

# \*On the table lay a book, and on the sofa did too. Ellipsis, locative inversion and why they are bad together

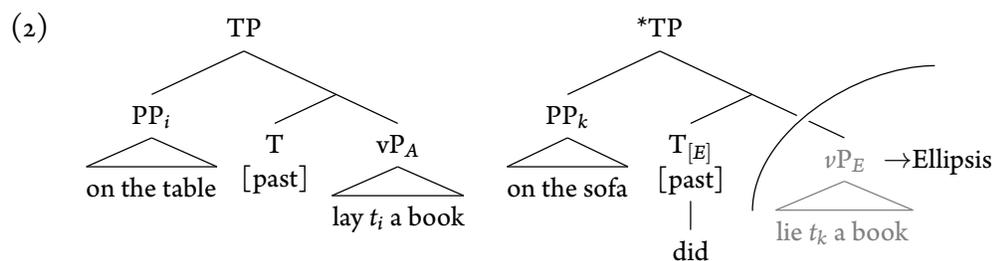
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## 1 The Problem

Given straightforward analyses of ellipsis and locative inversion, the examples in (1) should be grammatical, but they are bad with ellipsis.

- (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~~.



The question I pursue here is why VP ellipsis and locative inversion cannot occur in the same clause.

- So far as I know, this is a novel problem for the theory of ellipsis.

## 2 The [E] Feature

The standard approach to ellipsis comes from Merchant (2001).

- In order to mediate the necessary interactions between PF and LF, Merchant posits a feature [E] that attaches to functional heads.
- On the one hand, [E] triggers the PF-deletion of the complement to the head it sits on.
- On the other, it imposes an identity requirement on the phrase that it deletes.



#### 3.1 Locative PPs Are in SpecTP

The locative PPs in locative inversion escape the  $\nu$ Ps in which they originate. There are several reasons to believe PPs are in SpecTP.

PPs undergo raising like ordinary DP subjects (Postal 1977:148).

(6) Out of the barracks<sub>i</sub> appeared [<sub>TP</sub> *t*<sub>i</sub> to march fifty soldiers].

Inversion bleeds tag questions (Bresnan 1994:97). This is presumably because tag questions are subject-oriented.

- (7) a. \*? Out of the barracks marched the sergeant, didn't he?  
 b. The sergeant marched out of the barracks, didn't he?

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).

- (8) a. On which wall hung the picture of the artist?  
 b. \*On which wall did hang the picture of the artist?

This behavior is consistent with the locative PP being in SpecTP – see Bresnan 1994 for more diagnostics and a more thorough discussion.<sup>2</sup>

#### 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 did not form a phrase.
- Consequently, we want to know if that material is a constituent or not.
- Put another way, we want to know if the logical subject is actually part of the material that could be targeted by deletion.

Unfortunately, there are few constituency tests that seem to work with locative inversion.

- It's not obvious what sort of movement would target the verb and the subject together.<sup>3</sup>

2 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 SpecTP as the subject position in English, however, the arguments make a case for the locative PPs being in SpecTP, 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).

3 VP-fronting is a possibility here, but it fails catastrophically.

(9) \*He said that out of barracks would march fifty soldiers, and [ <sub>$\nu$ P</sub> march fifty soldiers] out of the barracks will *t* <sub>$\nu$ P</sub>!

This is probably linked to the fact that *A'*-movement over the locative PP is bad (Bresnan 1994).

- It's not clear what sort of pronominal material could replace them.
- Obviously, deletion fails.

While it would be nice 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.

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

Another fact that suggests that they are a constituent is that it is not possible to delete only the verb.

- If the logical subject were excluded from the *vP*, one might reasonably expect (11) to be grammatical, but it is not.<sup>4</sup>

(11) \*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>5</sup>

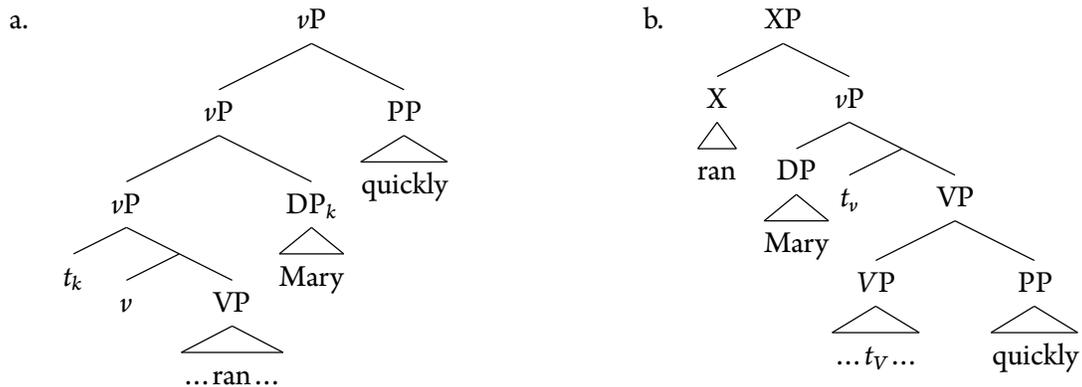
(12) a. \*Out of the house ran quickly Mary.  
 b. Out of the house ran Mary quickly.

- Manner adverbials seem to adjoin somewhere between auxiliaries and VP (Ernst 2001:10).
- If these adverbials are right-adjoined below AuxP and the subject is moved rightward, then the subject must be below the adverbial (as in (13a)), and it is therefore internal to material targeted by ellipsis.
- Alternatively, if the verb moves to some position above the subject (as in (13b)), 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.

<sup>4</sup> This configuration would not be unlike pseudogapping, where some focused element is stranded to the right, outside the scope of VP-ellipsis (Jayaseelan 1990). The fact that this isn't possible remains mysterious to me.

<sup>5</sup> Heavy subjects can appear to the right of manner adverbials (Culicover and Levine 2001).

(13)



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  $vP$ .<sup>6</sup>

#### 4 What's Wrong?

The above diagnostics suggest that the basic structures in (2) are correct.

- Given this,  $vP_A$  is identical to  $vP_E$  (*modulo* the index of the traces).<sup>7</sup>
- This means that the  $vP$ s should be identical for the purposes of the identity requirement.
- This should be true regardless of whether identity is structural or semantic.<sup>8</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).
- There's no clear reason why ellipsis would care about the category of the element in SpecTP. In addition to DPs, TPs and CPs can occur in SpecTP.

- (14) a. [<sub>TP</sub> To speak two languages] sounds easy, but [<sub>TP</sub> to speak ten languages] doesn't ~~sound easy~~!
- b. ? [<sub>CP</sub> That Bill knows two languages] doesn't surprise me. [<sub>CP</sub> That he speaks them well] does ~~surprise me~~.<sup>9</sup>

So why does ellipsis fail in (1)?

- The [E] feature on  $T^\circ$  should license ellipsis if the identity requirement is met.

<sup>6</sup> Nothing in particular hinges on where exactly it ends up.

<sup>7</sup> See Sag 1976 for the identity of traces.

<sup>8</sup> Structural identity implies semantic identity, given that semantic meanings are derived from LF representations of phrase structure. Structural identity is certainly the stronger condition (Merchant 2001).

<sup>9</sup> This example requires a fairly emphatic stress on *well*.

- VP-ellipsis can easily identify antecedents in conjoined clauses.

If we aren't running afoul of the identity requirement, something else must be wrong.

- Ellipsis and locative inversion must be incompatible in some other way.

#### 4.1 Discourse

Locative inversion seems to come about when a subject is in a rightward focus position (Bresnan 1994:85–89; Culicover and Levine 2001).

- As a result, other material appears in SpecTP.

Thus the placement of the logical subject occurs for particular discourse reasons.

- Focused information is discourse-new (Rizzi 1997:285).
- Inversion generally postpones discourse-new information, with discourse old information preceding it (Birner 1994:244).

Notably, as mentioned earlier, ellipsis deletes redundant or given information (Merchant 2001).

- Ellipsis requires a salient antecedent provided in the discourse.
- Given the identity requirement, this means that the material deleted by ellipsis must be available elsewhere in the discourse – that is, not strictly new.

#### 4.2 Hypothesis: Focus, Accent, and Deletion

Thus, ellipsis and locative inversion do somewhat opposite things.

- Locative inversion requires focusing new information.
- Ellipsis, on the other hand, deletes redundant material.

Thus, I'd like to suggest that ellipsis and locative inversion are mutually incompatible because they impose conflicting discourse requirements.

- The basic intuition is this: If you are focusing something, it is not redundant.
- Ellipsis of a *v*P containing an inverted logical subject would delete a focused element.

It has been claimed elsewhere that elision of focused does not occur.

- Merchant (2001:26, fn. 9) notes that a deleted constituent will not contain any focused material.
- Takahashi and Fox (2005) suggest that there is a constraint against deleting focused material.

If we assume that there is a general constraint that requires speakers to pronounce focused material, then (1) receives an explanation.

- On this view, the inability of ellipsis to apply inside inverted clauses is unsurprising.

#### 4.3 Bigger Ellipsis Sites

If we start looking at the ellipsis of larger constituents, however, the facts get a bit more complicated. Deletion of larger phrases whose antecedents contain locative inversion good.<sup>10</sup>

<sup>10</sup> Thanks to an anonymous reviewer for pointing out these examples.

- (15) 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.

- Here, the clauses containing the antecedents display locative inversion.
- If the deleted *v*Ps match their antecedents structurally – *i.e.*, if they contain locative inversion too – then we expect the examples in (15) to be bad, since they would contain focused subjects that get deleted.

If, however, we assume a semantic rather than a structural identity requirement, the deleted constituent would not need to contain locative inversion at all.

- Although pragmatically different, sentences with inversion are truth-conditionally equivalent to those without inversion (all other things equal) (see Bresnan 1994).
- Merchant (2001) introduces the notion of mutual entailment: As long as the antecedent entails the elided constituent and *vice-versa* (*modulo*  $\exists$ -type shifting), the ellipsis is licensed.<sup>11</sup>

Thus, given a semantic identity requirement, the inverted and non-inverted sentences would be equivalent for the sake of ellipsis licensing.

- Both inverted and non-inverted clauses would be truth conditionally equivalent, and therefore they would mutually entail one another.
- Thus, the elided elements in (15) do not have to have inversion, and therefore, they do not run against the restriction against deleting focused material.

Crucially, the smaller cases are still predicted to be ungrammatical under this view.

- Locative inversion must still occur for locative PPs to occur in SpecTP.
- That means that the focused subject is still in *v*P and cannot be deleted.

## 5 Conclusion and Prospects

The fact that VP-ellipsis does not occur in clauses containing locative inversion is at first surprising.

- However, when the discourse properties of the two phenomena are considered, a plausible explanation emerges.
- Eliding the *v*P isn't possible because of restrictions against deleted focused elements like the logical subject.

<sup>11</sup> This is a bit of a simplification. See Merchant (2001:25–37) for the full details.

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

- (16) a. \*Speaking tonight will be our local congressman, and speaking tomorrow will be ~~our local con-~~  
~~gressman~~ too.  
 b. \*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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