Comp-trace Effects Revisited

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1. Introduction

There is no doubt that the ECP (Empty Category Principle) has played an important role in explaining various syntactic phenomena ; in particular, the *that*-trace effect (cf. Chomsky (1986b), Rizzi (1990)). However, apparently plausible ECP-based accounts of the phenomenon are no longer maintainable under the Minimalist Program (Chomsky (1993)). It is because all kinds of feature checking, including checking of accusative Case, are supposed to be done in a Spec-Head relation and then the notion of government is abandoned. It indicates that subject traces need not be licensed by antecedent government. Therefore, *the that*-trace phenomenon should be explained in a different way.

I will show in this paper that the shift of the syntactic theories brought about good results to the *that*-trace effect from a crosslinguistic viewpoint. It will be argued, further, that the phenomenon depends crucially on the nature of Agr, instead of C^0.

This paper is organized as follows : Section 2 discusses some previous studies, and claims that all of them cannot capture crosslinguistic facts. In section 3, I will outline my proposal : the strength of Agr is responsible for the presence or absence of *that*-trace effects. In addition, we will see that

pro-drop is derived from the same property of Agr. Section 4 argues that the present proposal can be extended to other constructions as well. The last section is the conclusion.

2. Previous Studies

2.1 *That*-trace Filter

According to Chomsky and Lasnik (1977), there is an asymmetry between object extraction (1) and subject extraction (2). Objects can be extracted more freely than subjects, concerning extraction from embedded sentences.

(1)　a．Who$_i$do you think that Bill saw t$_i$?

　　　b．Who$_i$do you think Bill saw t$_i$?

(2)　a．*Who$_i$do you think that t$_i$saw John ?

　　　b．Who$_i$do you think t$_i$saw John ?

In other words, it does not matter whether the head of the embedded CP is overtly realized or not with regard to object extraction. On the other hand, subject extraction is acceptable only if a complementizer is deleted. The grammaticality of subject extraction depends upon whether a complementizer is present or not.

Chomsky and Lasnik (1977) ruled out sentences like (2) with a filter called "*That*-trace Filter", to the effect that the sequence of *that* and the trace of the subject is prohibited :

(3)　*That*-trace Filter

　　　*[. . . *that* t. . .]

Unfortunately, (3) cannot give an account of the facts in other languages. Notice that subjects can be extracted from a subordinate clause with a complementizer in some Romance languages like Italian and Spanish. In addition, some Germanic languages like Dutch and German do not show *that*-trace effects.

On the other hand, French disallows subject extraction in the same environment. Extraction is permitted, only if the complementizer *que* is replaced by *qui* (the *que-qui* alternation).

(4)   a. *Qui crois-tu que viendra ?

'who think you that will come'

b. Qui crois-tu qui viendra ?

'who think you 'who' will come'

I will, henceforth, use the term "Comp-trace effects" to refer to both *that*-trace effects in English and counterparts in other languages.

2.2   Previous Analyses and their Problems

The rest of this section presents a number of previous solutions that have been proposed to account for Comp-trace effects. Then, I will make some pieces of argument against them.

2.2.1   The ECP-based accounts

It has been considered that the ECP makes a great contribution to clarification of Comp-trace effects. Chomsky (1986b) argues that Comp intervenes between the trace of the subject and its potential governor in the configuration of subject extraction, and that the complementizer blocks (antecedent) government.

(5)   Empty Category Principle (ECP)

Traces must be properly governed.

(6)   *Who_i do you think t_i that t_i saw John ?

(7)   ... $[_{CP} t_i [_{C'}$ that $[_{IP} t_2$ ...

(8)   Minimality Condition

... α ... $[\gamma$ ... δ ... β ...]   (Chomsky (1986b : 42))

The Minimality Condition (8) states that α cannot antecedent-govern β, because δ is a potential governor for β. According to this definition, t_i in

(7) cannot antecedent-govern t_2 because of the intervening *that*, so that the sentence (6) violates the ECP, and then it is ungrammatical. This violation does not occur when the object is extracted. It is because the object is a direct complement (or adjacent) to V, and its trace can be lexically governed by the head V.

Chomsky' explanation does not extend directly to Italian, where a sentence such as (9) is grammatical. Note that the situation in (9) is similar to its English counterpart (6).

(9)   Chi credi che venga ?

'who you-think that comes'

(10)   ... $[_{CP}$ $t_i[_{C}$' *che* $[_{IP}$ t_2...

Although the complementizer *che* in (10) is located between t_i and t_2, the sentence is perfectly acceptable. If the Minimality Condition also works in this case, (9) should be as ungrammatical as its English counterpart (6). Then, what distinguishes Italian from English ?

Rizzi (1982 : 145) argues that the subject *chi* in (9) is extracted from a postverbal position, and that the trace is governed by the pronominal Agr. He assumes that the *Wh*-word *che* moves postverbally first, then to the initial position of the sentence. According to him, this is not an instance against Comp-trace Filter. See (11) :

(11) Chi_i credi $[_{CP}$ che $[_{IP}$ pro $[_{VP}$ venga $t_i]]]$

I disagree with his analysis and argue that the Italian case (9) is a piece of evidence against the ECP-based approaches.

As Rizzi (1982) mentions, subjects can appear postverbally in Italian. Theoretically, however, the word order V-S can be formed by V-raising, without subject lowering. It is because Italian requires overt V-to-I raising (cf. Pollock (1989)).

(12)   a . $[_{IP}$ [Vi+I] $[_{VP}$ subj $t_i]]$ (V-raising)

b . $[_{IP}$ t_k $[_{vi}$+I] $[_{VP}$ t_k $t_i]$ $subj_k]$

There are a couple of problems with Rizzi's idea. One is that lowering has been abandoned in more recent frameworks[1] (see Chomsky (1993) among others). Another problem is that he takes the empty category in [Spec, IP] in (11) to be *pro*, not to be a trace. Indeed, Italian is a null subject language, but it is a total fallacy to think that the empty category left by movement is *pro*. *Pro* is a phonologically null counterpart of a pronoun, not a sign to show the history of movement.

There are even more problems with the ECP-based accounts. Rizzi (1990) proposes that a tensed complementizer can be realized either as *that* or Agr. The two options are in complementary distribution in English, so that the sentence (13) without *that*, has an invisible complementizer Agr in C.

(13)   Who do you think $[_{CP}$ $t_i[_{C'}$ Agr $[_{IP}$ t_2 left]]]

In (13), Agr in C^0 agrees with CP-Spec. CP-Spec and IP-Spec agree, because the extracted subject *who* has been moved through CP-Spec, and they are co-indexed. Accordingly, Agr in C^0 agrees with IP-Spec. As a result, the empty C^0 governs t_2 successfully.

Rizzi's idea can explain Comp-trace effects in English, but cannot apply to other languages like Italian. As we have already seen, Italian always has an overt complementizer, and prohibits a null complementizer. His idea would predict that Italian shows Comp-trace effects because it has no option of Agr in the C-position. This is not the case. In conclusion, his idea is as unsatisfactory as Chomsky and Lasnik's (1977) idea.

2.2.3   The Nature of the Head C

The C^0 position plays an important role in not only Rizzi (1990) but other ECP-based accounts, since the trace in [Spec, AgrSP] must be properly governed by a linearly preceding element. One of the reasons that they posit Agr in C^0 is that C^0 is responsible for both the assignment of nominative

Case and the licensing of *pro* in the standard analysis of V2 phenomena.

It seems to be wrong to postulate Agr in C^0 for languages which do not display Comp-trace effects. First, there is no clear evidence for (strong) Agr in C^0 in Romance languages. Contrary to some V2 languages like West Flemish, Romance languages do not manifest any complementizer agreement with V. If we put Agr in the C^0 position in languages with the Comp-trace effect, how can we distinguish Romance languages (non V2) from Germanic or Scandinavian languages (V2) ? Second, it is known that some V2 languages with Comp-trace effects also have a strong Agr in C^0. Vikner (1995) argues that Mainland Scandinavians (MSc.) languages (Danish, Swedish and Norwegian) do not permit subject extraction from subordinate clauses, although C has tense and agreement. These show that the C^0 position has nothing to do with Comp-trace effects. In the next section, I will provide a new solution to this problem : an AGR-based account.

3. Alternative Analysis

Previous approaches have attributed Comp-trace effects to the nature of Comp. A language that shows Comp-trace effects has a complementizer that can govern or license the trace of the subject in [Spec, IP].

On the other hand, I will put my argument forward by claiming that the nature of Agr plays an important role in Comp-trace effects. The present approach is more promising than the aforementioned ECP-based approaches, in that the present analysis can capture a wider range of languages, and that it can treat Comp-trace effects and apparently irrelevant phenomena in the same manner. In addition, It will be argued that languages present Comp-trace phenomena and permit *pro*-drop, if Agr is specified as [+strong]. Investigation of Romance, Germanic, Scandinavian

and Semitic languages reveals that this generalization is plausible and maintainable.

3.1 An Agr-based Account

In this subsection, I will outline an alternative solution to Comp-trace effects, along the lines of the Minimalist Program. The structure of a sentence would be (14). As is known, the inflectional projection has two Agr projections and a Tense projection.

(14) $[_{AgrSP}$ $[_{Agrs'}$ AgrS $[_{TP}$ $[_{T'}$ T $[_{AgroP}$ $[_{Agro'}$ AgrO $[_{VP}. . .]]]]]]]]^2$

Given the VP-internal Subject Hypothesis, a subject is base-generated in VP, then moves to the Spec of AgrSP for Case and Agreement checking. It depends upon the strength of a particular feature whether movement is overt or covert.

Now, I propose the licensing condition of empty categories in the subject position, as in (15) :

(15) The Licensing Condition of Empty Subjects (Version 1)

a. $[_{AgrSP}$ EC $[_{Agrs'}$ $[_{Agrs}$ $[V+Agr]]]]$, and

b. Agr$=[+$strong$]$

The condition (15) states that empty categories in [Spec, AgrSP] must be in a Spec-Head relation with the complex $[V+Agr]$, which is formed by overt V-movement. Here, "empty categories" include traces, *pros* and PROs. I intend to claim that a weak Agr does not license any empty categories uniformly. For the present, focus primarily on finite clauses. For that reason, PROs or subjects in infinitival clauses are put aside here. Taking this into account, let us elaborate (15) as follows :

(16) The Licensing Condition of Empty Subjects (Version 2)

a. $[_{AgrSP}$ EC $[_{Agrs'}$ $[_{Agrs}$ $[V+Agr+T]]]]$, and

b. Agr$=[+$strong$]$ and T$=[+$finite$]$

First, consider English, as in (17).

(17)   a. *Who$_i$ do you think that t$_i$ saw John ?

        b. ... [$_{CP}$ t$_i$ that [$_{IP}$ t$_2$ [$_{VP}$ saw John]]]

The condition (16) can correctly predict that (17a) is ungrammatical. The sentence does not meet the clause (16b) because English main verbs with a weak Agr cannot raise overtly. It means that t$_2$ cannot be in a Spec-Head relation with a proper complex [V+Agr+T]. Thus, we can account for the fact that English does not permit traces in the Spec of AgrSP.

Next, consider Italian without Comp-trace effects.

(18)   a. Gianni perdatte completamente la testa

          'Gianni lost completely his mind'

        b. *Gianni completamente perdatte la testa

          'Gianni completely lost his mind'

This contrast illustrates that Italian is a definitely V-raising language. The complex [V+Agr+T] can be formed by overt V-raising. Italian is known to be a Null-Subject language. It means that an Italian Agr is [+strong]. This is why the Agr can be a licenser of the null category in [Spec, AgrSP].

(19)   a. Chi credi che partirã ?

        b. Chi$_i$ credi [$_{CP}$ t$_i$ che [$_{AgrSP}$ t$_i$ partirã]

In (19b), the complex [*partirã* [Agr+T]] properly enters into a Spec-Head relation with the trace of *Chi* in [Spec, AgrSP]. This is how Italian permits long subject extraction.

Then, let us turn to French in (20).

(20)   a. *Qui crois-tu que viendra ?

        'who think you that will come'

        b. ... [$_{CP}$ t$_i$ *que* [$_{AgrSP}$ t$_2$ [viendra+Agr+T] [$_{VP}$ t$_v$]]]

French is known as a V-raising language, so that the complex [V+Agr+T] can be formed in the overt syntax, and the subject trace can be in a Spec-Head relation. Then, we would take (20) to be grammatical incorrectly. What makes (20a) ungrammatical ?

It can be said that the reason lies in the nature of Agr. AgrS in French is taken to be strong in the light of overt verb raising (cf. Pollock (1989)). By contrast, let us suppose that not Agr but T is strong in French, and that the V-feature of T triggers overt V-raising. It is doubtful whether Agr in French is strong from the point of the richness of verbal inflection : inflection in French is not rich enough to permit null subjects. If the Agr parameter is really specified as [+strong], a language should have null subjects like Italian and Spanish. If this argument is on the right track, French does not meet the clause (16b), so that French disallows the traces in the Spec of AgrSP.

Note that the formulation (16) is similar to the licensing mechanism of *pro* within the framework of the Minimalist Program, as in (21). *Pro* is licensed in the same way, but the only difference is that *pro* is licensed at LF in the assumption. On the other hand, I assume that subject traces must be licensed by Spell-Out because *wh*-movement is an overt operation in the present analysis.

(21) $[_{AgrSP}$ *pro* $[_{Agrs'}$ $[_{Agrs}$ $[V+Agr+T]]]]$

My claim is that the licensing of the subject trace is mutually related to that of null subjects. This entails that null categories that are found in various constructions are identical ultimately. Therefore, if a language shows Comp-trace effects, then it permits *pro* at the same time. This interrelation is strongly supported by the following crosslinguistic survey, as summarized in (22) :

(22) The Correspondence of Comp-trace Effects with Null Subjects

    a. Group A (Comp-trace effects=no, Null-subject=yes)

       Icelandic, Faroese, Dutch, German, Frisian, OE, ME, Spanish, Italian, Hebrew, Arabic

    b. Group B (Comp-trace effects=yes, Null-subject=no)

       ModE, Danish, Norwegian, Swedish, French

Recall that Chomsky (1981 : 240) discusses the clustering of properties relevant to the *pro*-drop parameter[3].   He mentions that the following clustering of properties is generally found in pro-drop languages like Italian:

(23)   a. Null-subjects

b. Free-inversion[4]

c. Comp-trace violation

My proposal (16) provides a good account for the correlation : the property of Agr can link the clustering properties theoretically. First, if a language has null subjects, then it permits overt V-raising at the same time. A rich Agr allows subjects to be null and triggers overt V-movement at the request of pre-Spell-Out checking of a strong V-feature. Then, overt V-movement forms the complex $[_{\mathrm{Agrs}} [V + Agr + T]]$, which behaves as the licenser of an EC in [Spec, AgrSP].

The condition (16) has three advantages. First, it can cover the licensing of various empty categories uniformly.   Second, it can explain the difference between Italian and English with respect to Comp-trace effects by the strength of V-feature.   Third, it can provide a clear and simple answer to the clustering of properties listed in (23). If (16) is maintainable, we can say that the three grammatical phenomena depend upon whether Agr is strong or not.

4. Other Constructions

In this section, I will expand the present analysis to other constructions in order to support the licensing condition (16).

4.1 Comp-less Clauses in English

The condition (16) entails that empty categories in [Spec, AgrSP] are not licensed if the Agr parameter is [−strong]. Thus, once the value of the

parameter is set as [−strong] in a given language, no empty category should be permitted in any of its constructions.

Recall that embedded subjects can be extracted even in English, when the complementizer *that* is omitted. The condition (16) makes a wrong prediction in this case :

(24)   a . Who do think ϕ came ?

　　　b . Who do you think that John said ϕ came ?

(25)   Who do think [$_{CP}$ t$_i$ ϕ [$_{IP}$ t$_2$ came]]

How does the condition (16) explain extraction out of a Comp-less clause ? Following Grimshaw (1991), I will assume that the syntactic structure of the sentence is not CP but IP (AgrSP), when the complementizer *that* is not present. Then, (24a) is described as (26) :

(26)   Who$_i$ do you think [$_{IP}$ t$_i$ [$_{VP}$ came]]]]]

(26) is different from (25) in that the matrix V directly selects the embedded IP in (26), while CP is a complement to the matrix V in (25). I will assume, further, that the head of the embedded IP is qualified to be the licenser of the Spec of IP as long as it is selected directly by V. See (27) below. (27a) is the example of the Comp-less clause. V selects IP directly. Due to it, the head of IP becomes the licenser of the Spec. Thus, the trace of the subject can be licensed appropriately. (27b) is an example where the complementizer *that* appears. In this case, there is no selectional relation between V and IP. Thus, I^0 cannot license the trace of the subject.

(27)   a .   b .

　　　. . . V [$_{IP}$ Spec [I' X^0. . .   . . . V [$_{CP}$ t$_i$ that [$_{IP}$ t$_2$ [$_{I'}$ X^0. . .

　　　　　└──── select ────┘   └──────── not select ───────┘

In French, only if the complementizer *que* is replaced by *qui*, the *wh*-subject can be extracted, as we have already seen in (4). (4) is repeated here as (28).

(28)   a . *Qui crois-tu que viendra ?

b. Qui crois-tu *qui* viendra ?

I assume that there is a selectional relation between V and CP. *Qui* is the sign showing that CP is selected by V. Then, a selectional feature descends from the head of CP to the lower head.

(29) . . . [$_{VP}$ crois-tu [$_{CP}$ *qui* [$_{IP}$ *viendra*. . .

There is no rule like the *que-qui* alternation in English. This difference appears to come from the nature of C⁰ in each language. Note that complementizers can be deleted in English, while not in French. Accordingly, it is reasonable to say that V selects only CP in French, but that V can select both CP and IP in English. This suggests that there is a stronger selectional relation between V and CP in French than English.

On the other hand, extraction of objects is not affected by the status of complementizers. Objects can be extracted even if the complementizer is *que*. Notice that there is no alternation between *que* and *qui* in the case of object extraction. It seems to me that the *que-qui* alternation is required only for the licensing of the subject.

4.2 Subject Questions

The condition (16) can also derive the structure of subject questions correctly. The syntactic structure of interrogatives also shows asymmetry between subject and object questions. As (30a) illustrates, subject questions do not require *do*-insertion, unlike object questions. Compare (30) with (31a).

(30) Which book *did* Mark buy last night ?

(31) a. *Who *does* always talk about sweets ?

   b. Who always talks about sweets ?

(32) a. [$_{CP}$ Who ϕ [$_{IP}$ always talks about sweets ?]]

   b. [$_{IP}$ Who I⁰ [$_{VP}$ always talks about sweets ?]]

Although little is known about this difference, the condition (16) will provide a simple answer to the asymmetry.

The first question we have to ask is whether the syntactic structure of (30) is CP or IP. One might argue that vacuous movement takes place in subject questions : wh-operators move to [Spec, CP]. Such a proponent takes the structure to be CP. In spite of that, there are two pieces of evidence to show that the configuration of subject questions is IP.

A first evidence is that if the structure is CP, the *wh*-operator is not licensed because the C^0 position remains empty in (32a). Recall the *wh*-Criterion in Rizzi (1991 : 2) :

(33)   a. Each *wh*-operator must be in a Spec-Head
             configuration with [+wh] X^0.

       b. Each [+wh] X^0 must be in a Spec-Head
             configuration with a *wh*-operator.

On this assumption, *who* in (32a) cannot be in a Spec-Head relation with an appropriate head[5], because nothing is in C^0. This violates the *wh*-Criterion. Thus, the sentence must be ruled out. On the other hand, *who* in (32b) is in a Spec-Head relation with [+wh] X^0 or I^0.

A second evidence is that if the structure is CP, the subject leaves its trace in the Spec of AgrSP. The configuration (34) that they suppose violates (16), because the specifier of IP contains the trace of the wh-operator. The trace t_i in (34) would not be licensed because English does not have the complex [V+AgrS+T].

(34)   [$_{CP}$ Who$_i$ ϕ [$_{IP}$ t_i [$_{VP}$ always talks about sweets]]]

Therefore, it is plausible to assume that the clause structure is IP in subject questions[6].

Let us return to the main problem : why isn't *do* inserted in subject questions ? Rizzi assumes that I^0 is an element base-generated as [+wh]. Following him, I suppose that I^0 is an independent head, while C^0 is a

dependent head[7]. I am using the term "a dependent head" in the sense that a given head X^0 should be filled or reinforced by some visible element. For example, the matrix C^0 in English must be filled by V or Aux in interrogatives. On the other hand, the term "independent head" is referred to an X^0 which does not need to be filled by a visible element. It says about I^0 in English. This is supported by the following sentence : I^0 is not filled visibly in declarative sentences such as *John goes to school*. Therefore, it is reasonable to assume that I^0 is an independent head. Consider (35).

(35)   [$_{CP}$ What [$_{c'}$ *did* [$_{IP}$ you do last night]]]

It is needless to insert *do* if [+wh] C^0 can stand alone. (35) shows that [+wh] C^0 needs support. As long as (31b) is not CP but IP, *do* is not inserted, since [+wh] I^0 is an independent head[8].

4.3 *Whether*-Clauses

The subject cannot be extracted from *whether*-clauses even in languages that do not show Comp-trace effects. Dutch allows extraction out of *dat*-(that) clauses, but disallows extraction out of *of*-(whether) clauses. If (16) is the case, it predicts that sentences should be grammatical regardless of the types of complementizer.

(36)   *Wie$_i$ vroeg je *of* t$_i$ Hans gezien heeft ?

'who$_i$ did you ask whether t$_i$ has seen Hans'

It is important to note that neither the subject nor the object can be extracted out of *whether*-clauses in English.

(37)   a . *Who do you wonder whether saw Bill ?

b . **Who do you wonder whether Bill saw ?

Generally, extraction out of *whether*-clauses is prohibited. This indicates that *whether* and *that* appear in different positions. On the assumption that *whether* occupies the Spec of CP, the ungrammaticality of (37a) and (37b)

is reducible to the violation of the Minimal Link Condition (MLC). Extraction out of IP should be blocked by the intervening *whether*. Due to it, wh-phrases cannot land in [Spec, CP], and have to move over the possible landing site, resulting in the violation of the MLC, as illustrated in (38).

(38)   . . . [$_{CP}$ whether ϕ [$_{IP}$ wh$_s$ . . . [$_{VP}$ V wh$_o$
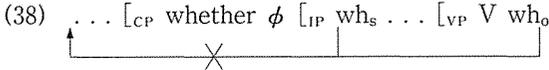
(38) illustrates that it is the location of *whether* that causes the ungrammaticality of the extraction out of *whether*-clauses.

   Although both types of extraction are ungrammatical, it is considered traditionally that subject extraction is less acceptable than object extraction. How does such a difference arise in the system developed here ? I suggest that the difference results from the violation of (16). With regard to subject extraction, not only the MLC but the licensing condition (16) is violated. On the other hand, object extraction violates only the MLC, and the condition (16) is irrelevant. Accordingly, the violation of subject extraction is severer than that of object extraction.

4.4   Relative Clauses

Relative clauses might be a piece of evidence against the present analysis. In particular, subject relatives give rise to an apparent problem :

   (39)   a . I saw a man who was a doctor.

        b . John bought a car which was made in Japan.

If the structure of subject relatives is CP, the trace in [Spec, IP] should be licensed. The present analysis does not provide a good answer if (40) is the correct configuration for subject relatives, because an English Agr is not a proper licenser.

   (40)   I saw [$_{NP}$ a man [$_{CP}$ who$_i$ [$_{IP}$ t$_i$ was a doctor]]]

I claim that (40) is not a correct structure for subject relatives. Instead, I propose that (41) is the structure of subject relatives. It is not [Spec, CP]

but [Spec, IP] that *who* occupies in subject relatives.

(41)   I saw [$_{NP}$ a man [$_{IP}$ who was a doctor]]

One might argue that IP cannot be a complement to NP, so that the structure (41) is not appropriate. However, there is good evidence to show that NP takes an IP complement. In (42), NP takes an infinitival clause as its complement.

(42)   a. You have no reason to be so angry

          b. You have no reason [$_{IP}$ to [$_{VP}$ be so angry]]]

The configuration (41) is similar to that of subject questions discussed in 4.2 I argued that *wh*-movement did not take place, and that a trace was not left in [Spec, IP]. As long as *who* is in [Spec, IP], the problem does not occur.

5. Conclusion

In this paper, we have considered Comp-trace effects without the notion of government. It has been argued that Agr plays an important role. More clearly, the subject trace must be licensed through a Spec-Head relation with the complex [V+T+AgrS]. The licensing condition was formulated as follows :

(43) = (16)   The Licensing Condition of Empty Subjects (Version 2)

         a. [$_{AgrsP}$ EC [$_{Agrs'}$ [$_{Agrs}$ [V+Agr+T]]]], and

         b. Agr=[+strong] and T=[+finite]

This is the same mechanism as the licensing of null subjects within the Minimalist Program. This ensures, further, that languages with a strong Agr allow subject extraction from embedded clauses. Crosslinguistic surveys show that there is a strong correlation between Comp-trace effects and *pro*-drop. Thus, it should be concluded that the two phenomena can be bundled into one by the nature of Agr, which is desirable in the light of language acquisition.

Notes

[1]   Within the GB Theory, a lowering operation causes an ECP violation : If the subject moves downward, its trace in [Spec, IP] remains ungoverned.
Under the Minimalist Program, lowering of the subject can be rejected by Greed, to the effect that Move α applies to an element α only if morphological properties of α itself are not otherwise satisfied (Chomsky (1993 : 33)). It is clear that none of the morphological properties triggers subject lowering.

[2]   For the expository convenience, some projections will be omitted in the course of the discussion.

[3]   This generalization does not hold only in Italian. Platzack (1987) investigates a difference between MSc. and Insular Scandinavians (ISc.) languages based on this clustering of properties. Kenstowicz (1989) discusses some Arabic dialects. It follows from several observations that these relations hold in many languages See Rizzi (1982), Jaeggli (1982), and Jaeggli and Safir (1989) for Romance languages.

[4]   I suppose that a strong Agr is associated with "Free Inversion". Given the VP-internal Subject Hypothesis, the VS order is formed by overt V-movement and remaining of the subject within VP.

  (i) $[_{IP}$ $[_{VP}$ Subj V]]

  (ii) $[_{IP}$ V $[_{VP}$ Subj t_V]]

[5]   Verbs cannot move to C^0 even at LF in English.

[6]   One might ask how a wh-island violation is explained, when the structure is IP not CP.

  (i)*What did he ask $[_{IP}$ who did]

Unacceptability of (i) can be attributed to the violation of Relativised Minimality or the MLC. *What* moved over a potential landing site : [Spec, IP].

[7]   As I mentioned in Page 14, Rizzi (1991) assumes that I^0 is an element base-generated as [+wh]. This is just a stipulation, but ensures that I^0 can enter into a Spec-Head relation, even though nothing occupies in I^0.

[8] It is difficult to explain the reason that *do* is not inserted into C^0 in the

embedded question. One answer is that it is because the embedded C^0 is directly selected by the matrix V (see Rizzi and Roberts (1991)). If SAI or do-insertion takes place, the Projection Principle is violated. Their assertion is easily refuted by V2 languages.

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Synopsis

Comp-trace Effects Revisited

By Masayuki Wakayama

The purpose of this paper is to explain Comp-trace effects without the notion of "government". Cross-linguistic surveys reveal that languages without Comp-trace effects allow pronominal subjects to be phonologically null. This suggests that the nature of C^0 is irrelevant to Comp-trace effects as it has been assumed, but that the strength of Agr has an effect on the phenomenon.

I will propose that the licensing condition of the subject trace in Comp-trace constructions is identical with that of null subjects, as in (1) :

   (1)   The Licensing Condition of Empty Subjects

        a. $[_{\text{AgrsP}}$ EC $[_{\text{Agrs}}{'}\ [_{\text{Agrs}}\ [V+Agr+T]]]]$

        b. Agr$=[+$strong$]$ and T$=[+$finite$]$

(2) illustrates that the subject cannot be extracted out of embedded clauses with a complementizer in English.

   (2)   a. *Who$_i$ do you think that t$_i$ saw John ?

        b. . . . $[_{\text{CP}}$ t$_i$that $[_{\text{AgrsP}}$ t$_2$ $[_{\text{VP}}$ saw John$]]]$

In (2b), t$_2$ in [Spec, AgrSP] is not in a Spec-Head relation with a proper head. The reason for this is that the licensing head $[V+Agr+T]$ cannot be formed in English, because V cannot move to inflectional projections overtly.

Obviously, English does not permit null subjects.

   (3)   a. He dances well

        b. *ϕ dances well

Pro is excluded by the condition (1), too. This is attributed to the lack of overt V-to-I movement here again. V-raising is a precondition of forming the licenser $[V+Agr+T]$.

This approach is more attractive than traditional approaches, in that it simplifies the licensing condition of empty categories, and that the values of two different parameters can be settled by only one trigger : the strength of [Agr].

If this approach is tenable, it will be a great contribution to simplifying UG, too. As long as a language specifies the value of Agr as [+strong], it will allow both null-subjects and Comp-trace effects at the same time.