NOTES ON NULL-*THAT* CLAUSES IN ENGLISH

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1. Introduction

Null-*that* clauses in English, which are exemplified in (1), have been extensively studied in the literature of generative grammar.¹ With respect to the properties of the null-*that* clauses, there are at least two well-established claims: One claim is that the availability of the null-*that* clauses is strictly restricted to some types of predicates. Many linguists claim that factive predicates, for example, do not allow the clauses without an overt complementizer, *that*. Another claim is that adjacency effects are involved in the occurrence of the null-*that* clauses.

- (1) a. I believe that Tom is honest.
b. I believe Tom is honest.

This paper examines the distributional properties of the null-*that* clauses, and aims to show that a corpus-based study does not provide supporting evidence for the empirical claims in the literature. This paper also argues that the occurrence of null-*that* complements, contra Erteschik (1973), Melvold (1991), Nakajima (1996), and Hiroe (1999), can be attributable to some parsing effects, and the choice of deleting

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¹ In this paper we will focus on *that*-less embedded complements which follow verbs.

an uninterpretable feature on C.

2. Descriptive Generalizations in the Previous Analyses

We begin a review of the previous descriptive generalizations on the distribution of the null-*that* complements in the literature of generative grammar. Erteschik (1973), Melvold (1991), and Hiroe (1999), among others, claim that factive predicates, in contrast to non-factive predicates, require the presence of an overt complementizer in a clausal complement, and that the null counter part is not possible, as shown in (2).

- (2) a. He regretted *(that) you did it. (Erteschik (1973: 102))
- b. Mary perceived *(that) Bill was anxious to leave.
(Melvold (1991: 100))
- c. Bill revealed *(that) Jane voted for Reagan.
(Melvold (1991: 100))

In addition to the factive predicates, Hiroe (1999) further argues that the clausal complements without *that* are disallowed when they contain a certain specific mood (precisely, some feature which is an indicator of the mood), which in his analysis is projected up onto CP. The typical example of the marked mood, which blocks the occurrence of null-*that* clauses, is a subjunctive mood in (3).

- (3) Jack demanded *(that) the charge should go fifty-fifty.
(Hiroe (1999: 59))

According to Hiroe, the following examples also carry some mood. The modal auxiliary *should* in (4a) expresses the mood of obligation, while the complement following response-stance verbs in (4b) are also claimed to have some mood. Therefore, in these examples the ill-formedness of the null-*that* counterparts results.

- (4) a. Bill insisted *(that) I should go there. (Hiroe (1999: 59))
- b. Bill admitted *(that) he was guilty. (Hiroe (1999: 67))

Nakajima (1996), on the other hand, claims that the ungrammaticality of the following examples suggests that some adjacency condition is necessary for the occurrence of null-*that* clauses. The null-*that* clauses cannot appear in the dislocated positions as in (5a), and they are not allowed when some intervening element such as PP occurs, as shown in (5b).

- (5) a. *I am sure, because I have been at home, Ø he's awake.
- b. *I suggested to John Ø he should leave early.

We have reviewed above the distributional properties of null-*that* clauses in English, which have been pointed out in the previous analyses. A closer examination, based on corpus analyses, however, shows that the claims in the literature are not well-supported, as we will see below.

3. A Corpus-Based Study

In this section we will show, based on attested examples from different corpora, that the previous claims in the literature fail to capture the distributions of null-*that* clauses, and we will see the fact that the restriction on null-*that* clauses discussed above is not so strong as previously posited. First, a null complementizer in a clausal complement, which follows factive predicates, is possible. Consider the following attested examples:

- (6) a. John said that he regretted $\emptyset$ Hughes had made a personal attack on a past president. (Brown)
 b. The Prince of Prussia has also written to tell me that you regret $\emptyset$ I have tied myself to Belquim. (LOB)
 c. ... the wife of another police officer revealed $\emptyset$ her husband had also been denied the proper compensation. (ACE)

Second, as is clear from the examples in (7) and (8), the availability of *that*-less embedded complements are not strongly correlated with some mood in the complements.

- (7) He suggested $\emptyset$ a takeover tribunal should be established with a senior commercial lawyer ... (ACE)
 (8) a. Many of them admit $\emptyset$ it's the most dangerous mission ever taken on by UN forces. (BNC)
 b. Bill Veeck's health is back to the dynamo stage, but his medics insist $\emptyset$ he rest for several more months before going back into the baseball swim. (Brown)

The example (7) indicates that *that*-less complements with a subjunctive mood is possible. The example (8), on the other hand, indicates that the clause type in question, which follows the response-stance verbs and a verb with the mood of "obligation," is also possible.²

² In addition to the attested example in (8), the following examples are acceptable for some speakers.

Third, contra Nakajima's claim, my informants disagree with his claim, and the attested examples in (9) show that adjacency condition is too strong.

- (9) a. ... it never occurred to him $\emptyset$ there was any renewed question about his running. (Brown)
 b. It is obvious to me $\emptyset$ the English-speaking minority in Quebec will survive with the support of the 225 million English-speaking who inhabit this continent. (Hunsard)
 c. May I suggest to the CPL $\emptyset$ Darlington contact Alex and Fred Winwood who run the Eldon Hope Animal Sanctuary. (BNC)

The example (9) suggests that when a PP, not a heavy PP, intervenes between the main predicate and the embedded clause, it tolerates the occurrence of null-*that* clauses. Now consider the crystal clear contrast in the following examples.

- (10) The form of the text, together with the information about place, may suggest to you, if you have previous experience of such texts, that this text derives from an interaction between street gangs. (ACE)
 (11) *The form of the text, together with the information about place, may suggest to you, if you have previous experience of such texts, $\emptyset$ this text derives from an interaction between street gangs.

According to my informants, unlike (10), (11) is not acceptable, or nearly not. This may be due to parsing effects, which will be discussed below.

The previous studies on null-*that* complements in English have argued for some syntactic restrictions on the distribution of the complements, but the attested examples from corpora shown in this section provide the negative view of the restrictions. We claim instead in the following sections that the occurrence of *that* is attributable to some parsing difficulties, and the obligatory T-to-C movement for deleting an

- (i) I insist (that) Bob be fired. (Postal (1974: 87 in footnote 6))
 (ii) The committee proposes (that) Mr. Day be elected.
 (Quirk et al. (1985: 156))

uninterpretable feature on C.

4. Parsing Effects

Attributing the presence of overt complementizer, *that*, to its usefulness in parsing is plausible especially when paired with a structural characterization of the intervening elements, as noted in Doherty (1997: in footnote 9). Now consider (12) and (13).

- (12) a. *She prayed next Wednesday the check would arrive.
 b. *We maintain in London a nice flat is hard to find.
 (Doherty (1997: 203))

- (13) a. She prayed that next Wednesday the check would arrive.
 b. We maintain that in London a nice flat is hard to find.
 (Doherty (1997: 202))

In the examples above, the absence of the complementizer leads to significant degradation. Given (12), a parser attempts at each successive point to close off a constituent of the highest level possible in the sense of Grosu (1972), and interprets the adverbial phrases as the ones modifying the matrix clauses. This process causes a garden path effect, parsing difficulties resulting from erroneous closure. In (13), on the other hand, parsing difficulties never arise due to the presence of the complementizer. Now consider (14):

- (14) ?[John knew since this morning] Bill stole the car.
 (Arnold (1996: 7))

The acceptability of (14) lies in the fact that the adverbial phrase in (14) can modify the matrix verb when the bracketed part is processed by the parser. This processing does not create the garden path effect. Therefore, (14) is acceptable.

With respect to the adverbial phrases in question, more needs to be said. Consider (15):

- (15) a. She says when we get home things will be different.
 b. I believe next year she'll be fine. (Doherty (1997: 203))

Next, consider (16) in this connection:

- (16) a. She says when we get home that things will be different.
 b. I believe next year that she'll be fine.
 (Doherty (1997: 203))

In these cases, no significant change in acceptability can be observed even when the adverbial phrases appear to the left of the com-

plementizer, *that*. Note that these adverbials are interpreted as modifying the proposition in the embedded clauses, even when there is an intervening *that*. Examples like (16) exhibit a curious syntax-semantics mismatch. The acceptability in (15) and (16) indicates that the null complementizer is possible when the adverbials exhibit the syntax-semantics mismatch. In other words, the null-*that* is allowed when the adverbials under consideration can modify the embedded clauses without the help of *that*. The following contrast supports this.

(17) *She prayed next Wednesday that the check would arrive.

(18) She says when we get home that things will be different.

(Doherty (1997: 203))

If the adverbials fail to have the syntax-semantics mismatch property, parsing difficulties which result from erroneous closure will arise. Thus (12) and (17) result in unacceptability.³

We are now ready to discuss the difference in acceptability between (9) and (11). We have already shown that the null complementizer is possible when the intervening element, which is placed after the matrix verb, is not heavy, while it is not when the element is heavy. This can derive from the parsing difficulties we have discussed above. If the intervening element is heavy, as shown in (11), a parser cannot understand where a new embedded sentence begins without the help of the complementizer. Therefore, the impossibility of (11) results.^{4, 5}

³ We will not pursue in this paper the characterization of the syntax-semantics mismatch.

⁴ People differ in judgment about the omission of *that* following manner-of-speaking verbs.

(i) They whispered *(that) she was misled.

(ii) She screamed she had to have both. (Bolinger (1972: 33))

We merely suggest that the difference in acceptability may come from the argumenthood of the *that*-clauses. As is well-known, *that*-clauses which follow the manner-of-speaking verbs cannot be preposed, and passivized, as shown below.

(iii) *That it is raining, John sighed. (Moltman (1989: 306))

(iv) *That the room was too cold was sighed by everybody.

(Moltman (1989: 306))

For some speakers who judge (ii) as acceptable, the embedded clause in (ii) is regarded as the complement of the verb.

⁵ Our proposal may account for the ill-formedness of the embedded topicalization in *that*-less clauses, as suggested by Doherty (1997: in footnote 8).

(i) (??)*I hope this book, you will read.

Before we provide one possible solution to the unacceptability of (i), let us consider

5. T-to-C Movement

We have considered the fact that the omission of *that* is closely related with some parsing effects. We are now in a position to understand the difference in acceptability judgment in the examples we have already observed. In contrast to the attested examples, some claim that the omission of *that* is not possible in the complements which follow the factive predicates, or the complements which have some type of mood. The difference may be attributed to the application of T-to-C movement proposed by Pesetsky and Torrego (to appear). They assume that C bears an uninterpretable T feature (henceforth *uT*), and that *that* is not C, but an instance of T that has moved to C for the purpose of deleting the *uT*. They also assume that in the case of the null-*that* clauses the nominal subject, but not *that*, performs the same function. The following illustrates this mechanism.

- (19) a. Mary thinks that Sue will buy the book.
 b. Mary expects [_{CP} [_T *that*]_j + [_C, *uT*] [_{IP} Sue will buy the book]].
 c. Mary expects Sue will buy the book.
 d. Mary expects [_{CP} [_{Sue}, *uT*]_j [_C, *uT*] [_{IP} *t*_{suej} will buy the book]].

According to Pesetsky and Torrego, C can choose freely between TP and its specifier when it looks for a way to delete its *uT* feature. Both TP and its specifier bear a tense feature, and both are equally close to C by the closeness condition: Y is closer to K than X if K c-commands Y and Y c-commands X.

From this point of view let us now consider the difference in accepta-

the following example.

- (ii) Ian knows Thomas ...

The NP, *Thomas*, can be either a direct object of the verb or the subject of an embedded clause. However, according to Gorrell (1995), a parser that does not have look-ahead capacity attempts to project a NP when the item *Thomas* is encountered. Now return to (i). In the processing of (i) the parser interprets the second NP as the subject of an embedded clause since it precomputes the postverbal NP, based on the subcategorization requirements of *hope*, namely a CP-structure. If the parser does so before any additional input is processed, the parser will face garden path phenomena. This may result in unacceptability.

bility judgment above. For those who judge (2)–(4) as unacceptable, T-to-C movement realized as *that* is obligatory as in the obligatory T-to-C movement in the embedded interrogative clauses in Belfast English.

(20) Who did John hope would he see?

(Pesetsky and Torrego (to appear: 11))

For those who judge them as acceptable, on the other hand, either TP or its specifier can move in order to delete the uninterpretable uT feature. If our analysis is correct, language variation, and judgment variation in the case of the null-*that* clauses, can be due to the possibility of the choice of movement which deletes the uT feature.

6. Conclusion

A variety of characterization of *that*-less complements in English have been proposed in the literature, but none is sufficient to cover the full range of attested cases. We have proposed that the null-*that* complements are possible unless there are some parsing effects, and that the choice of deleting the uT feature in C may account for the judgment variation in the *that*-less clauses.

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Corpus

Australian Corpus of English (ACE)
British National Corpus (BNC)
Brown Corpus
Freiburg-LOB
Hunsard Corpus
LOB Corpus

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