

Passive, smuggling and the *by*-phrase*

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1 Background and overview

The classical Government-Binding analysis of passive assumes that the *-en* passive morphology takes the accusative case and the external theta-role (a non-obvious cluster of properties), yielding movement of the internal argument to EPP position as a result. How the external theta-role (agent/causer) comes to be associated with the *by*-phrase is solved by saying that *-en* behaves as a clitic, the *by*-phrase being its doubling DP/PP.

Collins (2005) argues that this is really too complex. No special capability of taking the accusative case and the external theta-role is associated with the *-en/-ed* participial morphology — which is in fact identical for passives and perfects. Rather, a passive *vP* has exactly the same shape as an active *vP* at first Merge. However, there must be a reason why the internal argument and not the external argument moves to the EPP position. For Collins the reason is that VP moves to SpecVoiceP; this positioning of VP removes the intervention of the external argument in Spec*vP* from the movement path of the internal argument — i.e. it smuggles the internal argument in the position from where it moves. Part of this analysis is that there is no *by*-phrase. *By* is the head of VoiceP, which as such is immediately followed by the external argument in Spec*vP*.

There are two types of problem with the smuggling proposal. The first problem is that Collins assumes what we may call Kayne-type movement (Kayne 1994), not necessarily endowed with any relevance at the Conceptual-Intentional (C-I) interface. Chomskyan movement is never semantically empty. This problem is addressed by Gehrke & Grillo (2009) who suggest that VP movement to SpecVoiceP is necessary for VP to become associated with the event time. The latter is hosted in an Asp projection immediately above Voice. As for the reason why this movement takes place only in passives, Gehrke and Grillo mention Focus, but this seems an inappropriate notion to invoke, since there is no sense in which the participial structure is focussed in passives.

In short, Collins doesn't consider what motivates VP movement and Gehrke and Grillo, while addressing this issue, give at best a partial answer (i.e. the movement

* I would like to express my appreciation to Kyle for our Cambridge student days and for his work in the ensuing decades, very inadequately represented by the references in this note.

is Asp-related). More importantly, there is no obvious independent evidence that we can think of, either interpretive or syntactic, that VP moves in passives. The main evidence consists of the very fact that VP movement is supposed to explain, namely the possibility of moving the internal argument to EPP position.

There is a second problem with the smuggling analysis, concerning the sequence *by*-external argument. For reasons of restrictiveness we side with Chomsky's (1995) requirement that heads must bear interpretable content. This bars saying that *by* is a 'dummy preposition' (i.e. one consisting entirely of uninterpretable features) selecting for ν P; we agree with Franco et al. (2015) that linkers are not a good example of uninterpretable heads. Furthermore there is plenty of evidence that *by*-DP is a constituent; therefore some Kaynian type of movement is necessary to reconstitute it from the merely adjacent *by*-DP sequence in Collins's analysis (presumably moving DP to the Spec of *by* and then adjoining *by* to DP). The discussion that precedes implies that we consider a grammar of this type to be unnecessarily rich. Bruening (2012), while forcefully making the point that the *by*-phrase is hosted by the same projection as any other external argument (a Kratzerian VoiceP), nevertheless takes the view that it is a constituent. In his proposal, the Pass projection responsible for passive is syntactically compatible with the oblique, while it is not with a non-oblique external argument; this introduces in turn a rather undesirable disjunction between semantic and syntactic selection.

Even assuming that Collins's approach to *by* is theoretically acceptable, it meets empirical problems. For instance, one may raise the issue of agent *by*-phrases inside DPs and specifically non eventive DPs (e.g. *a book by Chomsky*). Even remaining within the sentential domain, and even factoring away locative uses, *by*-phrases occur in active sentences with the meaning of instruments and causers as in (1). Causer *by*-phrases are not constrained to select for ν P (Alexiadou et al. 2015), and indeed they occur with unaccusatives, as in (2).

- (1) a. I found it by luck/by searching.
- b. We took them by hunger/by force.
- (2) a. He died by exposure/by hunger.
- b. He was killed by John/by hunger.

Furthermore similar, but not identical, facts hold cross-linguistically. In Italian the *by*-phrase is introduced by *da* (which means 'from' as a locative). While introducing agents and causers (3), *da* cannot introduce instruments (4a); the latter are prototypically introduced by *con*, 'with', including in environments that allow *by* in English, (4b). These behaviors must depend on the lexical interpretive properties of the prepositions involved, which cannot be 'dummies'.

- (3) a. La casa fu costruita da Gianni / distrutta dal fuoco.
The house was built by John / destroyed by.the fire
b. Muoio dal caldo / dalla fame.
I.die from.the heat / from.the hunger
'I am extremely hot/hungry.'
- (4) a. Ho trovato casa *dal cercarla / *dall'inganno / *dall'astuzia.
I found home by seeking / by.(the).cheating / by.(the).cunning
b. Ho trovato casa con l'inganno / con l'astuzia / con un annuncio.
I found home with cheating / with cunning / with an ad

In Section 2 we provide an analysis of the *by*-phrase based on the construal of the preposition as endowed with interpretive content. In Section 3 we discuss why merger of the agent/causer as a *by*-phrase is restricted to perfect participles (and why they have auxiliary blocks this possibility in active perfects). In Section 4, we observe that oblique PPs are not possible goals for Agree probes — as can be seen from the fact that they never agree with the verb, independently of their position relative to DPs. Therefore the *by*-phrase cannot count as an intervener in the probe-goal relation involving C/I and the internal argument. This makes smuggling irrelevant for movement. The same holds of short passives, assuming that the external theta-role is an open variable in syntax and bound only at the C-I interface by existential closure.

2 The syntax and interpretation of oblique prepositions/cases

In a number of works, [Manzini & Savoia \(2011\)](#), [Manzini & Franco \(2016\)](#), and [Franco & Manzini \(2017\)](#) lay out an analysis of the syntax and interpretation of genitive 'of', dative 'to', and instrumental 'with' based on the assumption that these elements are endowed with interpretive properties interacting with the internal organization of the predicate/event.

Consider dative 'to'. The line of analysis of ditransitive verbs initiated by [Kayne \(1984\)](#) is characterized by the assumption that verbs like 'give' take a predication as their complement; the content of this predication is a possession relation between the two internal arguments. For [Pesetsky \(1995\)](#), in a DP-*to*-DP structure the possession predicate head is *to*, as in (5a). [Harley \(2002\)](#) takes English *to* to be a P_{LOC} as in (5b). [Beck & Johnson \(2004\)](#) follow [Larson \(1988\)](#) in adopting a variant of the structure where the DP and *to*-DP complements occupy the Spec and sister position of V respectively, as in (5c).

- (5) a. ... give a letter [pp to Sue] ([Pesetsky 1995](#))

- b. ... CAUSE [_{PP} a letter [<sub>[P_{LOC} to] Mary]] (Harley 2002)
 c. ... [_{VP} the guide [_{V'} send to Satoshi]] (Beck & Johnson 2004)</sub>

In an English Dative Shift sentence, the head of the possession predication is an abstract verb HAVE for Beck & Johnson (2004), as in (6c). For Harley (2002) it is an abstract preposition P_{HAVE}, as in (6b). Pesetsky (1995) limits himself to an abstract characterization of the predicate head as G, as in (6a). Note that at least Pesetsky's or Harley's version of the proposal amount to saying that in the Dative Shift alignment, the Theme is demoted to the object of a P, i.e. an oblique — essentially the same idea as in Larson 1988 (Larson speaks of the Dative Shift construction as a 'passive').

- (6) a. ... give Sue [_G a letter] (Pesetsky 1995)
 b. ... CAUSE [_{PP} Mary [_{P_{HAVE}} a letter]] (Harley 2002)
 c. ... send [_{HAVEP} Satoshi [_{HAVE'} HAVE the guide]] (Beck & Johnson 2004)

A question fairly obviously arises concerning the nature of the empty preposition postulated in (5). Since this head takes the possessee as its internal argument and the possessor as its external argument, it is in fact the reverse of *to*. Levinson (2011) suggests *with* (or Icelandic *með*, Romance *com/con*) as a possible overt realization of it. Therefore the Dative Shift alternation is closely comparable to the alternation between *He presented his pictures to the museum* and *He presented the museum with his pictures*. In all of this, it is uncontroversial that the P head *to* makes an interpretive contribution to the event structure.

Manzini & Savoia (2011) and Manzini & Franco (2016) argue that the best characterization of the content encoded by *to* is in terms of the notion of '(zonal) inclusion' proposed by Belvin & den Dikken (1997) for *have*. They assimilate this content to an elementary part/whole predication and notate it as \subseteq , so that in their terms (7a) is roughly structured as in (7b). In (7b) the constituent enclosed in square brackets depicts the result of the causative event, namely that 'the book' is included by (or part of) 'him'. Manzini & Savoia (2011) treat genitive 'of' as the externalization of the same relation \subseteq in DP-internal contexts. What is more relevant for present purposes is that the characterization of goal *to* in (7) is also extended to its occurrences with unergative predicates, such as *talk* in (8a). The idea is that the \subseteq elementary predicate is used to connect an argument 'talk' to the subevent 'talk' in a representation of the type in (8b), paraphrased roughly as 'I caused a talking event with John on its receiving end'.

- (7) a. I gave a book to him.
 b. I CAUSE [a book \subseteq him]

- (8) a. I talked to John.
 b. I CAUSE [talk \subseteq John]

With this much background, we are in a position to consider *by*-phrases, as in (1)–(2) or Italian *da*-phrases as in (3)–(4). We dismiss right away a couple of concerns that loom large in Collins 2005 precisely because his general outlook is consonant with Kayne 1994. First, Chomsky’s (1995) Inclusiveness forbids notations such as projection bars, so that the X-bar theoretic difference between a SpecXP and an adjunction to XP is not obviously statable. Therefore saying that an agent/causer merges with a given projection as a Spec or as an adjunct are not clearly distinguishable statements. Furthermore, we follow Chomsky (2013) in assuming that dominance is the only order relevant for core syntax, while rightward or leftward orientation of head-complement pairs is a matter for the SM interface. Since all complements of the v -V head sequence are ordered to its right, an oblique causer/agent will also be ordered to the right.

The crucial question is what the content of English *by*/Italian *da* is and how it interacts with the event structure to yield agent/causer interpretations. Manzini et al. (2017a) address the motion-to meaning of *a* ‘to’ and the motion-from meaning of *da* ‘from’. They assume that location can be conceived as inclusion in location and is therefore captured by a locative restriction on \subseteq , namely $\subseteq_{(Loc)}$. They go on to propose that in telic events, *a* ‘to’ expresses location at the telos of the event, i.e. at the result clause implied by it, as *I send the children to school*, or in *I go to school* in (9). By contrast, *da* ‘from’ implies location outside the telos of the event, hence at its causal component, as in *I get out from school* in (10). Once the locative restriction is factored away, the structure in (9) is consistent with what we now know of dative ‘to’, namely that it corresponds to a telos, as in (7)–(8).

- (9) CAUSE [_{VP} go I [$\subseteq_{(Loc)}$ to school]]
 (10) [_{vP} CAUSE [_{VP} get out I] [$\subseteq_{(Loc)}$ from school]]

It remains for us to show that once the locative restriction is removed (10) is consistent with the fact that Italian *da* introduces causers and agents, as in (3). In other words, suppose that the structures for Italian (3) are as in (11). The *da*-phrase attaches to the vP projection providing a lexicalization for the argument which owns/locates the causation event. Thus in (11a) ‘there is a caused event of the house being built and Gianni is the owner/locator (author) of this causation’. In (11b) ‘there is a caused event of me dying and the causation belongs to/is located at hunger’.

- (11) a. [_{vP} CAUSE [_{VP} costruita la casa] [\subseteq_P da Gianni]]
 b. [_{vP} CAUSE [_{VP} muoio (io)] [\subseteq_P dalla fame]]

The English structures in (12) for examples (2) in principle exactly parallel those in (11).

- (12) a. [_{vP} CAUSE [_{VP} killed he] [_{(C)P} by John]]
 b. [_{vP} CAUSE [_{VP} died he] [_CP by hunger]]

In short, ‘by’ is a Preposition with the basic relator content of other oblique prepositions/cases. For the sake of falsifiability, we associated this content with the notion of possession/inclusion/part-whole. This elementary content works in combination with a structured predicate, where *by*-phrases are adjoined to *vP*. In this position, what the *by*-phrase does is insert the external argument causer/agent as a possessor/locator of the causation event.

The next question we face is obvious. Even assuming that everything that precedes is correct, or at least on the right track, how come the structure in (12a) is only available with perfect/passive participles (further embedded under a copula)? Why isn’t it available with any other form of the verb? In other words, why can’t we say **There killed him/he by John*? We turn to this issue in the next section. Having completed our picture of the structure of passive predicates, in Section 4 we then consider their derivation, and exclude that VP movement/smuggling is involved.

3 The structure and derivation of passive

Apart from the passive/active alternation, there is another famous alternation between nominative and oblique subjects involving the perfect participle, namely the so-called ergativity split. Cross-linguistically, where an aspectual split occurs (Georgian, Nash 2014; Basque, Laka 2006; Mayan, Coon 2013) it is the perfect that has the ergative alignment, characterized by the external argument surfacing as an oblique. The literature on ergativity agrees on the conclusion that progressive aspect requires a larger structure than perfective aspect — though implementations vary. Laka (2006) and Coon (2013) propose that in Basque, Mayan and cross-linguistically, progressive aspect is realized as a bi-sentential structure. We have no doubt that this may be the case in some languages or some environments (see Manzini et al. 2017b for a treatment of Romance periphrastic progressives along these lines). Nevertheless following Nash (2014) on Georgian and Manzini et al. (2015) on Punjabi, we assume that this is not necessarily the case. Specifically, Nash proposes that the *v*-V predicate structure that we have employed so far is further embedded under an Event layer. The Event node is comparable to the Voice layer introducing the external argument in recent literature (Harley 2013, Legate 2014, Alexiadou et al. 2015) — except that this layer of structure is aspectually motivated and missing in perfects; similarly, Manzini et al. identify the extra layer of structure of Punjabi progressives with Asp, again missing in perfects.

Let us then to go back to passives. Following Nash (2014) and Manzini et al. (2015) we may consider that perfect participles have a reduced structure not involving the Asp/Event/Voice layer which supports the attachment of a DP external argument. If this reduced structure is embedded under the *be* auxiliary nothing happens to alter it; the external argument surfaces as an oblique. If the reduced structure is embedded under *have*, then the external argument is introduced by *have*, leading to a nominative alignment.

We illustrate this proposal in (13)–(15). In the long passive (13a), the perfect participle does not have the layer of structure — call it Asp/Event/Voice — necessary for the Merge of external arguments. Therefore the external argument is introduced as an oblique — exactly parallel to (12a) above. Short passive is also possible. In this instance, an external argument slot made available by the predicate remains unsaturated; this is read as an open variable at the C-I interface and is interpreted by existential closure, as in (13b).

- (13) a. ... was [_{vP} [_{vP} v [_{VP} killed he]]] [_{(⊆)P} by John]]
 b. ... was [_{vP} ∃ x, x v [_{VP} killed he]]

The passive structures in (13) need now to be compared on the one hand to active perfects and on the other hand to non-perfect forms. Let us begin with the former. By hypothesis, perfect active sentences have the same participial structure as in ((13), lacking an Asp/Event/Voice layer capable of hosting an external argument. However, the auxiliary *have* introduces its own external argument, as suggested in (14), leading again to nominative alignment. A particularly simple way for *have* to introduce the external argument is to project an Asp/Event/Voice layer. More transparently, progressive participial forms, or more generally verb forms other than the perfect participle, are associated with an additional Asp/Event/Voice layer — and this allows the external argument to be introduced, as in (15).

- (14) John has [_{vP} v [_{VP} killed him]]
 (15) John is [_{Asp/Event/Voice} John [_{vP} v [_{VP} killing him]]]

Note that while we have committed ourselves to an extra predicative (Asp) layer in the progressive (15), we have been vaguer on the *have* perfect in (14). This is because at least one alternative opens at this point, suggested by Kayne (2000) — namely that *have* results from the incorporation into *be* of an oblique preposition, leading to possessor raising out of the participial clause. This obviously resonates with the possession structure we are proposing here for perfect participles. Transferring the notation of Kayne 2000 to present notation, *have* would be the pronunciation of V+(⊆) in (16), where incorporation leads *John* (the possessor) to raise to matrix subject. In the terms of Section 2, the position of the oblique

in (16) is identical to that in (13a) from the point of view of dominance, while we assume that linearization is a procedure at the SM interface (Chomsky 2013). The order in (13a) and the reordering in (16) are indicated merely for ease of processing, specifically the processing of raising in (16).

(16) John [_{VP} V [_{vP} [_{(C)P} (C) John] v [_{VP} killed him]]]

The modified Kaynian approach in (16) straightforwardly applies to a language like Italian (French etc.) where only transitive predicates are construed with auxiliary *have*. At the same time one may account for languages like English (Spanish etc.) where unaccusatives are also associated with *have* by assuming that the (C) layer is obligatorily generated. Potential gray areas concern the exact translation of Kayne's structures into ours as well as the definition of auxiliary assignment parameters. Nevertheless, the approach represents a principled idea as to why *have* transitivizes perfect structure, which is to be preferred to more stipulative alternatives, if feasible at all.

Summarizing so far, there is no specialized passive participle, since the passive participle is in fact the perfect participle, adopting the insight of Collins (2005) in this respect. The basis for passive is aspectual, as correctly perceived by Gehrke & Grillo (2009). However, aspect does not determine VP-movement, but it directly triggers the oblique or existential treatment of the external argument. *By* is a bona fide preposition, with a relational content and this content interacts with event structure to express agent/causer interpretation in the same way as happens for any of the other obliques reviewed in Section 2. In Section 4 we will put the last tassel of the picture into place, namely the raising of the internal argument to the EPP position.

4 Against smuggling

No evidence reviewed so far excludes VP movement, even though we argued in Section 11 that it corresponds to an undesirably rich grammar. Furthermore, in Section 2 we saw that VP movement is not needed to yield the correct word order. The order whereby the *by*-phrase, while introducing the external argument, appears to the right of the verb, corresponds to the normal rightward head-complement/adjunct order of head-initial languages. In Section 3, we just saw that an aspectual characterization of passive does not depend on VP-movement either, but can be attached to base-generated passive structures. Before concluding, it remains for us to address one last issue: is VP movement necessary in order for promotion of the internal argument to the EPP position to comply with Minimality and the Phase Impenetrability Condition?

Our answer to the Minimality question is negative, since neither the oblique *by*-phrase nor the variable in (13) count as interveners. First, we assumed that the

variable corresponding to the external argument in (13b) is existentially closed at the C-I interface; hence what the syntax sees is a free variable, which we assume does not create an intervention effect, lacking phi- and other referential features. The oblique in (13a) requires some more careful discussion. We may observe for instance that the internal argument moving to the EPP position passes any number of obliques other than the *by*-phrase; however this doesn't tell us much, since smuggling theorists may argue that it is VP movement that makes this possible.

Recall however that the probe-goal mechanism underlying movement is an Agree mechanism. The nominative case assigned to the EPP argument is itself a by-product of Agree with I (Chomsky 2001). Therefore, we may consider the question whether in active sentences, where by definition VP doesn't move, there is any evidence of obliques serving as goals of an Agree probe. The answer is negative. Neither a *v* probe nor an I probe can ever target an oblique. For instance, (17a) shows that an accusative clitic triggers agreement in phi-features with the perfect participle; despite the morphological identity of the dative clitic in (17b) with the accusative in (17a), and the absence of an accusative goal, agreement with the perfect participle is impossible.

- (17) a. Le ho viste.
 them.F I.have seen.F.PL
 'I saw them'
- b. Le ho parlato/*parlata.
 to.her I-have spoken/spoken.F.SG
 'I spoke to her'

In present terms, the preposition/oblique case creates structural layers embedding the DP, which removes it from the search domain of the probe. Whatever the reason why Agree cannot target obliques, the implication is that obliques cannot be targeted by movement. But if they are not possible goals, then obliques cannot count as interveners on any given movement path. This means that in (18) the *by*-phrase, i.e. the only argument present, is not a position to block the movement of the internal argument.

- (18) He was [_{VP} [_{VP} *v* [_{VP} killed he]] [_{(C)P} by John]]

The argumentation is straightforward in the Romance or Germanic languages with which we are directly concerned here. Unfortunately, there is considerable variation cross-linguistically as to whether agreement with obliques is allowed. For instance, Anand & Nevins (2006) formulate a Visibility of Inherent-Case to Verbal Agreement (VIVA) Parameter ("A language will differ as to whether the verb can agree with an inherently case-marked DP") using the theoretical notion of inherent

case rather than the theory-neutral notion of oblique that we have used throughout. They point out that datives agree in Basque and in Georgian, and it is well-known that closely related Indo-Aryan languages differ as to whether they agree or not with DOM prepositional objects or with ergative subjects.

Though we dutifully note the issue, there is more than one reason why our objections to a Minimality motivation for VP movement still stand. First, in languages with the Italian (Icelandic etc.) setting for the VIVA parameter, there must indeed be some reason independent of Minimality motivating VP-movement; but if the discussion that precedes is correct, it is difficult to find one. Second, though a great deal of typological evidence is available on the VIVA parameter, we are not aware of a (standard) theoretical treatment. This undermines the present argument, but also arguments for smuggling, to the extent that the basis for the potential intervention of obliques in Minimality is theoretically unclear. Thus further research is required on this point.

Turning lastly to the PIC, the matter is slightly complicated by ideas about a tripartite Voice-*v*-V organization of the sentence, that we have adopted. It is possible that in such an organization the phasal node is Voice (here Asp/Event). If so, in passive structures lacking this level of organization the internal argument finds itself automatically in the CP sentential phase. This reconstructs the original proposal of Chomsky (1995) that passives lack the *v*P phase, within a two-layered *v*-V framework for predicates, and achieves the desired result in the simplest way.

In conclusion, VP movement is not necessary to circumvent Minimality and the PIC via smuggling of the internal argument. Therefore VP-movement and smuggling are not necessitated by empirical evidence. If so, it is safe to conclude that they are excluded on simplicity grounds, since they do not comply with the more restrictive picture of movement, under which this operation only affects arguments in the core syntax, and always has interpretive motivation and interpretive import.

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