

# Focus Conditions on Locative Inversion Block Ellipsis

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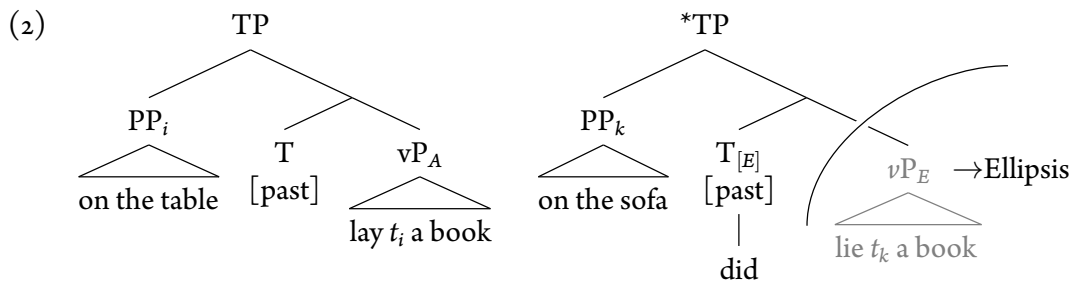
24 April 2014

## 1 The Problem

This squib investigates the interaction between ellipsis and locative inversion. Provided head-licensing analyses of ellipsis (Lobeck 1995, Merchant 2001, Aelbrecht 2010) and typical accounts of locative inversion (Birner 1994, Bresnan 1994), one might expect the examples in (1) to be grammatical, but they are impossible.

- (1) a. \* On the table lay a book, and on the sofa did lie a book too.  
b. \* Out of the barracks will march fifty soldiers, and out of the hangar will also march fifty soldiers.

This assumes the basic structure in (2), to be defended below.



Larger ellipses (bigger than a clause) are grammatical:<sup>1</sup>

- (3) a. Sluicing:  
[<sub>TP<sub>A</sub></sub> On one of the sofas lay a book], but I don't remember on which sofa [<sub>TP<sub>E</sub></sub>].  
b. Embedded Clauses:  
Mary [<sub>VP<sub>A</sub></sub> said that on one of the sofas lay a book about syntax], and Bill did [<sub>VP<sub>E</sub></sub>]  
too.

The question I pursue here is why VP ellipsis and locative inversion cannot occur in the same clause. I am not aware of any detailed account of this fact in the literature. I will propose that the problem comes about due to conflicts in the information-structural requirements of each phenomenon. Locative inversion, I will show, requires focusing material that ellipsis subsequently deletes. This runs aground of a general requirement that focused material not be deleted (Merchant 2001, *inter alia*).

<sup>1</sup> Many thanks to an anonymous LSA reviewer for calling these to my attention.



Second, the PP can undergo *wh*-movement, and this does not trigger subject-aux inversion (Bresnan 1994:102). This is a property of subject extraction in English *wh*-questions (Rizzi 1997).

- (6) On which wall hung the picture of the artist?  
 (7) \* On which wall did hang the picture of the artist?

This behavior is consistent with the locative PP being in [Spec, TP] – see Bresnan 1994 for more diagnostics and a more thorough discussion.<sup>3</sup>

An important take-away from data like this, especially cases like (5), is that locative inversion appears to be a form of A'-movement. A'-movement out of ellipsis sites is known to be restricted in several ways. For example, Schuyler (2001) shows that there must be a contrastively focused element between the extracted element and ellipsis site, and certain kinds of ellipsis phenomena are known to block A'-movement out of ellipsis sites (Aelbrecht 2010, Baltin 2012). However, A-movement out of ellipsis sites is not limited in these ways. Since locative inversion is A-movement, the ungrammaticality of (1) cannot be due to it being an illicit A'-extraction from an ellipsis site.

### 3.2 Logical Subjects are in $\nu$ P

One question that arises is whether the verb and the logical subject actually form a constituent. Since ellipsis deletes phrases, cases like (1) would fail if the verb and the subject were not contained within the same phrase. We want to know if that material is in a single constituent or not. That is, we want to know if the logical subject is part of the material that could be targeted by deletion.

Unfortunately, most traditional constituency tests do not work well with locative inversion. On the assumption movement targets constituents, it is not obvious what sort of movement would target the verb and the subject together.<sup>4</sup> There is no sort of pronominal material that could replace them, and as is noted here, deletion fails.

While it would be beneficial to have more comprehensive confirmation, coordination tests do work. A string containing a verb and a postposed logical subject can be coordinated with another such string. Thus the strings appear to be constituents.

- (8) Out of the hangar will march fifty soldiers and run sixty nurses.

- 3 Bresnan is working in the LFG framework, which is non-configurational. She actually argues that locative PPs are subjects at f-structure, but are adjoined to S at c-structure. Given the identification of [Spec, TP] as the subject position in English, however, the arguments make a case for the locative PPs being in [Spec, TP], though there are a few problems with this picture. It may, in fact, be in a higher position binding a null operator in subject position, as proposed by Alrenga (2005) for English clausal subjects, and this accords well with what Bresnan claims. Even if the latter analysis proves correct, it should not have an effect on ellipsis. Indeed, sentences with clausal subjects permit ellipsis to occur (see below).
- 4 VP-fronting is a possibility here, but it fails catastrophically.

- (i) He said that out of barracks would march fifty soldiers, and [ $\nu$ P march fifty soldiers] out of the barracks will  $t_{\nu P}$ !

This is independently ruled out since A'-movement over the locative PP is bad (Bresnan 1994). This accords with the idea that the locative may be binding an operator in [Spec, TP] – see note 3.

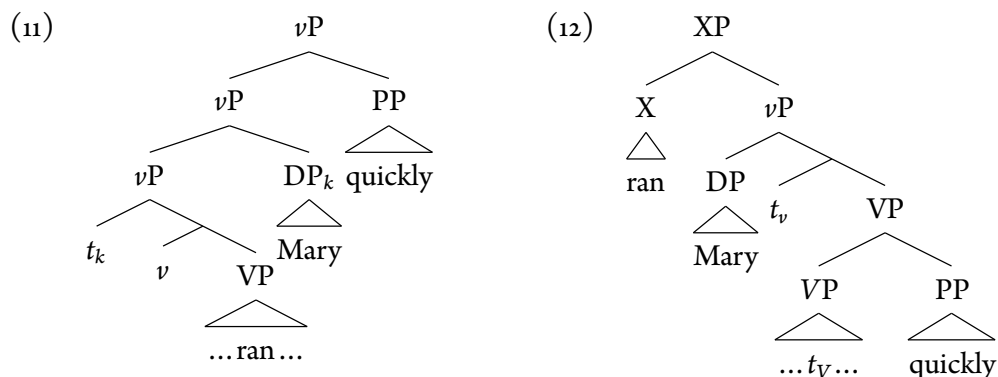
Another fact that suggests that they form a constituent is that it is not possible to delete only the verb. If the logical subject were excluded from the  $\nu$ P, one might reasonably expect (9) to be grammatical, but it is not.<sup>5</sup>

- (9) \* Out of the hanger will march fifty soldiers, and out of the barracks will also ~~march~~ fifty soldiers/sixty nurses.

Finally, as mentioned above, logical subjects occur to the left of manner adverbials and to the right of verbs.<sup>6</sup>

- (10) a. \* Out of the house ran quickly Mary.  
b. Out of the house ran Mary quickly.

Following Ernst (2001), manner adverbials seem to adjoin somewhere between auxiliaries and VP. This gives us a way of locating the subject inside of  $\nu$ P. If these adverbials are right-adjoined below AuxP and the subject is moved rightward, then the subject must be below the adverbial (as in (11)), and it is therefore internal to material targeted by ellipsis. Alternatively, if the verb moves to some position above the subject (as in (12)), then the exact adjunction point of the adverb could be lower. However, since the verb is higher than the subject, the subject would be in the constituent containing the logical subject, so they would still form a constituent.



So, it seems that the logical subject must remain low, in the material targeted by VP-ellipsis. For the sake of simplicity, I will continue to refer to this as  $\nu$ P.<sup>7</sup>

#### 4 Information Structure

The above diagnostics suggest that the basic structures in (2) are correct. Following this,  $\nu$ P<sub>A</sub> is identical to  $\nu$ P<sub>E</sub> (*modulo* the index of the traces).<sup>8</sup> This means that the  $\nu$ Ps should be identical for

- 5 This configuration would not be unlike pseudogapping, where some focused element is stranded outside the scope of VP-ellipsis (Jayaseelan 1990). The fact that this isn't possible here remains mysterious to me, and analyses of related phenomena rely on this possibility (LaCara To Appear).  
6 Heavy subjects can appear to the right of manner adverbials (Culicover and Levine 2001).  
7 Nothing in particular hinges on where exactly it ends up.  
8 See Sag 1976 for the identity of traces.

the purposes of the identity requirement on ellipsis, and this is true regardless of whether identity is structural or semantic.<sup>9</sup>

The problem is not likely to be due to the locative PP. The fact that the PPs do not match does not seem to be relevant. Elements extracted from ellipsis sites need not match (Merchant 2001, Schuyler 2001). Further, ellipsis is not sensitive to the category of the element in [Spec, TP]. In addition to DPs and PPs, TPs and CPs can occur in [Spec, TP]:

- (13) [<sub>TP</sub> To speak two languages] sounds easy, but [<sub>TP</sub> to speak ten languages] doesn't sound easy!
- (14) [<sub>CP</sub> That Bill knows two languages] doesn't surprise me. [<sub>CP</sub> That he speaks them well] does surprise me.

So why does ellipsis fail in (1)? The [E] feature on T° should license ellipsis if the identity requirement is met. VP-ellipsis can easily identify antecedents in conjoined clauses. If we are not running afoul of the identity requirement, something else must be wrong. Ellipsis and locative inversion must be incompatible in some other way.

#### 4.1 Information Structure and Locative Inversion

Locative inversion is only available under particular discourse situations. The general view is that the preposed PP tends to be relatively discourse-old or topical, while the postposed DP is relatively discourse-new and focused (Bresnan 1994, Culicover and Levine 2001). Following work on discourse familiarity by Prince (1981), Birner (1994:244) shows that the preposed locative element must be at least as familiar as the postposed logical subject.<sup>10</sup>

This can be seen in (15). Here, the colonel cannot respond with the locative inversion example in (15a). The soldiers mentioned in the preceding question are discourse old, and so cannot be in the post-verbal focus position. The direction that the soldiers went – out of the barracks – is discourse-new information and therefore less familiar than the recently mentioned logical subject.<sup>11</sup> The non-inverted (15b) must be used.

- (15) Colonel! Did you see where the soldiers went?
- a. # Out of the barracks marched the soldiers.
- b. The soldiers marched out of the barracks.

As Bresnan (1994) discusses, the fronted locative sets the scene into which a new referent – the postposed subject – is introduced (or reintroduced; see Bresnan 1994:n.21). Thus, from an information structure point of view, locative inversion serves to focus new material that becomes the center of the following discourse.

9 Structural identity implies semantic identity, since semantic meanings are derived from LF representations of phrase structure. Structural identity is certainly the stronger condition (Merchant 2001).

10 When both the locative and subject have the same informational status, the more recently mentioned of the two is considered more familiar.

11 This accords with the assumption that answers to *wh*-questions are focused and therefore new information (Rooth 1985, Rizzi 1997, Schwarzschild 1999).

## 4.2 Hypothesis: Focus and Deletion

I propose here that ellipsis and locative inversion cannot co-occur in the same clause because they place conflicting discourse requirements on the same material. Locative inversion preposes Given information and focuses the logical subject of the clause in which it occurs (Bresnan 1994:85–89; Culicover and Levine 2001). As shown in Section 3, this logical subject remains in  $\nu$ P and thus is within the constituent targeted by VP-ellipsis. However, as discussed in section 2, a  $\nu$ P must be Given to be deleted.

It is typically assumed that focused and Given information are in complementary distribution (Schwarzchild 1999, but see also Buring 1999). Consequently, it seems that ellipsis and locative inversion come into conflict since they essentially do opposite things. Locative inversion requires focusing new information, and ellipsis deletes Given material. Ellipsis of a  $\nu$ P containing an inverted logical subject would necessarily delete a focused element, but this would violate the requirement that deleted material be Given. Therefore, the ellipsis may not occur.

It has been claimed elsewhere that ellipsis of focused material does not occur. The notion of Givenness is built into Merchant's (2001) licensing conditions, and he notes (p. 26, n. 9) that a deleted constituent should not contain any focused material. Takahashi and Fox (2005) also suggest that there is a constraint against eliding focused material. The mutual incompatibility of ellipsis and locative inversion in the same clause constitutes further support for this view.

## 4.3 Bigger Ellipsis Sites

If we look at the ellipsis of larger constituents, however, the facts get a bit more complicated. It is grammatical to delete larger phrases whose antecedents contain locative inversion, as shown in the following examples repeated from (3):

- (16) a. Sluicing:  
 $[_{TP_A}$  On one of the sofas lay a book], but I don't remember on which sofa  $[_{TP_E}]$ .
- b. Embedded Clauses:  
 Mary  $[_{\nu P_A}$  said that on one of the sofas lay a book about syntax], and Bill did  $[_{\nu P_E}]$  too.

The hypothesis stated in the last subsection rests on the assumption that deletion of focused material is impossible. If this hypothesis is correct, then the deleted constituents in (16) could not have contained locative inversion since this would mean that focused material would be contained inside the ellipsis site.

If this is the case, then the examples in (16) would constitute a case of antecedent-ellipsis mismatch. For the hypothesis presented here to be correct, such a mismatch would need to be tolerated under the identity conditions for ellipsis. This is plausible under certain recent assumptions (e.g., Chung 2013).

The issue of mismatch in ellipsis remains controversial, as it complicates the notion of what we mean by identity and how that identity is meant to be determined (see Merchant 2001, 2013 and

discussion therein). Much of this discussion centers around whether the identity condition should be construed over semantic representations or syntactic ones.

Under a purely semantic identity condition, like Merchant's (2001) E-givenness, the data in (16) receive an explanation. E-givenness requires antecedents and deleted constituents to mutually entail one other. Although pragmatically different, sentences with locative inversion are truth-conditionally equivalent to those without inversion, all other things equal (see Bresnan 1994). This means that a sentence containing locative inversion entails its noninverted counterpart. Because sentences with locative inversion are truth-conditionally equivalent to those without, the antecedents in (16) would be sufficient for licensing deletion of sentences without locative inversion, and so the deleted material in (16) would not need to contain locative inversion.

The worry here is that pure mutual entailment overgenerates, predicting many ungrammatical ellipses to be grammatical (see Merchant 2013, Chung 2006, 2013). Consequently it has been argued semantic identity must be constrained by the syntax. In addition to the semantic requirements on ellipsis identity, Chung (2013) argues that sluicing requires identity over argument structure and that extracted material, if it is a DP, must receive abstract Case from the same head in the deleted material as in the antecedent.

The sluice in (16a) does not violate either of these requirements. The underlying argument structure of the material in the sluice is presumably the same as in the antecedent, and the extracted element is the locative PP and therefore does not receive abstract Case. Merchant (2013:96–103) also argues that the argument structure of an elided  $\nu$ P and its antecedent must match, and VP-ellipsis in (16b) does not run afoul of this requirement either.<sup>12</sup> Thus, under the more stringent accounts of ellipsis identity that Chung and Merchant propose, mismatches of the type required for (16) are still possible.

Crucially, the smaller cases in (1) are still predicted to be ungrammatical under this view. The deleted  $\nu$ Ps must match their antecedents, as argued above. They are effectively too small for any mismatch to occur and so they remain ungrammatical under this strengthened identity requirement. The focused subject is still in  $\nu$ P and cannot be deleted.

## 5 Conclusion and Prospects

Once the discourse properties of verb phrase ellipsis and locative inversion are considered, a plausible explanation for their incompatibility emerges: Eliding the  $\nu$ P isn't possible because of restrictions against deleting focused elements like the logical subject. Larger ellipses are possible, however, if a semantic identity requirement such as the one argued for in Chung 2013 is taken to hold.

There are other forms of inversion that have discourse properties similar to locative inversion (Birner 1994). Ellipsis fails in these cases too:

- (17) \* Speaking tonight will be our local congressman, and speaking tomorrow will be ~~our local congressman~~ too.

<sup>12</sup> However, Merchant (2013) actually argues for a fairly rigid syntactic identity requirement, unlike Chung (2013). It remains unclear to me how the data in (16) would be explained under his approach.

- (18) \* Dashing around the corner came a big dog, and running up the driveway did ~~come~~ a big dog too.

The hope is that the the analysis can be extended to these sorts of cases as well and that any differences might help elucidate precisely what is happening here.

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