

British English *do* and extraction out of vP*

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Park, Myung-Kwan. 2013. British English *do* and extraction out of vP. *Linguistic Research* 30(1), 1-17. This paper examines the peculiar aspects of the British English (BE) *do*, in comparison to those of regular VP ellipsis. In particular, the BE *do* allows A-extraction out of a verbal domain, but it does not allow A'-extraction out of it, though regular VP ellipsis does not have this kind of asymmetry, permitting both types of extraction. This paper argues that the BE *do* involves elision of vP, unlike regular VP ellipsis that involves elision of VP. The restriction on A'-movement out of the elided vP, it is shown, follows from the identity/parallelism condition on ellipsis and the chain uniformity condition. (Dongguk University)

Keywords British English *do*, VP/vP-ellipsis, A/A' extraction out of elided VP/vP, the identity/parallelism condition, the chain uniformity condition

1. Introduction

As Baker (1984), Baltin (2004), Chalcraft (2006) and Baltin (2012) note, British English (BE) has the anaphoric verb *do*, which behaves differently from the well-known case of morphologically supporting *do*, as illustrated below:

(1) British English *do*

Terry will eat pasta and Ines will *do*, too

(With the second clause interpreted as 'Ines will eat pasta')

As in (2), the morphologically supporting *do* occurs in T-position, but in (1) the BE *do* occurs after the modal in the T position. This means that it occurs not in the T position but in the position lower than T.

(2) John didn't go home, but Bill did.

* I wish to thank anonymous reviewers of this journal for their helpful and valuable comments and suggestions. All remaining errors are, of course, mine.

One major issue in the previous study of the BE *do* (cf. Baker (1984), Baltin (2004), Chalcraft (2006) and Baltin (2012)) is whether this *do* is a verbal pro-form or the structure after it is elliptical. If the former is true, it means that it does not contain syntactically accessible internal structure. But if the latter is true, it means that it does.

To examine the syntactic identity of the BE *do*, we can apply a number of syntactic diagnostics to this construction. In fact, Baker (1984), Baltin (2004), Chalcraft (2006) and Baltin (2012) report that the BE *do* is unavailable with wh-extraction, topicalization and quantifier raising, which are known to all involve A'-extraction out of VP, as in (3)-(5):

(3) **Wh-extraction**

*Although we don't know what John might read, we do know **what**
Fred might do ____.

(4) **Topicalization**

*Hazelnuts, I like; **peanuts**, I don't do ____.

(5) **Inverse scope**

Some man will read every book, and some woman will do ____, too.
(inverse scope impossible; only direct scope possible).

However, Baltin (2004) and Baltin (2012) note that the BE *do* can occur with unaccusative and raising verbs, which both involve A-movement out of VP, as in (6) and (7):

(6) **Unaccusatives**

John might die, and Fred might do ____, too.

(7) **Subject-to-Subject Raising**

John might seem to enjoy that, and Fred might do ____, too.

In contrast to unaccusative and raising verbs, however, the BE *do* is impossible with the passive and the Pseudo-gapping constructions, which both also presumably involve A-movement out of VP, as in (8) and (9):

(8) **Passive**

*John might be visited by Sally, and Fred might be done ____, too.

(9) **Pseudo-gapping**

*Although he wouldn't visit MARTHA, he would do ____ SALLY.

In addition, as Baltin (2012) notes, the BE *do* (and the following null anaphoric expression) can be interpreted as a combination of the two different verbs in the two different clauses. In other words, the BE *do* (and the following null anaphoric expression) can take a split antecedent, as follows:

(10) **Ellipsis-contained antecedents**

- a. When John has to cook he doesn't want to ____, and when he has to clean, he doesn't do ____, either.
- b. When John has to cook, he doesn't want to cook, and when he has to clean, he doesn't ~~want to clean~~, either.

(10a) is interpreted as (10b). This means that the BE *do* take as its antecedent both *clean* in the same conjunct clause and *want* in the preceding conjunct clause.

In summary, the BE *do* does not allow A'- nor A- extraction in passives and Pseudogapping, but allows A-extraction in the case of unaccusative and raising verbs. Furthermore, in the construction involving ellipsis-contained antecedents, the BE *do* can take split antecedent Vs or VPs.

This array of behaviors displayed by the BE *do* are peculiar, in particular in comparison to the behaviors exhibited by the case of regular VP ellipsis without the BE *do*. The following examples illustrate the syntactic behaviors of canonical VP-ellipsis when it is subject to the same kinds of syntactic operations that the BE *do* is.

(11) **Wh-extraction**

Although we don't know what John read, we do know what Fred did ____.

(12) **Topicalization**

Hazelnuts, I like; peanuts, I don't ____.

(13) **Inverse scope**

Some man will read every book, and some woman will ____, too.
(inverse scope possible).

(14) **Unaccusatives**

John might die, and Fred might ____, too.

(15) **Subject-to-Subject Raising**

John might seem to enjoy that, and Fred might ____, too.

(16) **Passives**

John might be visited by Sally, and Fred might be ____, too.

(17) **Pseudo-gapping**

Although he didn't give BOOKS to Sally, he did ____ MAGAZINES.

(18) **Ellipsis-contained antecedents**

- a. When John has to cook he doesn't want to, and when he has to clean, he doesn't ____, either.
- b. When John has to cook, he doesn't want to cook, and when he has to clean, he doesn't want to ~~clean~~, either.

In contrast to the BE *do*, VP ellipsis is possible in all these constructions.

Based on the above discussions on the BE *do* and VP ellipsis, we can make a summary of them in the following table.

(19) The BE *do* and the canonical VP ellipsis

	canonical VP ellipsis	BE <i>do</i>
Wh-extraction	Yes	No
Topicalization	Yes	No
Inverse Scope	Yes	No
Unaccusatives	Yes	Yes
Subject-to-Subject Raising	Yes	Yes
Passive	Yes	No
Pseudo-gapping	Yes	No
Ellipsis-containing Antecedents	Yes	Yes

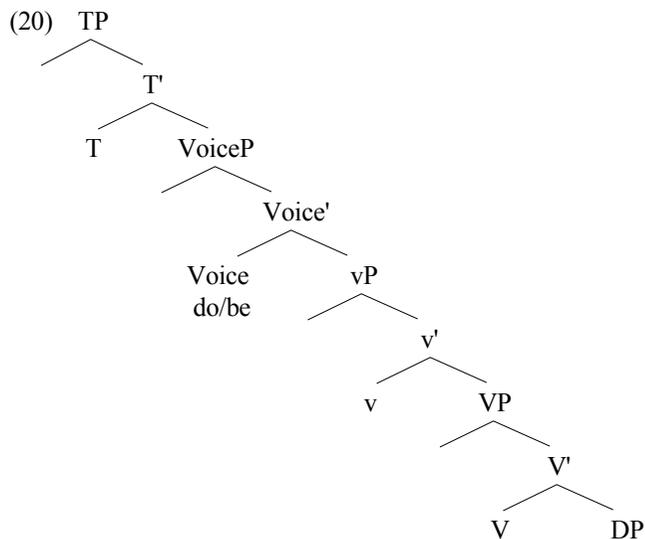
The rest of this paper is devoted to accounting for the differential behaviors of these two types of anaphoric expressions. To make it brief, this paper argues that the BE *do* involves elision of vP, unlike regular VP ellipsis that involves elision of VP.

The restriction on A'-movement out of the elided vP, it is shown, follows from the identity/parallelism condition on ellipsis and the chain uniformity condition.

2. Background assumptions

2.1 Clausal structure

We assume the basic clausal structure of English as follows.



One remarkable aspect of the structure posited here is that, following Collins (2005), there is another layer of functional category above vP, which is Voice. We suppose that this functional category Voice hosts the passive Voice verb *be* or the BE *do*. In other words, in BE the verb *do* is the active counterpart of the passive Voice verb *be*. We contend that the sentence in (8), unlike that in (16), repeated below, is ungrammatical, because the passive Voice verb *be* and the BE *do* are required to be in complementary distribution, but they are not in (8).

(8) **Passive**

*John might be visited by Sally, and Fred might be done ____, too.

(16) **Passives**

John might be visited by Sally, and Fred might be ____, too.

Given the structure in (20) and given the thesis that the BE *do* is generated in the Voice head, we can say that the complement of the BE *do*, that is, vP undergoes deletion. Alternatively, we may say that the BE *do* is a pro-form verb, substituting for VoiceP or its complement vP is a pro-form verbal phrase. However, the latter two possibilities cannot be maintained, because extraction out of VP is found in the case of unaccusative and raising verbs with the BE *do*, as noted above in (6) and (7).

2.2 Constraint on extraction out of VP

In this section we explore the mode of extraction from VP. In particular, we argue that extraction out of the elided VP involves A-movement, but not A'-movement. The crucial evidence supporting this thesis comes from examples like (21):

- (21) *Although we know how angry John became, we don't know [how angry] Bill did ____.¹ (Baltin (2012: 386))

(21) shows that extraction of AP out of the elided VP is not allowed, though as can be seen in the *although* clause of (21), extraction of AP out of the non-elided VP is legitimate.

Furthermore, the Pseudo-gapping construction provides additional evidence supporting this thesis:

- (22) a. *Rona looked annoyed, but she didn't **frustrated** ____.
b. *At first the watchdog appeared (to be) friendly, but later on it did **ferocious** ____ . (Levin (1986: 26))

¹ As shown below, when extraction does not take place from the inside of a verbal projection, the sentence is acceptable as follows.

- (i) Although we don't know when John left, we know when Bill did ____.
(ii) Although we don't know where John put the crayons, we do know where Bill did ____.

(22a) and (22b) show that the AP cannot be extracted out of the pseudo-gapped constituent.

A question arises as to why (21) and (22) are ungrammatical, in contrast to (11) and (17) that are grammatical.

(11) **Wh-extraction**

Although we don't know what John read, we do know what Fred did ____.

(17) **Pseudo-gapping**

Although he didn't give BOOKS to Sally, he did ____ MAGAZINES.

The contrast between the former ungrammatical sentences and the latter grammatical ones is that the former involve extraction of non-Case-bearing AP, which cannot take A-movement out of the elided VP, but the latter involve extraction of Case-bearing DP, which in fact can.

To show the exact mode of extraction out of the elided VP, we explore it with the general case where an object DP, A, has undergone movement out of the elided VP. The derivation will proceed in the following way.

(23) [ellipsis clause ... [... **A**_i ... [VP_(elided) x t_i y]]]

Following the line of analysis of Fox and Lasnik (2003), suppose that deletion proceeds observing the syntactic parallelism condition. In other words, to license it we also have to take into account the antecedent clause. Generally, there is no movement involved in the antecedent clause of ellipsis, but there is a correlate expression corresponding to the element extracted out of the VP in the ellipsis clause.

(24) [antecedent clause ... [[VP x **B** y]]]

B in (24) is a correlate expression corresponding to A in (23).

The important point to note when we scan (23) and (24) with respect to the parallelism condition on deletion is that there is a discrepancy between the former and the latter: the former involves movement, whereas the latter does not. To resolve

this discrepancy, following Fox and Lasnik (2003) (See also Willams (1977), Sag (1976), Pesetsky (1981), and Fiengo and May (1994), among others)) we can go one step further to say that a correlate expression in the antecedent clause takes scope at LF, which will be parallel to the wh-dependency in the ellipsis clause. With this conception, (24) will change into (25), as one possibility:

(25) [_{antecedent clause} ... $\exists f \lambda f$... [[_{VP} x f(B) y]]] (λf = choice function)

However, a discrepancy still persists between the ellipsis and the antecedent clauses: the wh-expression in the ellipsis clause undergoes successive-cyclic movement, but its correlate expression in the antecedent clause is bound by existential closure. What is at stake now in this comparison between (23) and (25) is intermediate trace(s): the ellipsis clause where wh-movement occurs has them, whereas the antecedent clause does not. To take a minimal assumption, we can go another step further to adopt Chomsky's (1991, 1995) idea that in the case of an argument DP which undergoes A'-movement, there is an operator-variable chain, which counts as a legitimate object, with other intermediate traces necessarily deleted in LF. This enables us not to worry about any intermediate traces but just to care about the trace that counts as a variable.

In (23) the VP to be elided apparently meets the parallelism condition on deletion with the antecedent VP in (25). However, there is one problem with this application of the condition. That is, A'-movement can be 'wild' in theory, making a very long movement. This implies that in scanning whether VP ellipsis meets the parallelism condition, we may have to examine a domain (far) bigger than the elided VP, as can be seen in (26).

(26) *Mary seems to think that John believes that Abby DOES want to hire someone who speaks a certain Balkan language, but I don't remember **what kind of language**_i Kevin seems to think that Julia believes that she DOESN'T [_{VP} want to hire someone who speaks t_i].

Presumably this would be computationally costly. To address this problem, we propose that the parallelism condition scans only the category immediately dominating the VP to be elided. In this proposal, we are minimally extending the

domain for parallelism from the traditional assumption: what counts for parallelism is not just the VP to be elided but the category immediately dominating it that extraction from it can proceed into. Let us call this proposal, in more general terms, the economy requirement for the parallelism condition on deletion (See also Park (2005) for a similar conception of this requirement):

- (27) Economy requirement for the parallelism condition on deletion: The parallelism condition on deletion applies only to the category immediately dominating the portion to be elided.

This requirement is a reflection of the hypothesis that in parallel fashion to Move, Delete can also affect a cyclic domain in syntax in regard to the parallelism condition on deletion, first vP and then CP, deleting the complement of their phrasal head.

To ensure that the requirement in (27) is enforced properly in the derivation of the elliptical construction, we assume, following ideas of Merchant (2001), that (PF) deletion is triggered by the presence of a feature on a head like *v*, *T*, *C* or *D*. This feature (*E* feature, in Merchant's terms) will have both PF and LF effects in the derivation of the elliptical construction. On the one hand, this feature on the PF side instructs the following complement constituent to be phonologically suppressed or unpronounced. On the other hand, this feature on the LF side instructs the following complement constituent to meet the parallelism condition on deletion with its antecedent constituent. In other words, the former is required to be parallel to the latter in syntax. Otherwise, the derivation with such an ellipsis-licensing feature leads to LF side failure.

The requirement in (27) amounts to saying that in the antecedent clause a correlate expression takes scope at the periphery of VP, and in the ellipsis clause the *wh*-expression moving from the elided VP leaves an intermediate trace at its periphery, as schematically represented in (28) and (29):

$$(28) \left[\text{ellipsis clause} \dots A_i \dots \left[\text{vP } t'_i \left[\text{VP}(\text{elided}) \times t_i y \right] \right] \right]$$

$$(29) \left[\text{antecedent clause} \dots \left[\text{vP } \exists f \lambda f_j \left[\text{VP } x f(B)_j y \right] \right] \right]$$

In these structurally parallel situations in regard to the vP domain, we can say that VP ellipsis straightforwardly meets the parallelism condition on deletion.

One last thing to consider is the intermediate trace at the periphery of VP in the ellipsis clause of (28). As we pointed out above, the legitimate object for an A'-moved argument is the operator-variable pair produced by its movement, which (unlike other traces) is relevant to the parallelism condition on deletion. This has it as a consequence that the intermediate trace at [Spec,vP], not the trace inside the VP to be elided, has to be analyzed as a variable; if it were not the tail of an operator-variable chain, the resulting structure would not meet the parallelism condition on deletion that operates in tandem with the requirement in (27). As a working hypothesis, we assume, following Chomsky (1981) and Epstein (1987), that an operator-variable chain terminates with an element in a Case-checking position. This working hypothesis leads us to say that the movement to the periphery of the VP to be elided cannot be A'-movement but must be A-movement for a Case reason. This is why movement out of the VP to be elided is stringently local, contrary to initial expectations. Even though a certain element apparently undergoes movement out of the VP to be elided, it first has to take local A-movement out of the VP to be elided and leave a variable at the periphery of that VP, then proceeding to take A'-movement to a possibly distant target position.

Remember that in our analysis of extraction out of the elided VP, we employ the conception of 'legitimate object' formed by A'-moved argument. The new idea we introduce is the requirement in (27). This requirement is, we suggest, a natural one, in that it reduces computational complexity in scanning for parallelism satisfaction. In essence, the Economy requirement for the parallelism condition on deletion in (27) and the conception of 'legitimate object' conspire to bring forth the fact that extraction out of VP is possible when it counts as an instance of A-movement.

2.3 British English *do*

As we saw above, the BE *do* is possible in unaccusative and raising verb constructions, as repeated below:

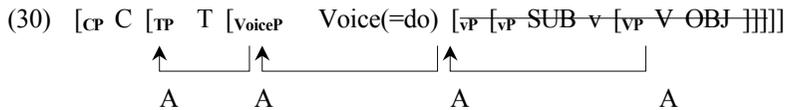
(6) Unaccusatives

John might die, and Fred might do ____, too.

(7) **Subject-to-Subject Raising**

John might seem to enjoy that, and Fred might do ____, too.

These two constructions involve A-movement into the [Spec,TP] position. Thus when the complement vP of the BE *do* undergoes deletion, the sentence can be schematically represented as follows:



Note that the whole chain is a uniform chain comprising its links in A-positions. Furthermore, extraction out of VP counts as an instance of A-movement. As the derivation in (30) does not violate any constraint, the unaccusative and raising verb constructions turn out to be grammatical, achieving the prediction.

Unlike in unaccusative and raising verb constructions, the BE *do* is not possible in the constructions involving apparent A'-movement out of elided VP:

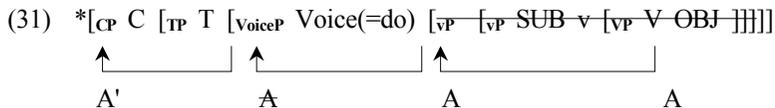
(3) **Wh-extraction**

*Although we don't know what John might read, we do know **what** Fred might do ____.

(4) **Topicalization**

*Hazelnuts, I like; peanuts, I don't do ____.

Schematically, these two constructions involve the following derivation:



In (31), the offending step of derivation is the chain link connecting [Spec,VoiceP] with [Spec,vP]. In the course of forming the legitimate object, the trace in [Spec,VoiceP] undergoes trace deletion. In consequence, the derivation in (31) turns out to involve A'-extraction out of vP to be elided, which is not allowed in terms of

$$(35) \quad *[\text{CP C } [\text{TP T } [\text{VoiceP Voice(=do) } [\text{vP QP}_{\text{SUB}} \text{ v } [\text{VP V } \text{QP}_{\text{OBJ}}]]]]]$$

\uparrow
}
 *A/*A' as QR A

In this representation, the offending step of movement as part of QR² is the one into [Spec, VoiceP], which cannot be A-movement nor A'-movement.

On the other hand, the canonical VP ellipsis construction can be represented as follows:

$$(36) \quad [\text{CP C } [\text{TP T } [\text{VoiceP Voice } [\text{vP } [\text{vP QP}_{\text{SUB}} \text{ v } [\text{VP V } \text{QP}_{\text{OBJ}}]]]]]]]$$

\uparrow
}
 A as QR A

In (36), the QR of the object expression to [Spec, vP] is legitimate, as it is an instance of A-movement.

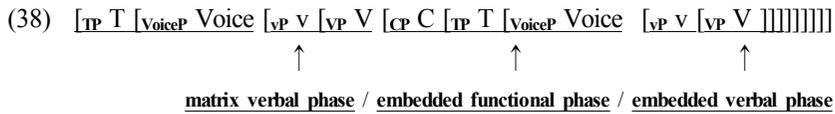
Finally, the ellipsis-contained antecedent phenomenon, as in (37), supposedly follows from the phase-based analysis of ellipsis. This phenomenon shows that more than one verb (one verb is in the higher clause and the other one is in the embedded clause) can be elided and they can correspond to their antecedents in different places.

(37) **Ellipsis-contained antecedents**

- a. When John has to cook he doesn't want to, and when he has to clean, he doesn't (**do**)___, either.
- b. When John has to cook, he doesn't want to cook, and when he has to clean, he doesn't want to ~~clean~~, either.

We can take this to imply that each of the two different verbs that are elided has met the parallelism/identity condition on ellipsis in the course of phase-based derivation. In other words, the projection formed by each verb has undergone deletion at one phase; the verb *clean* in (37b) in the embedded verbal phase and the verb *want* in the matrix verbal phase, as represented schematically below:

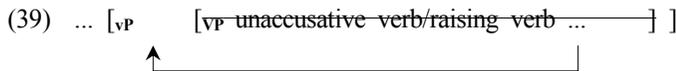
² We assume that QR is a non-successive-cyclic movement (May (1977)).



3. Comparison of the present analysis with Baltin’s (2012)

In this section, we briefly makes a summary of Baltin’s (2012) analysis of the BE *do* and make some comments on it.

Baltin first assumes that the BE *do* is generated in *v* and then argues that its complement undergoes VP deletion. In the case of the unaccusative and raising verb construction, the [Spec,vP] position is empty, hence through it either the complement of the unaccusative verb or the raised subject of the raising verb extracts out of VP, as follows:



In contrast to this derivation, Pseudo-gapping, passives, wh-extraction and topicalization all have the [Spec,vP] position generated with the external argument or subject. Therefore, extraction out of the VP to be elided cannot capitalize on this position. Baltin argues that this structural make-up prevents extraction out of the VP to be elided. In a concrete way, Baltin proposes that when the little *v* head where the BE *do* is generated is projected forming the [Spec,vP] position, extraction out of the VP to be elided proceeds. In addition, the complement of the little head *v* head undergoes deletion; in other words, Delete that applies after the insertion of the little head *v* removes the formal features of lexical elements within its complement. Hence Pseudo-gapping, passives, wh-extraction and topicalization where the [Spec,vP] position is generated with the external argument or subject cannot achieve extraction out of the VP to be elided. Since in these constructions, extraction out of the VP to be elided has to utilize not [Spec,vP], but the specifier position of a higher functional category (for Baltin, Agr-o), but at the point of the [Spec,Agr-oP] position projected, it is impossible to access the inside of the complement of the little *v* head, because the formal features within it have already been removed.

The most crucial assumption in Baltin's analysis of the BE *do* is that deletion bleeds the syntactic operation of Move. In other words, deletion is regarded as a syntactic operation. The little *v* head, i.e. the BE *do*, prevents accessing the inside of its complement by a functional category higher than it. To make this analysis work, it is necessary to adduce more independent evidence supporting this assumption.

4. Summary and conclusion

This paper examined the syntactic manifestations of the BE *do* in various constructions, in comparison to those of canonical VP ellipsis constructions. Since the BE *do* allows extraction out of a verbal projection, it is right to say that it involves surface anaphora rather than deep anaphora.

In particular, this paper proposed that the BE *do* is generated in the Voice head position, in a complementary distribution with the passive auxiliary verb *be*. Furthermore, its complement *vP* undergoes deletion. Based on these ideas, we argued that the BE *do* is possible in unaccusative and raising verb constructions, as these constructions involve A-movement out of the *vP* to be elided. However, it was argued that the BE *do* in Pseudogapping, *wh*-extraction, and topicalization is not possible, as these constructions involve illegitimate A-movement or A'-movement out of the *vP* to be elided. We showed that extraction out of a verbal projection to be elided is possible when it is an instance of A-movement, and that this restriction follows from both the parallelism/identity condition on deletion and the chain uniformity condition.

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