Passive *Do So*

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1 Introduction

Hallman (2013) argues that passives and unaccusatives have a non-movement derivation, where the surface subject is generated externally and binds a PRO in an object position. The argument is based on some apparently contradictory data involving the English pro-forms *do so* and *so*: they are possible with unaccusatives and adjectival passives, but apparently not with verbal passives. I show that *do so* actually is possible with verbal passives. This means that the pro-form *do so* can receive a very simple analysis as a one-place predicate that can take any sort of one-place predicate as its antecedent. I sketch such an analysis here. Importantly, Hallman's conclusions regarding the lack of movement in passives and unaccusatives are unwarranted. I also give a novel argument that verbal passives with *be* must involve direct movement, but *get* passives do not.

2 Passive and *Do So*

The received view is that *do so* is incompatible with the passive (Hallman 2013 cites Hallman 2004, but the claim is certainly older than that):

(1) * These books were left in the classroom, and this cell phone was done so, too. (Hallman 2013, 77, (5d))

There are two possible accounts of this: (1) *do so* is compatible only with agentive subjects (it is known to be incompatible with statives, as Ross 1972 noted); (2) *do so* is a pro-form and does not have internal structure that can support extraction (e.g., Fiengo and May 1994); the passive subject must move from an object position, but with *do so* there is no such position.

Both possible accounts are apparently falsified by the fact that unaccusatives are compatible with *do so*:

(2) (Hallman 2013, 90, (50a–b))

    a.   The river froze solid, and the pond did so, too.

    b.   The towels dripped dry, and the socks did so, too.

Unaccusatives do not have agentive subjects, and they are also thought to involve movement of an underlying object to subject, just like passives. (Addition of the resultative secondary predicate ensures that the verbs have not been coerced into unergatives.) Unaccusatives pattern with passives in many ways, which has led to the hypothesis that the surface subject of an unaccusative, like the surface subject of a passive, starts out as an object (e.g., Perlmutter and Postal 1984). The fact that *do so* is compatible with unaccusatives but not passives seems to be problematic for this view.

Additionally, adjectival passives permit *so*, contrasting minimally with verbal passives with *do so*:

(3) (Hallman 2013, 78, (11a–b))

    a.   * The ship was damaged, and the dock was done so, too.

    b.   The ship appears damaged, and the dock appears so, too.

Many lexicalist analyses of adjectival passives do not posit movement from the underlying object position in adjectival passives (following Wasow 1977), but more recent analyses of adjectival passives do (e.g., Embick 2004, Bruening 2014).

The apparent ill-formedness of verbal passives with *do so* then appears to be a real outlier, and is in need of an explanation. If unaccusatives and adjectival passives involve movement of an underlying object, then it is not possible to claim that *do so* is ungrammatical with verbal passives because *do so* is incompatible with movement.

To account for these data, Hallman (2013) proposes that *so* and *do so* are in fact incompatible with any sort of movement, but passives and unaccusatives do not involve movement of a subject. Instead, they have a subject base-generated high (in Spec-PrP; Bowers 1993), binding a null PRO in object position. (In fact, Hallman has active subjects, too, generated high, binding a PRO in the external argument position.) This makes unaccusatives and adjectival passives compatible with *do so* and *so*, since there is no movement. The problem with verbal passives is that their structure is different from that of an adjectival passive, and they require a step of movement, of a Part(iciple)P(hrase), to the specifier of Voice (following the *smuggling* analysis of passive in Collins 2005). But if the *so* of *do so* is present, it has no internal structure, and so no PartP that can undergo this movement.

I take a different approach to explaining the fact that verbal passives are an apparent outlier. This is to say that they are not an outlier at all. In fact, verbal passives *are* compatible with *do so*. Corpus searches using the internet as a corpus bear this out. It is possible to find numerous examples of *do so* as a passive. I illustrate with a few examples here. In my judgment and the judgment of other native speakers I have checked with, all of them are grammatical.

(4) This means that the only the most edible meat is eaten and done so with much chewing as to liquify the food. (http://www.ehow.com/about_4740227_scorpions.html)

(5) For those who do not know Devil Fruits are extremely rare to find and the ones that are found and eaten are done so in mere happenstance unless you know what to look for.
(http://shannaro.wordpress.com/2012/11/30/)

(6) I then take notice and observe when the food is brought to table that the meal is picked apart and what is eaten is done so in a controlled and seemingly not pleasurable manner. (http://www.psychologytoday.com/blog/when-food-is-family/201208/reflections-the-2012-olympics)

(7) Every photo taken and every update written is done so with the adoptive parents in mind.
(http://godslittlestangelsinhaiti.org/andlifegoeson/2013/07/19/words-of-encouragement-adds-sunshine-to-our-day/)

(8) It is thrillingly written, and done so with the clarity and poignancy of a man who waited 62 years to reveal the full account of his experience, after first being approached by American prosecutors in 1947. (http://theboar.org/2013/04/19/denis-avey-believe-or-not-believe/#.UfJfWRz-nn0)

(9) And I think everyone can agree that some of the most beautiful music ever written was done so in the name of God or gods. (quote attributed to Anand Wilder, http://en.wikipedia.org/wiki/Yeasayer)

(10) The first "Rosicrucian" writings, the Fama Fraternitatis, Confessio Fraternitatis and the Chemical Wedding of Christian Rosenkreuz, all when written were done so anonymously and then later traced to be the works of Johannes Valentin Andreae,. . .
(Tobias Churton, http://www.bonisteelml.org/invisible_history_of_rosicrucians.pdf)

From these examples it appears that *do so* is in fact compatible with the passive. Constructed examples that are judged to be ungrammatical, like (1), simply lack the appropriate linguistic context to be acceptable. (One thing to note is that in the acceptable examples, the antecedent VP is embedded, often in the subject of *do so*, but it is not clear to me if this is a crucial factor for acceptability.)

This finding removes the exceptionality of verbal passives. *Do so* is compatible with any sort of VP: active transitive, unaccusative, passive, and so on. There is no need for the elaborate account that Hallman (2013) constructs, and there is certainly no need to abandon direct movement accounts of passives and unaccusatives. It is possible to give a very simple account of *do so* that is compatible with every analysis of passives and unaccusatives. I sketch such an account in the next section, and then give an argument for direct movement in verbal passives with *be*.

3 Sketch of an Account

A simple account is that *do so* is a pro-form for a predicate that takes a subject (an individual argument). The actual predicate is retrieved from context and predicated of the surface subject of *do so* at a post-syntactic level of semantic interpretation. The antecedent predicate can be a passive or unaccusative one, such that its subject will correspond to an underlying object. For instance, consider example (6), the relevant part of which is repeated below:

(11)　(=6) ... the meal is picked apart and what is <u>eaten</u> is **done so** in a controlled and seemingly not pleasurable manner.

The antecedent predicate is underlined. Being a passive, this predicate is the following semantically (I existentially close the event variable for simplicity):

(12)　$\lambda x.\exists e,y.\text{eat}(e,x) \ \& \ \text{agent}(e,y)$

Passives involve existential quantification over the agent (Bach 1980; Keenan 1980, 1985; Williams 1987; and numerous others), while the internal argument (x in the formula above) becomes the surface subject. It could have done this by movement, or by some other operation ("externalization," in lexicalist analyses like that of Bresnan 1982; see Levin and Rappaport 1986, Meltzer-Asscher 2010b on this operation). I will assume that it was done by movement, with the object moving and abstracting over the VP:

(13)　what λx [is eaten x]

At a post-syntactic level of semantic interpretation, *done so* is replaced with the antecedent predicate, underlined below (*be* is vacuous):

(14)　a.　what is eaten is <u>done so</u> in a controlled and seemingly not pleasurable manner $\rightarrow$

　　　b.　what is eaten <u>$\lambda x.\exists e,y.\text{eat}(e,x) \ \& \ \text{agent}(e,y)$</u> & manner(e,*controlled and not pleasurable*)

I will treat the manner adverbial as a modifier of the event argument, and will not worry here about the internal structure of this modifier.

　　Similarly, if the antecedent is an unaccusative, movement and abstraction creates a one-place predicate that is suitable to replace *do so* at the relevant semantic level. If the antecedent is an active transitive or unergative, it is already a one-place predicate that can replace *do so*:

(15)　a.　The river froze solid, and the pond did so, too.

　　　b.　the river $\lambda x.$froze x solid

(16)　a.　Melinda grabbed the flag before Jimmy could do so.

　　　b.　Melinda $\lambda x.$x grabbed the flag

(17)　a.　We wanted to dance but before we could do so...

　　　b.　PRO $\lambda x.$x dance

　　This simple account requires nothing but a one-place predicate to serve as the antecedent of *do so*. *Do so* is compatible with passives and unaccusatives because movement of the underlying object abstracts over the VP and creates such a one-place predicate.

　　At the same time, the predicate can only be a predicate with an open subject, and no other open positions, so that extraction of other elements is impossible:

(18)　 * I know which book Mary read, and which book Bill didn't do so. (Hallman 2013, 77, (5a))

Do so has no internal structure in the syntax, and so cannot support a gap. The only gap that is possible is the subject of the predicate itself.

The actual syntactic structure of *do so* is not important here, but the two words are clearly not a single item and *so* can appear without *do*, as in adjectival passives. For our purposes, it is enough to note that the clause in which *do so* occurs has its own sequence of functional heads, so that it will include modals, tense, and aspect, separately from its antecedent clause. Importantly, though, if the antecedent clause is passive, then the *do so* clause has to be, as well. In all the grammatical examples of passives, the auxiliary *be* appears and *do* is in the past participle form. I will simply assume that the past participle morphology starts higher than the starting position of *do*, and the two get together either through head movement, affix hopping, or simple selection, depending on how one wishes to analyze English verbal morphology. See Harwood 2015 for a recent account. One possibility is that *do* occupies the head Voice above VP (Kratzer 1996); past participle morphology is then due to a head above that. I will assume that matching in voice morphology (active versus passive) has no consequences internal to *do so*; in particular, *do so* has no internal structure that accompanies a passive, like an object gap. Only the semantics is filled in at a post-syntactic level, as described above. (It is possible that passive voice, encoding existential quantification over the external argument, is present, if *do* starts lower than the head that encodes this, but again this has no bearing on the lower structure and there is no object gap.)

This simple analysis accounts for all of the facts of *do so*. Importantly, it is compatible with *any* analysis of the passive, including direct movement accounts. In the next section, I give an argument in favor of a movement account and against a control account like that proposed by Hallman (2013).

4   An Argument for Movement in *Be* Passives

The simplest argument for direct movement in passives is an old one, involving semantically contentless expletives.[1] The expletive *there* cannot control:

(19)   a.   * There occurred three more accidents without PRO being any medical help available on the premises. (Haegeman 1994, 279, (46g))

   b.   * Next to the cauldron there appeared a witch without PRO appearing a black cat, too.

Yet it can become the subject in a passive:

(20)   There was believed to have been a spy at the Department of Domestic Surveillance.

This fact is incompatible with the analysis in Hallman (2013), where the surface subject of the passive controls a PRO in a lower position. The expletive *there* cannot control PRO, as we just saw. It is compatible only with a direct movement account of the passive.

Note also that *there* is not the sort of individual that can have properties predicated of it. We therefore predict that it could never be the subject of *do so*, since *do so* must be replaced by a one-place predicate. This is correct:

(21)   a.   * There was believed to be a spy, and done so by everyone...

   b.   * On that site there were built numerous monuments and temples, apparently before there were done so on the adjacent one.

No relevant examples turn up in web searches of "there were done so" and "there was done so" (searches performed 6/10/2015).

Now, we can extend the expletive argument for movement further to explain an otherwise puzzling difference between *be* passives and *get* passives. The difference is that *be* passives can have the expletive *there* as their subject, but *get* passives cannot. We can make sense of this difference if *be* passives involve direct movement, but *get* passives instead have a base-generated subject.

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[1]I have never found a source for this argument. Most publications either assume familiarity with the argument (e.g., Postal 1974), or present it anew without attribution (e.g., the usually well-referenced Davies and Dubinsky 2004). The earliest place I have found the argument is in Rosenbaum (1967, 64).

Get passives, unlike *be* passives, do not permit the expletive passive (Huang 2013, note 2 credits this observation to Jeremy Hartman):[2]

(22) a. There were three civilians [that were passive onlookers] killed in that attack.
  b. * There got three civilians [that were passive onlookers] killed in that attack.
    (cf. Three civilians that were passive onlookers got killed in that attack.)

Get passives also do not permit presentational *there* passives (Postal 2004):

(23) a. On this site there were built numerous monuments and temples.
  b. * On this site there got built numerous monuments and temples.

Both of these restrictions follow if *get* projects its own subject and predicates its complement, which is a one-place predicate, of that subject. Like *do so*, its subject must be an individual that can be predicated of. The expletive *there* is not such an individual, and so it is incompatible with *get*. Not also that *get* can take both active and passive predicates as its complement, the same way *do so* can take any sort of predicate as its antecedent:

(24) a. The mail got [sorted]. (passive)
  b. Branson, get [sorting]! (active)

A simple analysis is that *get* simply predicates its complement of its subject. Importantly, its subject is base-generated in subject position and does not move there.

Since *be* passives differ from *get* passives in being compatible with the expletive *there*, they must involve direct movement from a lower position. They could not involve base-generation of a subject and either predication or control.

5 Conclusion

I have shown here that *do so* is compatible with verbal passives, contra Hallman (2013) and the received wisdom. I showed that a very simple analysis of *do so* predicts that it is compatible with every sort of VP. Importantly, this analysis is compatible with all approaches to the passive, including movement analyses. Finally, I provided an argument in favor of direct movement in the passive, and against the control analysis advocated by Hallman (2013).

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[2]Adding a full relative clause in (22) forces these sentences to be monoclausal expletive passives, and not reduced relative clauses (see Deal 2009, note 28), which would require *be* because they are copular sentences. These are not copular sentences, and so it is significant that *get* is not allowed.

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