization even if the relative head and the relative
clause are adjacent to one another, as in (2), while on the other
hand, it can be deleted in (3) and (4). Why does this subject/non-
subject asymmetry arise?

Second, unlike (1), (2) does not show that-t effects. The
examples in (1) are generally excluded as E(mpty) C(ategory)
P(rinciple) violations. Let us adopt the following conjunctive
definition of the ECP:

(5) The ECP
A nonpronominal empty category must be
(i) properly head-governed (Formal Licensing)
(ii) theta-governed, or antecedent-governed (Identification)
(Rizzi 1990)

Since empty categories are phonetically null, their positions and
contents must be identified. The Head-government Requirement (Formal
Licensing) and the Identification Requirement are concerned with the
identification of the positions and contents of empty categories,
respectively. In (1), regardless of whether that is present or not,
the Identification Requirement is satisfied, because the original
traces are antecedent-governed by the intermediate traces. But that
prevents the traces from meeting the Formal Licensing Requirement.
That is not assumed to be a head-governor, so if it does not occur, an
empty C or an element like Agr filling C, as proposed by Rizzi (1990),
can head-govern the subject traces, fulfilling the Head-government
Requirement.

Something must be said about (2), however, for it is generally
assumed that the empty operator is moved from the subject position,
leaving a trace, in forming relative clauses like (2). It is thus
natural to expect that the licensing condition applying to the empty
categories in (1) must apply to the subject traces in (2) as well,

forcing the deletion of that, contrary to fact. Thus (2) raises a serious problem to any analysis of that-t effects.

In this paper, I attempt to present a natural account of the difference between (1) and (2). I claim with Bolinger (1972), among others, that that must be present in (2) to avoid structural ambiguity. I also claim, utilizing the V(acuous) M(ovement) H(ypothesis) discussed in George (1980) and Chomsky (1986), that the presence of that in (2) does not induce ECP violations. The empty categories left in subject position in (1) and (2) are actually different.

This paper is organized as follows. In section 1, I introduce previous studies on the obligatory presence of that in relative clauses like (2). In section 2, I provide an explanation for the data presented in (2). It is also shown that our approach makes interesting predictions concerning the distribution of resumptive pronouns.

1. Recent Analyses

As mentioned in the Introduction, there are two interesting questions concerning that-relatives involving subject relativization, which are stated as follows:

(6) a. Why are that-relatives involving subject relativization ungrammatical when that is absent?

b. Why doesn't that heading that-relatives prevent traces in subject position from fulfilling the ECP?

Rizzi (1990) conjectures that the anaphoric properties of empty operators could have something to do with an answer of the first question. According to Rizzi, that and Agr are possible realizations of tensed C, and Agr is licensed by coindexation with its specifier. He considers that empty operators, which are anaphoric in nature, are

intrinsically incompatible with agreement in Comp because anaphoric
elements are incompatible with the agreement process.[1] As for the
second question, Rizzi claims, on the basis of Borer's (1984)
observation of relative clauses in standard Arabic, that the relative
complementizer that agrees with the relative head and can function as
a head-governor.

Lasnik and Saito (1992) (henceforth L & S) attempt to solve the
two problems, relating them to one another. Deletion of that is
possible in object relativization and impossible in subject
relativization. Subject/object asymmetries are considered to be
characteristics of the ECP and provide an ECP-based account for (2).
According to L & S, C cannot function as a head-governor (in their
system, an antecedent-governor) unless the [±wh] features of C and its
specifer are identical. Assuming that both empty operators and the
complementizer that have the feature [-wh], they claim that that
occurs so that the ECP will be met in (2). If C is empty, there is no
way to head-govern traces in subject position because the empty C does
not bear the [±wh] feature, resulting in an ECP violation.

I want to claim here that the obligatory presence of that is
relevant to neither the anaphoric properties of empty operators nor
the ECP. There are speakers who marginally allow the deletion of that
in subject relativization in certain cases:

(7) a. It isn't everybody can do that.

    b. That was her shadow passed the window.

    c. There was a man asked for you.   (Zandvoort (1957))

(8) a. Any man says that is a liar.

    b. The man did it was a friend of mine. (Bolinger (1972))

These examples should be excluded, or treated as exceptions, in the
systems of Rizzi and L & S.

Furthermore, consider gapless relatives, in which that must be
present, regardless of whether the relative head and the relative

clause are adjacent to one another or not. For example, Kayne (1981)
notes that _that_ cannot be deleted if the resumptive pronoun
strategy is utilized:

(9) a. the book I got in the mail

    b. the book *(that) I was wondering whether I would get it
in the mail   (Kayne (1981: 108))

This is also the case for another kind of gapless relative clause
discussed by Napoli (1983):

(10) a. That's the book that the ending drives me crazy.

     b. That's the church that the organ I was telling you about
is magnificent.

     c. That's our poor Volvo that the block is cracked.

                                     (Napoli (1983))

(11) a. *That's the book the ending drives me crazy.

     b. *That's the church the organ I was telling you about is
magnificent.

     c. *That's our poor Volvo the block is cracked.

Since there is no trace to be properly governed in gapless relatives,
it is obvious that _that_ does not function as a proper governor in (9b)
and (10). Thus we can safely say that the obligatory presence of _that_
in (9b) and (10) has nothing to do with satisfaction of the ECP. The
existence of these kinds of relatives suggests that there is a
possibility that _that_ is present for reasons irrelevant to the ECP in
the case of subject relativization as well. It is possible to say
that the obligatory presence of _that_ in subject relativization is
related to that in (9b) and (10). This possibility seems to be worth
considering. In the next section, I will provide an account for (2)
which is different from those of Rizzi and L & S.

2. Anti-that-t Effects in That-Relative Clause Constructions

2.1. On the Obligatory Presence of That

If the obligatory presence of that in subject relativization is relevant to neither the ECP nor the anaphoric properties of empty operators, what forces the occurrence of that in subject relativization?

According to Bolinger (1972), the reason why that cannot be normally deleted in subject relativization is relevant to the avoidance of structural ambiguity. Namely, the existence of that in subject relativization bears on processing. Even if that were absent in the case of object or adjunct relativization as in (3) and (4), we would not interpret the relative clauses as the main clauses. However, if that were deleted in (2), grammatical relationships would be confused. The hearer would wrongly interpret the relative clauses as main clauses. The thing and the girl would not be easily taken as relative heads. They would be interpreted as subjects in main clauses.

Without that, grammatical relationships would be confused in (9b) and (10) as well. The relative clauses in (9b) and (10) are gapless. For example, consider (10a), repeated here:

(10) a. That's the book that the ending drives me crazy.

If that was omitted, it would be natural to take both that's the book and the ending drives me crazy as main clauses. Thus that is needed.

In (7) and (8), on the contrary, the grammatical relationships are easy to understand without that. The relative clauses in (7) contain a gap. Expressions like it is, that is and there is do not denote important meanings.[2] It and there are considered to be expletives. That does not seem to be a pure argument, either. Furthermore, the auxiliary verb be, but not a lexical verb like meet, is used as a main verb. These factors may make it easy to interpret

the relative heads as not being elements which are taken by main verbs. The relative heads are easily understood as relative heads. In (8a), the relative head is a quantified expression. Nagahara (1990) suggests that the set denoted by quantifiers like any is usually restricted, and that since restrictive relative clauses are used to restrict the set, it is easy to expect relative heads like any man to be followed by a restrictive relative clause. Thus any man can be taken as a relative head without that. As for (8b), suggesting that duration is one of factors in ambiguity, Bolinger claims that that can be deleted in (8b) because the relative clause is very short.

It can be said that that is needed for reasons of pragmatics or processing, but not syntax, in the case of subject relativization. I will adopt the account in terms of an ambiguity of structure here.[3]

2.2. The VMH and the Suspension of That-t Effects

Why are that-t effects absent in (2)? L & S and Rizzi consider that to function as a proper governor in that-relative clause constructions. In this subsection, I present a different account of the absence of that-t effects in relative clauses, without considering the possibility that that can be a proper governor in the case of subject relativization. I also show that the account presented here is useful in predicting the distribution of resumptive pronouns.

George (1980) and Chomsky (1986) suggest that even in English, in which wh-movement is forced at S-Structure, empty and overt operators do not have to move obligatorily at S-Structure if they function as subjects and are adjacent to C. This is called a VMH.[4] The VMH accounts for the contrast in acceptability between the following two sentences:

(12) a. This is a paper [that we need to find [someone [$_{CP}$ who understands t]]]

   b. This is a paper [that we need to find [someone [$_{CP}$ that we can intimidate with t]]]   (Chomsky (1986))

(12a) is less unacceptable than (12b). George and Chomsky argue that this is because the Spec position of the lower CP heading the relative clause is not occupied by the relative operator who in (12a), but occupied by the empty relative operator in (12b). In (12a), the relative operator which is moved to the Spec position of the higher CP can use the Spec position of the lower CP as an escape hatch.

   If we adopt the VMH, we can immediately explain the suspension of that-t effects in relative clauses, without considering that that can be a head-governor. Adopting Browning's (1987) claim that empty operators heading relative clauses are in fact pro, I consider the structure of (2) to be (13):

(13) a. The thing$_i$ [$_{CP}$ [$_{C'}$*(that)] pro$_i$ pleases Tom]] is interesting.

   b. The girl$_i$ [$_{CP}$ [$_{C'}$*(that)] pro$_i$ believes that Tom loves her]] is my daughter.

The empty category in subject position in (13) is not a variable, but an empty pronoun. Movement of pro does not take place in (13). The ECP is generally responsible for the distribution of traces. Since a trace is not left in subject position, (13) does not violate the ECP in spite of the presence of that. We can solve the problems concerning the absence of that-t effects quite easily and naturally. Note that LF movement of pro would not raise any problem, because that-t effects are not observed in the case of LF wh-movement, as in (14):

(14) a. *Who do you think that t left

    b. ?Who thinks that who left   (L & S (1992))

The idea that empty relative operators are pro must be explained here. Empty operators are empty categories. One of the tasks concerning empty categories is the determination of what type of empty categories empty operators are. Are empty operators PRO, pro, NP-traces, or wh-traces? Are they different from any of the four types of empty categories discussed in Chomsky (1982)?

Browning considers empty operators heading relative clauses to be pro. It is assumed in the literature that since pro is phonetically null, its semantic content must be identified from the context. It is said that the meaning of pro is identified by agreement. Generally, pro can occur in subject position in languages having rich agreement systems, but cannot occur in object position. English is not a pro-drop language. English does not allow the occurrence of pro in subject position because it does not have a rich agreement system. Browning considers, however, that in an example such as (3a), repeated here as (3a'), pro can obtain semantic content through predication and Spec-head agreement:

    (3) a'. I met a girl$_i$ [$_{CP}$ pro$_i$ [$_{C'}$(that)] [$_{IP}$ Tom loved t$_i$]].

The relative clause is predicated of, and coindexed with, the relative head. C is also coindexed with the relative head because the CP predicated of the relative head is its maximal projection. Through Spec-head agreement, pro agrees with C, receives the index of the relative head and receives its semantic content. Pro in (3a') was base-generated in the object position, where it cannot be licensed. Thus it must move to the Spec position of CP in order to receive its semantic content. Considering empty relative operators to be pro, Browning explained why wh-movement is involved in relative clause formation.

With regard to the movement of pro, Browning does not distinguish between subject relativization and object relativization. She seems to assume that pro moves to the Spec position of CP in the case of subject relativization as well. I assume, however, that while INFL generally cannot license pro in English, INFL in (13) can license pro:

(13) a. The thing$_i$ [$_{CP}$ [$_c$'*(that)]] pro$_i$ pleases Tom]] is interesting.

b. The girl$_i$ [$_{CP}$ [$_c$'*(that)]] pro$_i$ believes that Tom loves her]] is my daughter.

Let us utilize here the notion of selection proposed by Cinque (1990). He claims that C and IP are strongly related to each other, pointing out that a complement of C is necessarily IP. I assume that IP can share the index with the C selecting it, and that INFL in (13), the maximal projection of which is coindexed with C and the relative head, licenses pro through Spec-head agreement. If it is the case that movement takes place only when the element to be moved has a reason of its own to move, pro in (13) does not move to the Spec position of CP because it has no reason to do so.

The analysis based on the VMH is independently supported when we consider the distributional pattern of resumptive pronouns. The resumptive pronoun strategy is generally utilized in such cases where movement is prohibited by Bounding Theory or the ECP:

(15) a. I met a man$_i$ who Tom wondered whether he$_i$ was a teacher.

b. I met a man$_i$ who Tom wondered whether Nancy loved him$_i$.

Consider the situations in which resumptive pronouns occur in a position from which elements can be moved without violating Bounding Theory. Interestingly, resumptive pronouns cannot occur in topmost subject position, while they are marginally allowed to occur in object position, as in (16):[5]

(16) a. ??The report₁ which I filed it₁ yesterday is over there.

        (Lasnik and Uriagereka (1988), cf. Chomsky (1982))

    b. *The report₁ that it₁ surprised Tom is over there.

One might claim that (16b) is ungrammatical because resumptive pronouns cannot occur in topmost subject position. Consider Left-dislocation constructions, however. In this case, pronouns coindexed with left–dislocated phrases can occur in topmost subject position as well as in object position:

(17) a. Tom₁, he₁ met Nancy yersterday.

    b. Tom₁, Nancy met him₁ yesterday.

If it is possible to regard the pronouns in the above sentences as resumptive pronouns, (17a) suggests that the topmost subject position is not a position where resumptive pronouns cannot occur. It should be noted here that resumptive pronouns can be adjacent to <u>that</u> in relative clauses, as in (18):

(18) Did you know the guy₁ that him₁ and John bought the Sunoco
    station downtown?   (Stahlke (1976))

It follows from (18) that the ungrammaticality of (16b) cannot be ascribed simply to the adjacency of the resumptive pronoun to <u>that</u>. Why then is (16b) unacceptable? This evokes a question about the distribution of resumptive pronouns in relative clauses.

We can easily account for the distributional pattern of the resumptive pronouns in the relative clauses in (16). Recall that we have claimed that no movement is involved in relativizing subjects and that the position of subjects is occupied by <u>pro</u> in <u>that</u>–relative clauses. As is discussed in the literature, <u>pro</u> occurring in subject position in languages like Italian cannot generally be replaced with an overt pronominal. This may be reduced to the Avoid Pronoun

Principle proposed in Chomsky (1981), which states that empty pronouns
are preferred to overt ones if the former can occur. My claim is that
the ungrammaticality of (16b) can also be explained along this line.
(16b) is unacceptable because it appears in the position where pro can
occur, yielding a violation of the Avoid Pronoun Principle. On the
other hand, (16a) does not violate the Avoid Pronoun Principle.
Recall that the object position is not a position where pro can be
licensed. Pro cannot remain in the object position. This implies
that the overt resumptive pronoun is allowed to occur in object
position. (16a) is thus acceptable. The contrast between (16a) and
(16b) is explained in this way. Furthermore, the occurrence of
resumptive pronouns in (15), (17) and (18) is also predicted because
pro cannot be licensed in the positions where the resumptive pronouns
occur. The Spec position of CP heading relative clauses is a position
where pro can be licensed. Thus the distribution of resumptive
pronouns provides evidence which suggests that our analysis is not ad
hoc.

It should be noted here that the following sentence is
ungrammatical as well as (16b):

(16) b' *The report; which it; surprised Tom is over there.

In the above sentence, the overt relative operator which, but not the
complementizer that, occurs as an introducer of the relative clause.
The ungrammaticality of this sentence can be also explained. First,
note that there are two possible structures for the following relative
clause construction:

(19) The report which surprised Tom is over there.

One possible structure is as follows:

(20) The report [cp [ip which surprised Tom]] is over there.

In (20), which remains in the Spec position of IP. In this case, the unacceptability of (16b') is explained in a straightforward manner. Which is not moved to the Spec position of CP and there is no position which it can occupy. Therefore it cannot occur.

Remember that the wh-phrase can be base-generated in the Spec position of CP, as shown in (15). What if which is base-generated in the Spec position of CP in (19)? In this case, the subject position is occupied not by t but by pro, as in (13), because no movement is involved. Namely, which is used instead of that. Thus another possible structure for (19) is as follows:

(21) The report [cP which [IP pro surprised Tom]] is over there.

Therefore, even if which is in the Spec position of CP in (16b'), we can explain (16b') in the same way that we have explained (16b). It appears in the position where pro can occur. (16b') is thus excluded as a violation of the Avoid Pronoun Principle.

Note that the VMH implies that movement is involved in subject relativization at S-Structure when the subject position and the Comp position heading the relative clause are not adjacent to one another. There is evidence suggesting that this is the case. Consider the following examples:

(22) a.   the report$_i$ which$_i$ I filed t$_i$ without reading e$_i$
     b. *The report$_i$ which$_i$ I filed it$_i$ yesterday without reading
          e$_i$ is over there.   (Lasnik and Uriagereka (1988))

It is observed in Lasnik and Uriagereka (1988) that parasitic gaps are licensed by wh-traces created at S-Structure, but not by resumptive pronouns, as shown in (22). With this in mind, consider the following example:

(23)   a man who whenever I meet e t looks old

(Chomsky (1986))

In (23), the adjunct phrase intervenes between the base position of the subject and CP heading the relative clause, and subject relativization is involved. The parasitic gap is licensed in this case, which strongly suggests that the empty category which is involved in subject relativization is a wh-trace, but not an empty resumptive pronoun.[6]

Interestingly, resumptive pronouns can occur in topmost subject position, if this position is not adjacent to the Comp position heading relative clauses, as in (24):

(24) a.   a boss$_i$ who if you were late, t$_i$/he$_i$ used to yell at you   (Kroch (1989))

b.   He's just the kind of fellow$_i$ that, if everyone leaves him$_i$ alone, he$_i$'ll be content with five-and-twenty shillings for the rest of his life. (Jespersen (1927))

c.   The ones that were ungrammatical were the ones$_i$ that when they$_i$ contained the negative they$_i$ were complete sentences and didn't pertain to the any.

(Stahlke (1976))

These examples are compatible with the analysis adopted here. The VMH implies that if the resumptive pronoun strategy is not utilized in (24), the empty categories which are expected to occur in topmost subject position are wh-traces, but not pro. Thus the overt pronouns can occur instead of t without violation of the Avoid Pronoun Principle. Recall that in (16b), the empty category which is expected to occur in topmost subject position is pro, but not a wh-trace. This difference is relevant to the contrast in acceptability between (16b) and (24). The overt pronoun is not allowed to occur in (16b), because the covert one can occur. In this way, we can explain the difference

between (16b) and (24) easily.

Note that in Hebrew, the same kind of subject/object asymmetry is found as in (16), as shown in (25):

(25) a. *ha'iš$_i$ še hu$_i$ rakad

        the man that he danced

        'the man that danced'

    b. ha'iš$_i$ še pagašti 'oto$_i$

        the man that I–met   him

        'the man that I met'   (Sells (1987))

Interestingly, as in English, the subject position becomes available for resumptive pronouns when it is preceded by something:

(26) ha'iš$_i$ še rak al   kesef hu$_i$ xošev

    the man that only about money he thinks   (Borer (1984))

In (26), the focused element is preposed to the position before the subject. Hebrew shows the same distributional pattern of resumptive pronouns as English. The contrast between (25a) and (25b) and the grammaticality of (26) can also be explained. Our analysis based on the VMH has the advantage of capturing the distributional pattern of resumptive pronouns, which the accounts of L & S and Rizzi do not handle, and is thus independently supported.

However, our analysis appears to be problematic in that it leads us to expect that <u>that</u>-t effects should be observed in (27), contrary to fact:

(27) a. a man that whenever I meet e t looks old

    b. a boss$_i$ that if you were late, t$_i$/he$_i$ used to yell at

        you

The empty category in subject position in (27) is a trace because <u>pro</u>

moves to the Spec position of CP. Thus that would prevent the traces from being licensed, as in (1), repeated here:

(1) a. What do you think (*that) t pleases Tom?

b. I know a girl who John believes (*that) t loves Tom.

However, Culicover (1991) observes that when there is an adjunct before the trace of a subject NP, that-t effects are suspended:

(28) a. John met the man that/who Susan said that for all intents and purposes t was the mayor of the city.

b. This is the tree that I said that just yesterday t had resisted my shovel. (Culicover (1991))

That-t effects cannot be suspended in (28a) and (28b) without for all intents and purposes and just yesterday, respectively:

(29) a. John met the man that/who Susan said (*that) t was the mayor of the city.

b. This is the tree that I said (*that) t had resisted my shovel. (Culicover (1991))

The adjunct phrase intervenes between that and the subject trace in (27). Therefore the lack of that-t effects in (27) has to be discussed independently, and does not raise any problem to our analysis.

In summary, I have presented an account for the absence of that-t effects in relative clauses, utilizing the VMH. This account also has the advantage of predicting the distributional pattern of resumptive pronouns.[7]

3. Conclusion

In this short paper, I have attempted to answer the following two questions:

(30) a. Why are that-relatives involving subject relativization ungrammatical when that is absent?
   b. Why doesn't that heading that-relatives prevent traces in subject position from fulfilling the ECP?

As for the first question, I have adopted an account based on processing. My claim is that deletion of that in subject relativization does not violate any principle which is central to the theory of grammar. That is needed for pragmatic reasons. As for the second question, I have utilized the VMH and concluded that the ECP is not violated because pro, but not a trace, remains in subject position when the base position of a subject and a relative CP are adjacent to one another. The analysis drawing upon the VMH has the advantage of capturing the distributional pattern of resumptive pronouns.

NOTES

[1] Rizzi suggests another possibility. If it is the case that relative operators and their position can be deleted in forming relative clauses, the impossibility of the occurrence of Agr in (2) would follow because there is no element that licenses Agr.

[2] McCawley (1988) suggests that that involved in subject relativization can be deleted in pseudo-relative clause constructions, which he distinguishes from both restrictive relative clauses and nonrestrictive relative clauses. McCawley considers the following to be a pseudo-relative clause:

(i) There are many Americans who like opera.

According to McCawley (1981), the meaning of (i) is almost the same as "Many Americans like opera". Namely, there are does not seem to denote any important meaning. This may be related to the deletability of that in subject relativization.

[3] Yukio Hirose (p.c.) also suggests that that must be present in (2) to avoid ambiguity, informing me that there are other phenomena bearing on the parsing process like across-the-board extraction, as discussed by Anderson (1983). Anderson explains across-the-board extraction in terms of an ambiguity of structure. See Nagahara (1990) for a similar suggestion concerning deletion of that in relative clauses.
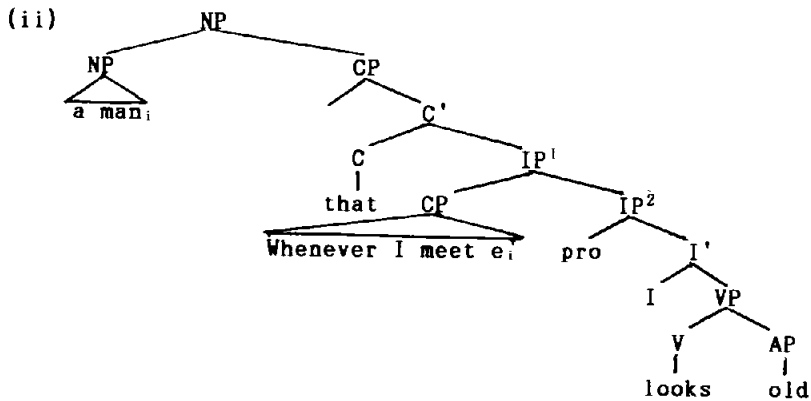
[4] It seems to be often the case that vacuous movement is prohibited. For example, Hoji (1985) argues that vacuous scrambling does not exist in Japanese. L & S also suggest that vacuous topicalization of subjects does not exist in English.

[5] There exist speakers who do not accept sentences like (16a), as indicated in McCawley (1988) and Sells (1984). Various factors no doubt enter into acceptability judgements for resumptive pronouns in relative clauses. At least, as far as I know, there is no speaker who finds (16a) to be less acceptable than (16b). In this paper, I consider that there is in fact a subject/object asymmetry indicated in (16).

[6] The following example is also acceptable:

(i) a man that whenever I meet e t looks old

In (i), pro is moved to the Spec position of CP. It would follow from Cinque's definition of selection that pro must be moved in the following structure:

(ii)

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               NP
        NP              CP
      /‾‾\            /
     a man_i        C'
                  C      IP¹
                  |     /
                that CP       IP²
                   /‾‾‾‾‾\   /
         Whenever I meet e_i  pro    I'
                                   /
                                  I    VP
                                     /
                                    V     AP
                                    |     |
                                  looks   old
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According to Cinque's definition of selection, IP¹ is selected, but IP² is not selected, by C. Thus IP² cannot share the same index that C and the relative head bear. Unless both IP¹ and IP² are coindexed with C and the relative head, the index of C and the relative head may not percolate down to INFL. Therefore, pro cannot be licensed in the Spec position of IP², and has to be moved to the Spec position of CP.

[7] Chomsky (1992) considers that wh-movement occurs before LF to occupy the Spec position of CP even in languages like Japanese. The VMH does not seem to be incorporated into the system of Chomsky (1992). I will not go into this matter here. In any case, the VMH presents an interesting account of the lack of that-t effects in relative clauses.

REFERENCES

Anderson, C. B. (1983) "Generative Coordinate Structures with
    Asymmetric Gaps," CLS 19, 3-14.

Bolinger, D. (1972) That's That, Mouton, The Hague.

Borer, H. (1984) "Restrictive Relatives in Modern Hebrew," Natural
    Language and Linguistic Theory 2, 219-260.

Browning, M. (1987) Null Operator Constructions, Doctoral
    Dissertation, MIT.

Chomsky, N. (1981) Lectures on Government and Binding, Foris,
    Dordrecht.

-----. (1982) Some Concepts and Consequences of the Theory of
    Government and Binding, MIT Press, Massachusetts, Cambridge.

-----. (1986) Barriers, MIT Press, Massachusetts, Cambridge.

-----. (1992) A Minimalist Program to Linguistic Theory, MIT Working
    Paper, Massachusetts, Cambridge.

Cinque, G. (1990) Types of A'-Dependencies, MIT Press, Massachusetts,
    Cambridge.

Culicover, P. (1991) "Topicalization, Inversion, and Complementizers
    in English," ms., The Ohio State University.

George, L. M. (1980) Analogical Generalization in Natural
    Language Syntax, Doctoral Dissertation, MIT.

Hoji, H. (1985) Logical Form Constraints and Configurational Structure
    in Japanese, Doctoral Dissertation, University of Washington.

Jespersen, O. (1927) A Modern English Grammar on Historical
    Principles, Carl Winter, Heodelberg.

Kayne, R. (1981) "ECP Extensions," Linguistic Inquiry 12, 93-133.

Kroch, A. S. (1989) "Asymmetries in Long-Distance Extraction in
    Tree Adjoining Grammar," in M. R. Baltin and A. S. Kroch (eds.),
    Alternative Conceptions of Phrase Structure, 66-98, University of
    Chicago Press, Chicago.

Lasnik, H. and M. Saito (1992) Move-α, MIT Press, Massachusetts,
    Cambridge.

Lasnik, H. and J. Uriagereka (1988) A Course in GB Syntax, MIT Press, Massachusetts, Cambridge.

McCawley, J. D. (1981) "The Syntax and Semantics of English Relative Clauses," Lingua 53, 99-149.

-----. (1988) The Syntactic Phenomena of English, University of Chicago Press, Chicago.

Nagahara, Y. (1990) Kankeisetsu, Taishukanshoten, Tokyo.

Napoli, D. J. (1983) "Missing Complement Sentences in English: A Base-generated Analysis," Linguistic Analysis 12, 1-28.

Rizzi, L. (1990) Relativized Minimality, MIT Press, Massachusetts, Cambridge.

Sells, P. (1984) Syntax and Semantics of Resumptive Pronouns, Doctoral Dissertation, University of Massachusetts.

-----. (1987) "Binding Resumptive Pronouns," Linguistics and Philosophy 10, 261-298.

Stahlke, H. F. W. (1976) "Which That," Language 52, 584-610.

Zandvoort, R. W. (1957) A Handbook of English Grammar, Longman, London.

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