An experimental syntax approach to British English *do*-ellipsis

James Griffiths
University of Tübingen

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Synopsis. Speakers of British English may optionally add a nonfinite version of pleonastic *do* to sentences with an elliptic verb phrase (1). This phenomenon of British English *do*-ellipsis (BDE) displays a more restricted distribution than ordinary verb phrase ellipsis (VPE), which occurs in all English varieties. For instance, VPE is permitted in passive-*be* clauses, whereas BDE is not (Thoms & Sailor 2018) (2). Also, BDE appears less tolerant of extraction from the ellipsis site than VPE. For instance, researchers agree that wh-object extraction from the ellipsis site is permitted in VPE but disallowed in BDE (see e.g., Baltin 2007, 2012, Haddican 2007, Aelbrecht 2010, Thoms & Sailor 2018, Lewis 2022) (3).

(1) a. Pete eats cake more often than he SHOULD (**do**).
b. A: D'you think she ate the cake?
B: No, but she COULD'VE (**done**).

(2) CAKE will be eaten, whereas CHOCOLATE won't (*__do__).

(3) I know what she WILL eat and also what she WON'T (*__do__).

The existence of apparent extraction asymmetries such as (3) have been utilized to support a number of far-reaching conceptual claims, including that ellipsis induces phase-like barriers to movement in a derivational model of syntax (Aelbrecht 2010), BDE tracks and therefore provides independent motivation for variable syntactic reconstruction to phase edges (Thoms & Sailor 2018), and some forms of ellipsis are instances of 'full-phase' spell out (Lewis 2022).

All the acceptability judgment data reported in the BDE literature were informally collected. Considering that ellipsis studies consistently report small effect sizes (e.g., Lemke 2021, Cortés Rodríguez 2023), one should be sceptical about the reliability of these data and unsurprised that some BDE datapoints, particularly those related to what types of extraction from the ellipsis site are permitted, are contested in the BDE literature (this is a major contributing factor to why the above-listed analyses reach such different conclusions).

In this talk, I present the results of 8 experimental syntax studies on BDE. Among other things, these results show no effects of an interaction between the presence of *do* and extraction from the ellipsis site for any type of syntactic movement, which immediately invalidates almost all prior generative analyses. The results are instead compatible with a novel simple analysis, according to which *do* is a low auxiliary that can only c-select verbs that cannot raise to T. I propose that the degrading effect of *do* in some syntactic contexts is prosodic in nature, not syntactic. In the rest of this abstract, I give an impression of the experimental procedure by outlining the results from two experiments in the series. I also outline my analysis.

Example experiment 1: passivization (exp_{pass}). Most experiments in the series – including exp_{pass} and exp_{wo} below – were 2x2, with 3 repetitions per condition selected from 12 lexical sets, organized into a 4-list Latin square, with a 2:1 ratio of (standardized) fillers to test items. Participants rated naturalness on a 1-7 Likert scale, where 1 = completely unnatural and 7 = completely natural. Experiments were conducted online and were unsupervised. Participants were crowdsourced on *Prolific* and prescreened in various ways to ensure their reliably and eligibility (monolingual British English speakers only). 2x2 experiments lasted ~7 minutes and each participant was paid £1.35 per experiment. For exp_{pass}, 39 participants were recruited and 35 were included in the statistical analysis, which therefore comprised 105 unique datapoints per condition.

The two factors in exp_{pass} were ELLIPSIS (**BDE** or **VPE**) and PASSIVE (an ellipsis site headed by **passive-*be*** or one headed by **passive-*get***). If Thoms & Sailor are correct that BDE is incompatible with passive-*be* ellipsis sites but compatible with passive-*get* ones (4), then one expects to observe an interaction effect that can be detected with the current

(4) a. The CAKE will be eaten, and the CHOCOLATE will (do), too.
b. The CAKE will get eaten, and the CHOCOLATE will (*do), too.

(5) zscore ~ ellipsis * passive + (1 | item) + (ellipsis | subject)

sample size and experimental design, which is sufficiently powered to detect even relatively small syntactic effects (cf. Sprouse & Almeida 2017). Example stimuli have already been presented in (4). Figure 1 presents the results. The linear mixed effect regression model (LMER) in (5)—fit over z-transformed scores, anova-coded, with interacting fixed effects and a manually-determined best-fitting random effect structure—shows main effects for ELLIPSIS ($t = 9.05$, $p < 0.01$) and PASSIVE ($t = 4.22$, $p < 0.01$) and an interaction effect ($t = 2.30$, $p = 0.03$), which confirms Thoms & Sailor's claim and also shows that the "*" in (4b) equates to a rating of ~4 out of 7.

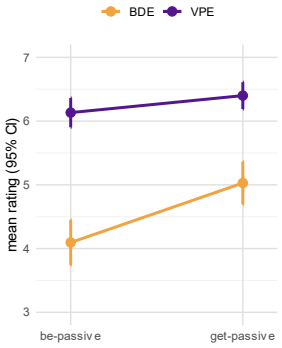

Figure 1. Exp_{pass} results

Example experiment 2: wh-object extraction (exp_{wo}). For exp_{wo}, 39 participants were recruited and 38 were included in the statistical analysis, which therefore comprised 114 datapoints per condition. The two factors in exp_{wo} were ELLIPSIS (**BDE** or **VPE**) and POSITION (extraction either from **inside** the ellipsis site or from a position **outside** of it). If the literature is correct that wh-object extraction from the ellipsis site in BDE is precluded for syntactic reasons, then one expects to observe an interaction effect. Example stimuli are presented in (6). Evidence that wh-phrases corresponding to adjunct PPs are indeed extracted from a position that can be outside of the ellipsis site in both VPE and BDE is provided by (7), which demonstrates that adjunct PPs can occupy a position external to both the VPE and BDE ellipsis site in canonical, non-extraction contexts.

(6) a. I know which apple Lucy SHOULDN'T eat, and also which one she SHOULD (do). [VPE/BDE, inside]
b. I know where Lucy SHOULDN'T eat, and also where she SHOULD (do). [VPE/BDE, outside]

(7) Lucy CAN'T eat an apple in the HOUSE, whereas she CAN (do) [$_{VP}$ [$_{VP}$ ~~eat an apple~~] [$_{PP}$ in the GARDEN]].

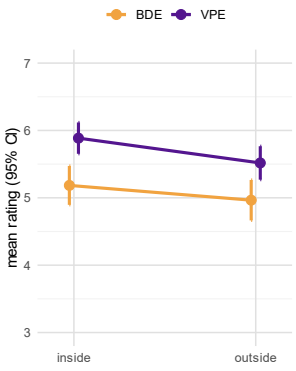

Figure 2. Exp_{wo} results

Figure 2 presents the results of exp_{wo}. The best fitting LMER in (8) shows main effects for ELLIPSIS ($t = 4.23$, $p < 0.01$) and POSITION ($t = 1.97$, $p = 0.05$), but no interaction effect ($t = 0.69$, $p = 0.50$). This shows that, although the presence of *do* reduces acceptability in general, wh-object extraction from the BD ellipsis site does not especially degrade judgments, when compared to VPE.

As mentioned already, the same null result is replicated under experimental conditions for topicalization, relativization, and operator movement in various ACD configurations. These results show that, if extraction from the BD ellipsis site does degrade judgments (compared to VPE), as reported in the literature, this degradation is not syntactic in nature, as it cannot be detected by standard experimental syntax methods.

A simple syntactic analysis of BDE. I propose that British English *do* is a meaningless non-finite auxiliary verb that selects only for the highest non-raising (v to T) verb in the thematic domain (thematic domain = v or Voice; the latter is present only in passives), and which is only exponed if its complement is unpronounced. Evidence for this comes from the fact that BD is incompatible with ellipsis sites headed by passive-*be* (4a), copula-*be,* raising-*have*, and progressive-*be* (9), which are all verbs capable of raising to T. Crucially, this simple analysis aligns with the experimental results, which strongly suggest that that British English *do* is not associated with phases, or with inducing locality effects on phrasal extraction in any way.

(8) zscore ~ ellipsis * position + (1 | item) + (ellipsis | subject)

(9) a. * LUCY should be grateful, and PETE should (*do), too.
b. * JOE hasn't any money, and MARY hasn't (*done), either.
c. # JOHN will be dying to leave, and BOB will do, too.
(Only available interpretation: … *Bob will die to leave*.)

Selected References. Aelbrecht, A. 2010. *The syntactic licensing of ellipsis*. • Baltin, M. 2012. Deletion versus proforms. *NLLT* 30: 381-423. • Cortés Rodríguez, Á. 2023. Multiple sluicing through an experimental lens. PhD, University of Tübingen. • Lemke, R. 2021. *Experimental investigations on the syntax and usage of fragments*. • Thoms, G. & C. Sailor. 2018. Extraction from *do*-ellipsis in British dialects. *NELS 48*: 145-155.