

Verb Copying in English

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Lee, Jeong-Shik. 1996. *Verb Copying in English*. *Linguistics* 4, 251-265. This paper is concerned with ellipsis phenomena in English such as VP-ellipsis, Pseudogapping, and Antecedent Contained Deletion (ACD). For these phenomena, LF copying approach is shown to be more plausible than PF deletion approach. QR is also shown to be necessary for ACD resolution. (Wonkwang University)

1. Introduction

This paper¹ is concerned with verb phrase ellipsis phenomena in English, e.g., VP-ellipsis in (1), Pseudogapping in (2), Antecedent Contained Deletion (ACD) in (3), in which part of a sentence, including the verb, does not appear.

- (1) John read the book and Mary did too.
- (2) John played guitar and Mary will violin.
- (3) Dullus suspected everyone that Angleton did.

Each of these constructions, with its own peculiarities, has received much attention in the literature. The major approaches for the VP ellipsis phenomena have been made in terms of either PF deletion or LF copying for the proper interpretation of the elided VP. The PF deletion analysis assumes that VP deletion is an actual PF deletion phenomenon (cf. Chomsky and Lasnik 1993, Chomsky 1993, Lasnik 1995), while the LF copying analysis assumes that VP deletion involves base generation of a null VP and copying the syntactic structure and lexical content of its antecedent VP at LF (cf. Williams 1977, May 1985, Fiengo and May 1994, Lasnik 1993, Hornstein 1995). But both analyses share the

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assumption that VP deletion is licensed by identity of logical forms.

Recently, Chomsky and Lasnik (1993) reconsidered ellipsis as a result of deletion at PF, an operation which is restricted by a requirement that the deleted element and its antecedent receive a parallel interpretation -- parallelism condition. Under the PF deletion approach, the sentence (4) is derived from the sentences (5) under parallelism (Chomsky and Lasnik 1993, (324)-(325)).

- (4) John said that he was looking for a cat, and so did Bill.
- (5) John said that he was looking for a cat, and so did Bill
 [*say that he was looking for a cat*].

One important motivation for this approach is that (5) has a distinctive phonetic property: the bracketed italicized phrase has a distinguished low-flat intonation, which is determined within the PF-component. Based on this fact, the PF deletion approach says that material with this intonational property may optionally delete. Since examples like (5) have their particular status in the language, they are generated quite independently of their elliptical counterparts. Along this line, a wide class of ellipsis constructions will be formed in the PF-component.

But Chomsky and Lasnik (1993) also mention one exemplary open question by considering the status of such examples as (6), derived from the presumed underlying forms (7), which are ill-formed (their (326)-(327)).

- (6) a. John said that he was looking for a cat, and Bill did too.
 b. John likes poetry, but not Bill.
- (7) a. John said that he was looking for a cat, and Bill did
 [*say he was looking for a cat*] too.
 b. John likes poetry, but not Bill [*likes poetry*].

For the solution to the problem, a significantly different treatment of inflectional processes and negation in overt syntax must also precede.

In this paper, I'd like to show that this recent PF deletion approach is

at least difficult to maintain, and argue for the LF copying analysis. Here what I mean by "verb copying," as appears in the title of this paper, is copying a verb (and its related materials -- arguments and adjuncts) from the antecedent. Thus, "verb copying" may also include a case of "verb phrase copying."

2. VP-Ellipsis

The example of VP-ellipsis in (1) may be obtained by either PF deletion or LF copying of the antecedent VP. Under the PF deletion approach, the source structure of (1) is (8).

- (1) John read the book and Mary did too.
 (8) John read the book and Mary did [_{VP} read the book] too.

In (8) the parallelism condition is satisfied -- the bracketed VP is morphologically and semantically identical to its underlined antecedent VP in the preceding clause. Thus the bracketed VP can be deleted to yield (1). Under the LF copying approach, on the other hand, the source structure of (1) is assumed to have base-generated empty VP node, as in (9), and its underlined antecedent VP is copied into this empty VP at LF for the proper interpretation, yielding a representation like (8).

- (9) John read the book and Mary did [_{VP} e] too.

Despite the recent rise of the PF deletion analysis, I discuss some potential problems with this analysis, and show that the LF copying analysis is superior to it. Consider the following example (Ross 1967, 189).

- (10) John scratched his arm and Mary did too.

The second clause of (10) is understood as ambiguous between strict reading in (11a) and sloppy reading in (11b).

- (11) a. John scratched his arm and Mary did [_{VP} scratch

his arm] too.

- b. John scratched his arm and Mary did [_{VP} scratch her arm] too.

Under the PF deletion approach, (10) can be derived only from (11a), since parallelism does not hold in (11b). To get the sloppy reading, the difference between *his arm* in the first clause and *her arm* in (11b) must be ignored, which is not possible in normal conditions. We observe that parallelism must be strictly held in ellipsis (Fox 1995, (20)):

- (12) John told Mary that it will rain, and Sue did [e], too.
 a. [tell Mary that it will rain]
 b. [*hear that it will rain]

Under the LF copying approach, on the other hand, there is a way to circumvent this problem via a process like Fiengo and May's 1994 Vehicle Change.² Under this approach, (10) is represented as (13) below, and the antecedent VP is copied into the null VP as in (11a). A radical Vehicle Change applies to (11a) to yield (11b), changing the pronoun *his* into the pronoun *her* to yield the sloppy reading (cf. also Williams 1977).³

²Fiengo and May (1994) observed the following.

- (i) a. Mary spoke to John_i, and he_i hopes that Lucy will [e] too.
 b. Mary spoke to John_i, and he_i hopes that Lucy will [speak to John_i] too.

Into the elliptical VP in the second conjunct of (ia) is its antecedent copied, as in (ib), where the expected violation of condition C of the binding theory does not arise. To handle this problem, Fiengo and May propose that when a referring NP occurs in a VP antecedent, copying/reconstruction can abstract from the lexical content of this NP and substitute a pronoun for it. They refer to this procedure as Vehicle Change, which changes *John* into *him*, as in (ii), resulting in satisfaction of the binding conditions.

- (ii) Mary spoke to John_i, and he_i hopes that Lucy will [speak to him_i] too.

³Under the semantic interpretation approach in Jackendoff 1972, copying the antecedent VP into the empty VP node is not involved, but the empty node is directly interpreted by a rule: Associate with empty VP the semantic representation of the antecedent VP if the former does not both precede and

(13) John scratched his arm and Mary did [_{VP} e] too.

Thus we have seen a case, where the parallelism condition cannot be satisfied at PF. One might wonder if a radical PF Vehicle Change can apply to (11b) to achieve parallelism for deletion. If this happens, (11a) will result. But then sloppy reading will not be available. Since the source structure (11a) persists into the LF component under the PF deletion approach, one might say that (11a) undergoes a radical Vehicle Change to yield (11b) at LF for the sloppy reading. Although it is not clear to me, this seems to imply that after all, the source sentence (11a) can be interpreted as (11b), which seems dubious. Under the LF copying analysis, on the other hand, the sentence containing the empty VP can be interpreted as (11b), which is derived from (11a) via Vehicle Change.

3. Pseudogapping

The following example of ellipsis in (2) displays some properties of Gapping and VP-ellipsis.

(2) John played guitar, and Mary will violin. (Pseudogapping)

(14) John played guitar, and Mary violin. (Gapping)

In Gapping there appears a **right side** remnant, e.g., *violin* in (14), and in VP-ellipsis there appears a **finite auxiliary**, as seen in the examples in the previous section. Thus, examples like (2) are called Pseudogapping, which is often argued to be a special case of VP deletion (cf. Sag 1976, Levin 1978, Lasnik 1995).

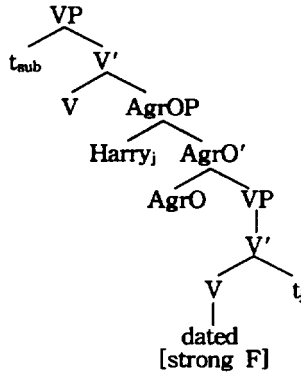
Relying on Koizumi's 1993 split VP hypothesis, Lasnik (1995) argued that Pseudogapping is derived from VP-deletion in terms of overt raising of verb and its object. Let us take (15) to see how his analysis works. Before deletion, (15) would have been (16). The relevant structure of the second conjunct of (16) is given in (17).

command the latter (268, (6.169)). Thus, for the sloppy reading, *her* in (11b) must be coreferential with *his* in (10). But this is not possible in usual conditions.

(15) Mary hasn't dated Bill, but she has Harry. (Sag 1976)

(16) Mary hasn't dated Bill, but she has dated Harry.

(17)



In (17) the accusative NP is overtly raised from the lower VP to Spec of AgrOP, and thus, the lower VP deletion can delete the V along with other material remaining in the VP. This yields the result of Pseudogapping in (17). In this analysis, the verb overtly raises, as seen in the non-elliptical sentence, **She has Harry dated*. This V raising is assumed to be strong feature driven, i.e., a theta-feature. (Note in (17) that the subject is base generated in the Spec of the higher VP.) It is supposed that an unchecked strong feature is an ill-formed PF object (Chomsky 1993). But in (17) the verb with a strong feature remains in situ. Lasnik (1995) remedied this situation by deleting (the VP containing) the verb with an unchecked strong feature.

With the above analysis in mind, let us observe that Pseudogapping and VP deletion are in complementary distribution (Levin 1978, (43)-(44)):

(18) Laura notified a cop,

a. ...?and Gus did [e] a sheriff. ([e] = notify)

b. ...*and Gus did [e] (too). ([e] = notify a sheriff)

(19) Laura notified a cop,

a. ...?and Gus did [e], too. ([e] = notify a cop)

b. ...*and Gus did [e] him_i, too. ([e] = notify)

These examples show that Pseudogapping is appropriate and VP deletion is disallowed if there is a contrasting postelliptical constituent (18). But if there is an identical postelliptical constituent, then VP deletion is appropriate and Pseudogapping is disallowed (19). Levin took this to be good evidence that Pseudogapping and VP deletion constructions are variant forms of the same construction. These facts suggest that the remnant of Pseudogapping must bear contrastive stress (cf. Kuno 1975). The ill-formedness of (19b) can then be attributed to the lack of contrastive stress on the remnants. If not this reason, Lasnik's analysis will face a bizarre situation -- in the good case of Pseudogapping in (18a) the antecedent of the elided VP contains an A-movement trace different from that in the elided VP, while in the bad case of Pseudogapping in (19b) the antecedent of the elided VP contains an A-movement trace which has the same index as that in the elided VP.

(18a) falls under Lasnik's analysis. The contrast between (18b) and (19a) results from the failure of the parallelism condition in the former and the satisfaction of this condition at the stage of VP deletion.

As noted by Lasnik, however, the elided VP is not precisely parallel to its antecedent VP (see (16) and (17) for the purpose of discussion), since the former contains the trace of *Harry* while the latter, i.e., the lower VP of the preceding clause in a configuration like (17) (if intermediate projections are not available for grammatical operations), contains the trace of *Bill*. Thus, distinct A-movement traces must be somehow ignored for VP ellipsis, which is also seen in simple VP ellipsis (Lasnik 1995, (28)):

(20) Jones_i was arrested t_i and Smith_j was (arrested t_j) too.

Under Lasnik's analysis, at the stage of VP deletion the verb *dated* in the first clause of (16) must not have raised to the higher empty V position (see the relevant structure (17)) to satisfy the parallelism condition for the lower VP deletion. As Lasnik assumes, however, it might well raise in overt syntax before VP deletion in the PF component. If so, the possible antecedent of the elliptical VP in (15) will be the higher VP in the first clause (in a configuration like (17)). The

higher VP in question contains *Bill*, the trace of *Bill*, and the trace of the subject *Mary*. For ellipsis to be possible in (16), thus, the lower VP in the second clause, i.e., [_{VP} dated t_{Harry}], must be parallel to the higher VP in the first clause, i.e., [_{VP} t_{subj} dated Bill t_{dated} t_{Bill}]. Although distinct A-movement traces can be ignored, it appears highly dubious that parallelism holds here.

One might say that the lower VP containing the traces of the raised verb and its object may serve as the ellipsis antecedent. But this possibility involves a delicate problem. It is known that verb movement also shows some properties of A-movement, i.e., relativized minimality effect (Rizzi 1990). In this light, distinct verb movement traces are also expected to be ignored, like distinct A-movement traces. The fact that the verb in the elided VP must be the same as that of the antecedent, as observed in examples like (21), however, shows that they cannot be ignored:

- (21) Mary hasn't dated Bill, but she has [e] Harry.
 ([e] = *met / dated)

Thus, in order for the lower VP in (21) to be able to serve as an antecedent, different properties of two kinds of trace must be stipulated -- distinct verb movement traces must not be ignored but distinct A-movement traces must be ignored when VP ellipsis for Pseudogapping takes place.

On the other hand, LF copying analysis can simply avoid the problem. Here the verb in the first clause can be copied into the empty verb position in the second clause at LF. I also assume that LF copying needs morphological and semantic identity between the antecedent and the elided verb (phrase). (19b) can be ruled out, since the Pseudogapping remnant lacks contrastive stress. But Pseudogapping is not just a simple verb copying, but it can also involve VP copying (Levin 1978, (39)):

- (22) I can't go back to Madison now, but I can [e] next week.

4. Antecedent Contained Deletion (ACD)

Antecedent Contained Deletion (ACD) constructions, as introduced in (3), have been of great interest in syntax.

(3) Dullus suspected everyone Angleton did.

May (1985) argued that ACD constructions provide evidence for the existence of QR (Quantifier Raising). He points out that if (23a) is the S-structure of (3), then copying the matrix VP into the elided VP will result in infinite regress. After this copying, the empty VP which is contained within the matrix VP will reappear in the elided VP, as in (23b), causing the regress problem.

(23) a. Dullus [_{VP} suspected everyone Angleton did [_{VP}]].

b. Dullus [_{VP} suspected everyone Angleton did [_{VP}]].

[_{VP} suspected everyone Angleton did [_{VP}]]

May claims that if QR applies to the quantificational NP in (23a) to yield (24a) at LF, then the elided VP is outside the matrix VP. LF copying then yields the desired representation (24b) for proper interpretation, avoiding the regress problem.

(24) a. [_{IP} [everyone Angleton did [_{VP}]]_i [_{IP} Dullus [_{VP} suspected t_i]]]

b. [_{IP} [everyone Angleton did [_{VP} suspected t_i]]_i [_{IP} Dullus [_{VP} suspected t_i]]]

On the other hand, Lasnik (1993) and Hornstein (1995) argue that the minimalist approach (cf. Chomsky 1993), coupled with LF copying, obviates the need for QR while handling ACD resolution. That is, in (23a) covert object shift occurring for accusative Case feature checking moves the whole object containing the empty VP out of its antecedent VP to Spec AgrOP, as in (25a), and thus, copying the antecedent VP into the empty VP becomes possible with no infinite regress, as in (25b).

(25) a. Dullus [_{AgrOP} [everyone Angleton did [_{VP}]]_i [_{VP} suspected t_i]]]

b. Dullus [_{AgrOP} [everyone Angleton did [_{VP} suspected t_i]]]_i [_{VP} suspected t_i]]]

Hornstein further argued that the minimalist approach to ACD constructions is superior to the QR approach. But Kennedy (1996) counterexamined Hornstein's arguments, and argued for the QR approach (see also Fox 1995). In this section, I will not go over the arguments of the two sides, since the primary purpose of this paper is to show that ellipsis phenomena can be properly handled by copying at LF, not by deletion at PF. I first introduce PF deletion approach to ACD constructions and discuss some problems with this approach. I also show that QR is necessary in accounting for ACD constructions.

It has been claimed that ACD in effect follows from Pseudogapping (cf. Lappin 1993, Lasnik 1995). As mentioned in the previous section, Lasnik (1995) derived Pseudogapping from VP ellipsis under PF deletion. Therefore, ACD is also reduced to VP ellipsis. To illustrate, in (23a) the ellipsis site does not include the position from which the *wh*-movement involved in relativization took place -- the *wh*-trace is regarded as a right side remnant, not as part of the ellipsis site, as seen in (26), thereby resolving infinite regress.⁴

- (26) Dullus [_{VP} suspected everyone [Op[Angleton did [_{VP} e t]]].
suspect

But recall first that the Pseudogapping remnant must receive contrastive stress. In (42) if the *wh*-trace is a remnant, it is expected to carry contrastive stress. But it is not clear whether the empty *wh*-trace (or the operator-variable chain) can receive contrastive stress, since it does not seem to contrast with anything.

Recall also that deletion at PF requires parallelism. In (26), however, it seems obvious that the deleted material and its antecedent are not parallel in structure. The best way in which they can become parallel is to move the quantificational object out of the matrix VP either by QR or by covert object shift, followed by LF copying and resulting in the structure in (24b) or (25b).

In what follows, I show that the QR approach is preferred to the minimalist object shift approach. Consider (27), where the elliptical site

⁴In this section I limit my concern to restrictive ACD. As Fiengo and May (1994) claim, appositive ACD may be reduced to Pseudogapping.

is bracketed (Fox 1995, (3)).

- (27) You bought him_i every picture that John_i thought you would
[buy him_i t].

Note that (27) is apparently in a configuration of a violation of condition C of the binding theory (BT(C)). But the grammaticality of (27) suggests that QR obviates BT(C). One might say that either covert or overt object shift under the minimalist approach yields the same result, since the object moves out of VP to Spec AgrOP. If the structure of (27) has two AgrOPs for two objects (cf. Lasnik 1995, see also (17)), however, the obviation of BT(C) will not be possible. This is because the first object will be higher than the second object still at LF, both objects being in the corresponding Spec AgrOPs. This means that (27) will be wrongly ruled out by BT(C). On the other hand, if the whole quantificational NP undergoes QR, by which this NP adjoins to IP, or at least to the position over the first object (cf. Fox 1995), the obviation of BT(C) will be possible.

Fiengo and May (1994) also argue that copying must apply at LF in order for BT to yield the correct results. They assume that a structure is ruled out if it violates BT at any level of representation (at which BT can apply). They point out that (28a) satisfies BT, whereas (28b) does not. The non-elided sentences corresponding to (28a) and (28b) are (29a) and (29b), respectively. They claim that both (29a) and (29b) are unacceptable.

- (28) a. Mary introduced him_i to everyone that John_i wanted her to.
b. *Mary introduced him_i to everyone that she wanted John_i to.
(29) a. *Mary introduced him_i to everyone that John_i wanted her to
[introduce him_i to t].
b. *Mary introduced him_i to everyone that she wanted John_i to
[introduce him_i to t].

If copying applies at LF to the structures produced by QR, then the resultant LF representations for (28a) and (28b) are (30a) and (30b), respectively.

- (30) a. [everyone that John_i wanted her to [introduce him_i to t]] [Mary introduced him_i to t].
 b. [everyone that she wanted John_i to [introduce him_i to t]] [Mary introduced him_i to t].

(30a) satisfies BT, whereas (30b) violates condition B, and thus, the contrast between (28a) and (28b) is captured.

Lappin (1993) claims that (29a) is acceptable. Under the PF deletion approach, then, BT must not apply directly to (29a), since its application will wrongly rule out (28a). Thus, even this approach must apply BT to the LF structures (30a,b) produced by QR. But still the problem of PF parallelism remains in deriving (28a) from (29a). If (29a) is unacceptable, as Fiengo and May (1994) claim, this alone causes a problem to the PF deletion approach.

Lappin (1993) and Fox (1995) considered ACD examples like (31), where QR does not appear to obviate BT(C).

- (31) *He_i bought you everything John_i wanted to [buy you t].
 (27) You bought him_i every picture that John_i thought you would [buy him_i t].

(31) contrasts with (27), where QR does obviate BT(C).⁵

Fiengo and May (1994) suggest that BT applies to indices, and that it can apply to an index, *i*, only when all instances of *i* are present in the structure. As aforementioned, they assume that ellipsis involves LF copying, i.e., interpretable material is copied in the LF component. With these, they propose to account for the contrast between (31) and (27). BT fails to apply to a certain index under one condition: when the index is absent from the structure. Thus, if QR is a prerequisite for the index to enter the structure, then only in this case will BT have to wait for QR before it applies. Under Fiengo and May's LF copying

⁵Observing this contrast, Lappin (1993) denies QR approach and instead supports the view that copying applies at S-structure rather than LF. He rules out (31) by resorting to BT(C). Although (27) is in a configuration of a violation of BT(C), he rules in this example in terms of his own binding mechanism using (sub-)chains (see Lappin for detail). But his analysis seems to face a problem in handling examples like (32) below.

approach, QR is a prerequisite for an index to enter a structure when the index is contained in an elided VP and when QR is necessary for the LF copying of this NP. In (31) the elided VP does not contain an instance of the index, *i*. Therefore, BT can and must apply before the elided VP is filled. That is, BT applies at S-structure before QR applies, and (31) is ruled out by BT(C). In (27) the elided VP contains an instance of the index, *i*. Therefore, BT can apply only after copying, which takes place only after QR, which is in turn necessary for ACD resolution. Thus, QR must apply before BT, and it can obviate BT(C).

Fox (1995, (10)), however, points out that there is a direct problem with Fiengo and May's approach. Consider (32a,b).

- (32) a. *He_i bought his_i brother everything John_i wanted to [buy his_i brother t].
 b. *He_i introduced his_i brother to everyone John_i wanted to [introduce his_i brother to t].

According to Fiengo and May's account, all that is needed for BT(C) obviation is that there be an instance of the relevant index within the elided VP. Although in (32a,b) the binder of the R-expression, i.e., the matrix subject, doesn't have a copy within the elided VP, there is an instance of the index, *i*, within the elided VP. Therefore, BT applies to index *i* only after QR, and it is incorrectly predicted that BT(C) will be obviated.

We have seen that the approach of Fiengo and May 1994 faces a problem posed by examples like (32). The problem is reduced to how to account for the contrast between (27) and (31), including (32). In (27), for the obviation of BT(C), the quantificational object must QR. But QR over the matrix subject must not be allowed, as (31) indicates. I assume, following Fox (1995), that QR is allowed only as a last resort for achieving a designated interpretation. When two instances of QR yield the same interpretation, the longer movement is blocked by Economy. Therefore, for both (27) and (31) adjunction of the quantifier to VP is sufficient for receiving the designated interpretation, and adjunction to IP, which is a longer movement, is not allowed. Adjunction to VP (more specifically, AgrOP, I suggest) obviates BT(C) in (27), but not in (31). Fox (1995) also provides an important proposal:

LF pied-piping of the restrictor of the quantificational NP is observed up to interpretability, overriding preference having the restrictor at the tail (cf. Chomsky 1993). In ACD constructions, the restrictor must be pied-piped to avoid infinite regress. We have thus far seen that LF copying, coupled with QR, can adequately handle ACD resolution.

5. Summary

We have discussed some ellipsis phenomena found in English, e.g., VP ellipsis, Pseudogapping, Antecedent Contained Deletion (ACD). With the recent rise of minimalism (cf. Chomsky and Lasnik 1993, Chomsky 1993, Lasnik 1995, and others), PF deletion approach for these phenomena has reemerged. I mainly focused on showing that this approach is at least difficult to maintain, if not impossible. I then showed that LF copying approach can offer a better account for the phenomena. Especially, QR, followed by copying, is shown to be necessary in handling ACD resolution (cf. Fox 1995, Kennedy 1996).

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