Squibs
and
Discussion

THE STRUCTURAL DEFICIENCY OF
VERBAL PRO-FORMS
Bill Haddican
University of York

In this squib, I discuss two kinds of verbal pro-forms in British English, *do* and *do so*. Examples of these forms are given in (1).

(1) *British English*
  a. Terry will eat pasta and Ines will *do*, too.
    [with second sentence interpreted as 'Ines will eat pasta']
  b. Terry will eat pasta and Ines will *do so*, too.
    [with second sentence interpreted as 'Ines will eat pasta']

In the spirit of Cardinaletti and Starke's (1999) typology of strong, weak, and clitic pronouns, I will argue that *do* is a structurally deficient relative of *do so*. In particular, while both of these pro-forms are headed by v, *do*—but not *do so*—lacks a VP complement. As I will show, this approach accounts for certain prosodic and semantic differences between these forms. The analysis, if correct, suggests that aspects of Cardinaletti and Starke's and Déchaine and Wiltschko's (2002) decompositional approaches to pronouns extend to the lower functional sequence of the clause.

1 British *do* as a Verbal Pro-Form

The construction in (1a) is sometimes referred to in the literature as ''British *do*'' in view of the fact that it is most robust in United Kingdom varieties of English. Speakers of American English, in particular, typically lack the option in (1a) on any reading.

(2) *American English*
  A: Will she eat?
  B: *She should do.
    [* on any reading]

In addition, British English, like other varieties of English, allows true elisions as in (3).

(3) *British English*
     Terry will eat pasta and Ines will, too.
     [with second sentence interpreted as 'Ines will eat pasta']

A traditional distinction in the literature is between anaphora that have internal structure (typically, bare deletions as in (3)) and those that do not have internal structure (which often take the form of some phonetically overt pro-form). In a derivational framework, this difference is often expressed by positing a derivational difference between these two kinds of anaphora such that true elisions have a full-fledged structure that undergoes deletion, while pro-forms are base-generated as anaphors.

In two recent papers, Baltin (2004, 2005) argues that the *do* of (1a) is a pro-form. In particular, he points out that if we view sentences like (1a) as true elisions, it is mysterious why elided constituents under *do* cannot contain internal structure. *Wh*-traces, for example, are impossible in the VP ''covered up'' by *do*, as shown in (4), and inverse scope is likewise unavailable out of the understood VP, as shown in (5). Similar evidence to this effect comes from the fact that *do* is unavailable with antecedent-contained deletion, passivization, and topicalization, as illustrated in (6)–(8).[1] As the following examples show, these properties are also shared by *do so*, traditionally treated as a verbal pro-form (Ross 1970, Johnson 2001, Stroik 2001, Horvath and Siloni 2003).[2]

(4) Wh-*traces*
     *Although I don't know which book Fred will read, I do know which book Tom will do/do so.
     (Baltin 2004)

(5) *Inverse scope*
     Some man will read every book and some woman will do/do so, too.
     (Baltin 2004)
     [only interpretable with *some* taking scope over *every* in both clauses]

(6) *Antecedent-contained deletion*
     *Bart can eat anything that Homer can do/do so.

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[1] Different judgments are reported in the literature concerning the behavior of British *do* in pseudogapping and comparative deletion (Baker 1984, Baltin 2004, Chalcraft 2006).
[2] Baltin (2006) notes that this characterization of British *do* as entirely lacking internal structure may be too strong. In particular, he observes the possibility of *do* with raising predicates as in (i).

(i) John might seem to enjoy it and Fred might do, too.

See Baltin 2006 for an account of these facts, which does not appear incompatible with the analysis presented here.

(7) *Passivization*
    *The steak was eaten by Bill, and the fish was done/done
    so too.
    (Baltin 2006)

(8) *Topicalization*
    *Hazelnuts I like, peanuts I don't do/do so.
    (Chalcraft 2006)

By contrast, true elisions have none of these properties, as shown in
(9)–(13).

(9) Wh-*extraction*
    Although I don't know which book Fred will read, I do
    know which book Tom will ――――.

(10) *Inverse scope*
     Some man will read every book and some woman will ――――,
     too.
     √ ∀>∃
     √ ∃>∀

(11) *Antecedent-contained deletion*
     Bart can eat anything that Homer can ――――.

(12) *Passivization*
     The steak was eaten by Bill, and the fish was ――――, too.
     (Baltin 2006)

(13) *Topicalization*
     Hazelnuts I like, peanuts I don't ――――.
     (Chalcraft 2006)

2 *do* versus *do so*

In view of these data, let us follow Baltin (2005) in assuming that
British *do*—like *do so*—is a verbal pro-form. A question that arises
under this assumption is whether the phonetic difference between these
two forms correlates with any structural difference. I will argue that
in fact it does, as suggested by the following differences between these
forms.

First, in *do so* constructions, stress may fall on *do/did/does so*,
as in (14).

(14) Q: Has Ines eaten?
     A: I don't know, but she should DO so.

By contrast, *do* in sentences such as (1a) can never be stressed. In
(15), for instance—a *do* example parallel to (14)—stress cannot fall
on *do*. Rather, it obligatorily falls on the preceding modal.

(15) Q: Has Ines eaten?
     A: I don't know, but she SHOULD do./*I don't know, but
        she should DO.

Second, subject-auxiliary inversion is available with *do so* but not *do*.[3]

(16) I know Maria will come, but will your brother do so?

(17) *I know Maria will come, but will your brother do?

Third, British *do*, unlike *do so*, cannot be separated from the preceding modal by parentheticals or epistemic adverbs such as *obviously*.[4]

(18) I don't know if she'll come, but she should obviously do so.

(19) *I don't know if she'll come, but she should obviously do.

(20) I don't know if she'll come, but she should, it seems, do so.

(21) *I don't know if she'll come, but she should, it seems, do.

Fourth, British *do*, unlike *do so*, is compatible with nonagentive antecedents.

(22) I don't know if she suffers from arthritis; she might do.

(23) *I don't know if she suffers from arthritis; she might do so.

(24) I don't know if it'll rain today, but it might do.

(25) *I don't know if it'll rain today, but it might do so.

3 The Structural Deficiency of *do*

Let us consider each of these differences in turn. First, the fact that British *do*, unlike *do so*, cannot be stressed or separated from the preceding modal by subject-auxiliary inversion, by parentheticals, or by epistemic adverbs suggests that it is a clitic on the preceding auxiliary. I will assume that this is in fact the case. An immediate difficulty for this approach, however, is that in other environments, light verb *do* does not seem to be particularly cliticlike. In pseudoclefts such as (26), for example, *do* may be stressed.

(26) What she DID was eat pasta.

It can also be separated from surrounding material by *obviously*.

(27) What she obviously DID was eat pasta.

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[3] I owe this observation to Ian Roberts.

[4] As Steve Harlow (pers. comm.) points out, other adverbs, such as *possibly*, more easily intervene between modals and *do*.

(i) I don't know if she'll come, but she might possibly do.

I will set aside the issue of how to account for this difference between *possibly* and *obviously*/parentheticals. What is crucial for present purposes is that parentheticals and epistemic adverbs, unlike *possibly*, tend to require an intonational break in such cases, which suggests that the relevant distinction is prosodic.

(28) What she DID, obviously, was eat pasta.

In these respects, then, light verb *do* seems to be rather uncliticlike. Crucially, however, *do* in this guise, like *do so*, is incompatible with nonagentive predicates.

(29) *What she DID, then, was suffer from her illness.

The generalization seems to be that if *do* is not a clitic, then it must be agentive. These facts recall Cardinaletti and Starke's (1999) observation that (prosodically/phonetically) strong pronouns are semantically restricted in ways that weak pronouns are not. In particular, weak pronouns, unlike strong pronouns, may be expletives and have impersonal interpretations and nonhuman referents. To account for these facts, Cardinaletti and Starke propose that strong pronouns contain an additional functional layer—CP—that weak pronouns lack. This C head receives default values (e.g., [+ human])—a property that accounts for strong pronouns' more restricted range of interpretations (Cardinaletti and Starke 1999:187–190). Cardinaletti and Starke further suggest that this structural difference is responsible for the prosodic differences between strong and weak pronouns. In particular, they propose that weak pronouns are prosodically dependent because they are not full CPs and therefore do not constitute a major syntactic constituent.

Following Cardinaletti and Starke, let us assume that *do* is a structurally reduced relative of *do so*. On the standard assumption that light verbs like *do* are merged in v, a position above V, both *do* and *do so* might be viewed as headed by v (Stroik 2001, Baltin 2005). As Baltin (2005) suggests, however, *do* plausibly lacks a VP complement, as in (30). Crucially, the fact that *do* is compatible with nonagentive antecedents suggests that it may be a ''defective'' v. I will return to this property of *do* shortly.

(30) *Structure of* do
     [$_{v/v*}$ do]

Do so, however, is plausibly richer in structure. Stroik (2001), for example, proposes the structure in (31) for *do so* constructions.

(31) *Structure of* do so *(Stroik 2001)*
     [$_{v*}$ do [$_{VP}$ so]]

Evidence in favor of locating *do* in v rather than V comes from pseudoclefts and *wh*-questions questioning the verb, as in (32) and (33). As Stroik (2001) notes, the fact that *what* can range over VPs in such cases suggests that *do* is not a main verb in VP, but instead occupies a higher position, plausibly v.

(32) What she DID was eat pasta. (= (26))

(33) Q: What will she do?
     A: Eat pasta.

Similar evidence comes from relative clauses of the kind in (34).

(34) Ted left, which he shouldn't have done.
     (Ross 1970)

I will adopt from Stroik 2001 the idea that *do* and *so* are merged as distinct heads. I will depart from this proposal, however, in taking *so* to be merged not in V, but as a nominal complement that incorporates into the matrix V, following Hale and Keyser's (1993) treatment of unergatives.[5]

(35) *Structure of* do so
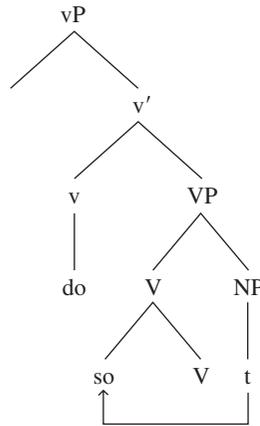
Such a view of *so* as a nominal suggests an account of the fact that *do so* is incompatible with nonagentive antecedents. That is, as a nominal, *so* requires a φ-complete v to value its Case features (Chomsky 2001). By contrast, British *do*, which lacks complement structure, never need value uninterpretable features of a goal and therefore may be defective.

Independent evidence for the underlyingly nominal nature of *so* comes from the fact that it may be replaced by *what* in *wh*-questions questioning the verb (Bouton 1970).

(36) A: If you haven't fixed the car yet, you should do so.
     B: Sorry, do what?
     A: Fix the car.

In particular, the fact that, in other environments, *what* is a nominal

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[5] On this account, *so* + V does not raise further to incorporate into the light verb *do*. In this respect, *do so* would seem to be akin to a class of unergative light verb predicates in Basque discussed by Hale and Keyser (1993) and Laka (1993), among others. In (i), for example, the object *lan* 'work' is supported by a light verb, *egin*. These Basque verbs are notable for the fact that, although they are apparently intransitive, they require ergative case marking on the subject and auxiliary.

(i) Jon-ek lan   egin-go du.
    Jon-ERG work do-FUT AUX.ERG
    'Jon will work.'

wh-element suggests that *wh*-questions questioning the verb such as (32) and (33) involve a nominal complement. Additional evidence to this effect comes from the fact that in some languages, such as Basque, the *wh*-element in *wh*-questions questioning the verb triggers object agreement on the auxiliary.

(37) Zer   egi-n   du   Ines-ek?
     what.ABS do-PERF ABS.AUX.ERG Ines-ERG
     'What has Ines done?'

Incorporation of *so* into V is motivated by the fact that *so* is interpreted as a placeholder for the verb—as in (36)—and also by Bouton's (1970) observation that *so* does not behave like a nominal in other crucial respects. In particular, *so* can neither be passivized nor serve as complement of a preposition, as illustrated in (38) and (39), respectively.[6]

(38) *So was done as soon as we arrived.
     (Bouton 1970)

(39) *Blake said that he would beard his tormentor before the
     night was up, but the actual doing of (it/*so) proved rather
     difficult.
     (Bouton 1970)

On the assumption, then, that the *so* of *do so* obligatorily incorporates into V, the unavailability of *so* in these environments is accounted for.

On this view, several differences between weak and strong verbal pro-forms reduce to a single structural difference, namely, whether the pro-form in question takes a complement VP. If, as suggested by Cardinaletti and Starke, prosodic weakness is a symptom of lacking a major category, then the prosodic weakness of British pro-form *do* might plausibly be attributed to the fact that *do* lacks a complement VP. By contrast, *do so* and the *do* of pseudoclefts and *wh*-questions questioning the verb are not prosodically weak because they take a complement VP. Similarly, the fact that *do* but not *do so* is compatible with nonagentive antecedents is plausibly attributable to the fact that the latter contains a Case-marked noun and therefore must have a nondefective v.[7]

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[6] I am grateful to an anonymous reviewer for bringing Bouton's data to my attention, and for helpful observations about these facts. Much of the following discussion also owes a great deal to this reviewer's insightful comments.

[7] If it is on the right track, this proposal might plausibly be extended to *do*-support (Richard Kayne, pers. comm.; cf. Pollock 1989:420, fn. 49). Again, in the spirit of Cardinaletti and Starke's (1999) proposal, one might view the *do/does/did* of *do*-support as an even more deficient relative of *do/do so*. In particular, the behavior of the *do* in *do*-support is similar to that of clitics in three ways. First, in constructions in which it appears, *do* in *do*-support ''doubles'' its referent in a way comparable to clitic doubling in Romance. Second, *do* in *do*-support canonically appears higher in the clause than its referent. This recalls Cardinaletti and Starke's generalization that weaker pronouns and clitics surface

From the perspective of this proposal, the contrast between British *do* and *do so* more closely resembles Déchaine and Wiltschko's (2002) reformulation of Cardinaletti and Starke's proposal than the original proposal itself. In particular, Déchaine and Wiltschko suggest that the restricted range of interpretations of strong pronouns is attributable to the presence of an NP rather than to a CP layer. The structural distinction between strong and weak pronouns, then, is reformulated as in (40), where ϕP is ''a cover term for any intermediate functional projection that intervenes between N and D and that encodes ϕ-features'' (p. 410).

(40) *Déchaine and Wiltschko's typology of strong and weak pronouns*
  a. Strong pronouns: $[_{\phi P}\ \phi\ [_{NP}\ N]]$
  b. Weak pronouns: $[_{\phi P}\ \phi]$

This proposed distinction closely resembles the present account of British *do* and *do so*, summarized in (41).

(41) *Structure of* do so *versus structure of* do
  a. $[_{vP}\ do\ [_{vP}\ so_i\ [_{NP}\ t_i]]]$
  b. $[_{vP}\ do]$

From the perspective of Déchaine and Wiltschko's structures in (40), then, the present account of *do* and *do so* in British English suggests that in the case of both pronouns and verbal pro-forms, prosodic/phonetic ''weakness'' and semantic restriction reduce to a single structural difference, namely, the presence versus absence of a lexical complement to a ϕ/v head.

The foregoing analysis, if correct, lends credence to decompositional approaches to pronouns and supports Déchaine and Wiltschko's (2002:439) suggestion that decomposition of anaphors extends beyond the case of pronouns.

References

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higher than stronger relatives. Third, *do* in its *do*-support guise often allows phonological reductions not available in the case of light verb *do*.

 (i) Who'd you see?

 (ii) What you did was eat pasta.

 (iii) *What you'd was eat pasta.

Whether *do*-support might in fact be usefully analyzed as clitic doubling I will not pursue here.

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