

# Locative inversion and optional features

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## 1 Introduction

Some locative PPs in English can be optionally fronted in a certain environment, as the following examples show:<sup>1</sup>

- (1) a. John rolled down the hill
- b. Down the hill rolled JOHN

Note that in (1b) the logical subject and the verb are inverted. Example (1b) is called a locative inversion construction.

One of the controversial issues in locative inversion is the location of the inverted PP in (1b) (see, for example, Stowell 1981, Coopmans 1989, Hoekstra and Mulder 1990, Bresnan 1994, Watanabe 1994, Collins 1997, and Jang 1997). Recently, this construction has been given more attention by Collins (1997) with respect to global vs. local economy.

In this paper, I explore the locative inversion construction in English within a minimalist framework (cf. Chomsky 1995). In section 2, I review Collins' (1997) analysis of locative inversion, while section 3 provides an alternative analysis. Lastly, in section 4, I discuss its theoretical implications on the economy of grammar.

## 2 Global vs. local economy

According to Collins (1997), the examples in (1) have the structure in (2) at some point of derivation:

- (2)  $[_{TP} T [_{TrP} [_{Tr} \text{roll}_i] [_{VP} \text{John } t_i \text{ down the hill}]]]$

He assumes that all verbs move obligatorily to adjoin to Tr (= Transitive), hence the V feature of Tr is strong.

He claims that, from the structure in (2), if the NP *John* moves to SpecTP, (1a) is derived. If the PP *down the hill* moves to SpecTP, (1b) is derived. The derivation of (1a) is rather straightforward, under the following standard assumption:

- (3) It is the nominal feature of an NP that enters into a checking relation with the EPP requirement of T (cf. Chomsky 1995).

The problem is how it is possible for the PP in (1b) to satisfy the EPP property. Collins proposes that the set of features that may enter into a checking relation with the EPP feature of T should

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<sup>1</sup> The capitalized words indicate that they are focused.

be extended to encompass not only the nominal feature of an NP but any categorial feature. Under this option, the P feature of the PP may enter into a checking relation with the EPP feature of T.

I will now compare the inverted and non-inverted derivations along the line of Collins. He claims that the non-inverted derivation goes through the following steps:

- (4)
  - a. V raises to Tr overtly.
  - b. NP moves to SpecTP overtly.
  - c. Tr adjoins to T covertly.

This derivation has three movement operations. It is important to note that movement of NP to SpecTP results in checking of both the Case feature and the EPP feature of T (4b).

Now consider the steps in the inverted derivation:

- (5)
  - a. V raises to Tr overtly.
  - b. PP moves to SpecTP overtly.
  - c. Tr adjoins to T covertly.
  - d. Formal features of *John* adjoin to T covertly.

This derivation has four movement operations. It is important to note that the Case feature and the EPP feature of T are checked by virtue of two different movement operations (5b, d).

Based on the comparison between (4) and (5), Collins claims that the derivation of the inverted word order (1b) is longer than the derivation of the non-inverted word order (1a). Suppose that the reference set for determining the optimal derivation is determined by numeration (Chomsky 1995). This amounts to claiming that if two derivations involve different numerations, they do not compete for the economy condition. Collins assumes that the inverted and non-inverted derivations in (1) are based on the same lexical choices. He concludes from this assumption that local economy is superior to global economy in its predictions, which dictates that a derivation with fewer steps be preferred over a derivation with more steps. In other words, if (1b) involves more movement steps than (1a), then (1b) would be blocked by the global economy condition. Apparently, Collins' discussion seems valid.

However, if the inverted derivation involved an additional feature or lexical item, it could be claimed that its numeration was simply different from that of the non-inverted derivation, and therefore that global economy would be irrelevant. In the remainder of this paper, I explore this possibility.

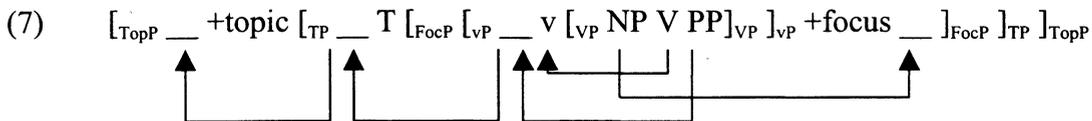
### 3 Optionality in locative inversion

The characteristic word order of locative inversion constructions is [PP V NP]. That is, the locative PP precedes the verb which is followed by the logical subject NP. The most important question in locative inversion is, I believe, where these three constituents are located in the surface string. My answers are given below in summary form:

- (6) a. The unaccusative verb overtly raises to a higher thematic verb (v) obligatorily; therefore the V feature of v is strong (cf. Collins 1997, Jang 1997).  
 b. The logical subject NP moves to SpecFoc(us)P for (presentational) focus feature checking.  
 c. The inverted locative PP is an NP in disguise (cf. Conway 1997). It ultimately occupies a topicalized position, which I assume is SpecTop(ic)P, after passing through SpecTP (cf. Lyle and Gamon 1998).

These three claims will be substantiated below .

I present the following structure for locative inversion:<sup>2</sup>



Putting aside the case of V movement, I concentrate on the movement of the logical subject NP and the locative PP, respectively.

Stowell (1981), Rochemont (1986), and Bresnan (1994) suggest that the NP is extraposed and adjoined to VP. Many scholars working in the discourse-functional framework, including Levin and Rappaport Hovav (1995), advocate this structure on the assumption that the VP-adjoined position receives presentational focus interpretation. As is well known, locative inversion constructions and presentational *there* constructions share many properties. For example, both constructions involve unaccusative verbs and the NPs receive focus interpretation:

- (8) Into the room walked a MAN  
 (9) a. \*There walked a MAN into the room  
 b. There walked into the room a MAN

(8) is a case of locative inversion in which the unergative verb *walk* is changed into an unaccusative verb with the accompanying locative PP (Hoekstra and Mulder 1990). Note that the logical subject NP is necessarily focused in locative inversion constructions. Focusing effects are also detected in the examples in (9), which are so-called presentational *there* constructions. It is important to note that only (9b) is acceptable in which *a MAN* is right-adjoined to some XP. The contrast in (9) indicates that if there is an overt movement for focus interpretation, this movement should be rightward.

In this light, I propose that English has optional rightward focus movement in overt syntax. If focus movement is a substitution operation to SpecFocP, this suggests that the specifier position is final (cf. Kim 1997). Consider the following:

- (10) a. \*Into the room walked he      cf. ?Into the room walked HE  
 b. \*Down the stairs fell they      cf. ?Down the stairs fell THEY

<sup>2</sup> I assume that topics have a feature [+topic], which parallels [+wh] for Wh-phrases (Lasnik and Saito 1992).

The reason for this ungrammaticality, as suggested in Rochemont (1986), is that, in these contexts, postverbal subjects are presented as new to the discourse, which is incompatible with their pronominal status. Examples (10a) and (10b) can only be acceptable with a deictic reading of the pronoun.

A rather straightforward argument for rightward focus movement in English is found in the following examples:<sup>3</sup>

- (11) a. Two sheiks<sub>i</sub> lay near the oasis [<sub>VP</sub> without PRO<sub>i</sub> talking]  
 b. \*Near the oasis [<sub>VP</sub> lay [TWO SHEIKS<sub>i</sub>]] [<sub>VP</sub> without PRO<sub>i</sub> talking]  
 c. Near the oasis [<sub>FocP</sub> [<sub>VP</sub> lay [<sub>VP</sub> without PRO<sub>i</sub> talking]] TWO SHEIKS<sub>i</sub>]

Adopting an observation by Postal (1977), Maruta (1985) shows that locative inversion has an effect on control. The preverbal subject *two sheiks* can control the understood subject (PRO) of a *without* adjunct, but as a postverbal subject it cannot do so. On the assumption that in (11b) *TWO SHEIKS* resides in-situ, we may consider this to be responsible for the observed contrast. From a VP-internal position an argument cannot control into a *without* clause. (11b) should be compared with (11c), which seems better. This would indicate that moving *TWO SHEIKS* all the way to the right (i.e., SpecFocP as in 7) may put it in a position from which it can control the understood subject of the *without* clause (cf. Rochemont 1986). I conclude, therefore, that there is rightward focus movement in English and that the Spec position is final.<sup>4</sup>

Let us turn to the position of the inverted locative PP. There has been controversy with regard to the location of the PP. For example, Stowell (1981) and Coopmans (1989) argue that the locative PP moves to SpecCP for Case reasons. On the other hand, for examples, Hoekstra and Mulder (1990), Watanabe (1994), Collins (1997), and Jang (1997) argue that the locative PP moves to SpecIP/AgrsP/TP. Interestingly, Bresnan (1994) argues that the locative phrase is a subject at the functional level and a PP at the categorial level within the framework of Lexical Functional Grammar. In what follows, I argue that the locative phrase has two derivational stages on its way to the landing site; it first moves to SpecTP, and then to SpecTopP.

Conway (1997) observes that with respect to Case properties, certain surface PPs behave like NPs. In (12) the presence of the preposition *of* provides Case for the complement of the adjective *fond*. In ECM constructions, these special PPs pattern like ordinary NPs, as in (13).

- (12) a. I am fond \*(of) John  
 b. I am fond \*(of) down the hill  
 (13) a. I believed (\*yesterday) him to be dangerous  
 b. I believed (\*yesterday) down the hill to be dangerous

Moreover, like NPs, these PPs must be adjacent to the verb as in (13). That is, with NP arguments, Case-licensing is blocked when material intervenes between the argument and the licensor. The generalization about adjacency and Case for NPs in disguise is confirmed by (14) and (15).

<sup>3</sup> The subsequent discussion is based on Coopmans (1989).

<sup>4</sup> Sluicing, heavy NP shift, and right-node-raising, which have a sentence-final focus effect, could provide additional evidence that English chooses the Spec-final focus parameter. See Kim (1997) for detailed discussions.

- (14) a. John described Mary to me  
 b. \*John described to me Mary
- (15) a. John described down the hill to me  
 b. \*John described to me down the hill

When both an NP and a PP follow a verb, the NP must be adjacent to the verb. The different sequence of the two phrases results in ungrammaticality.

In this light, Conway argues that these PPs are NPs in disguise; [<sub>NP</sub> [<sub>N'</sub>  $\emptyset_N$  [<sub>PP</sub> \_\_\_\_ ]]]. These PPs are complement to Null N and are selected by Null N in the lexicon. Null N is identical to a lexical N, except it has a morphological requirement to satisfy by PF. I propose that the PPs in locative inversion are in fact NPs.

Now that the PPs at issue turn out to be nominal, they are able to satisfy the EPP property, that is, to move to SpecTP in order to check off the EPP feature of T. However, I argue below that the PPs do not stay in SpecTP but move further to SpecTopP.

Notice that locative inversion only occurs in root clauses, suggesting that the relevant operations are root transformations:<sup>5</sup>

- (16) a. \*He denied that down the hill rolled the baby carriage  
 b. \*It is possible that out of the house strolled my mother's best friend

Emonds (1976) and Stowell (1981), among others, argue that what makes the examples in (16) ungrammatical is the topicalization nature of PP-preposing. That is, the general impossibility of locative inversion in embedded clauses is related to the impossibility of topicalization in nonroot contexts, as illustrated below:

- (17) a. \*I wonder what on the table John put  
 b. \*Who did you say that this book Mary gave to?

Along these lines, I propose that the final landing site of the inverted PPs is SpecTopP.

The proposed analysis can provide straightforward accounts for a number of facts with respect to locative inversion. First, it explains why only complement locative PPs, but not adjunct locative PPs, are able to be inverted (Bresnan 1994):

- (18) a. [<sub>NP</sub> [<sub>N'</sub>  $\emptyset_N$  [<sub>PP</sub> Onto the ground]]]] had fallen a few leaves  
 b. \*[[<sub>PP</sub> Onto the ground] had spit a few sailors

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<sup>5</sup> Certain embedded clauses constitute exceptions to this observation:

- (i) a. We all witnessed how down the hill came rolling a huge baby carriage  
 b. We suddenly saw how into the pond jumped thousands of frogs

As noted by Coopmans (1989), however, they seem to be instances of root environments that can qualify as asserted clauses in the sense of Hooper and Thomson (1973).

Since the complement PP in (18a) is in fact an NP, it can satisfy the EPP property of T. However, the adjunct PP in (18b) is simply a PP and thus cannot check the EPP feature of T.

Second, the number agreement phenomenon in locative inversion is also accounted for:

- (19) a.  $[_{NP} [_{N'} \emptyset_N [_{PP} \text{In the swamp}]]]$  was/\*were found a CHILD  
 b.  $[_{NP} [_{N'} \emptyset_N [_{PP} \text{In the swamp}]]]$  were/\*was found TWO CHILDREN

Recall that the inverted locative PP is analyzed as an NP with a null head N. I propose that the NP headed by a null N does not have agreement features with T, checking only the EPP. The agreement features of T can be checked later if the formal features of postverbal subject NPs are adjoined to T at LF, following Chomsky's (1995) theory of feature movement. Hence, it is concluded that the Case feature of T and the EPP are unrelated in that they can be satisfied independently (cf. Watanabe 1994, Collins 1997, Jang 1997).

Third, my analysis accounts for why inverted locative PPs are able to undergo cyclic raising (Postal 1977, Bresnan 1994):

- (20) a. *Near the fountain* seem to have been found two purple bananas and a peach  
 b. *On that hill* appears to be located a cathedral  
 c. *In this village* are likely to be found the best examples of this cuisine

The inverted PPs in (20) are actually NPs so that they are able to undergo cyclic raising.

One might suggest that the following is counterevidence:

- (21) a. \**Did on the wall* hang a Mexican serape?  
 b. \**Was among the ruins* found a skeleton?

Despite the fact that the inverted locative PPs are NPs, they do not seem to undergo Subject-Aux inversion in (21). This property naturally follows from the very nature of locative inversion. In the case of locative inversion, the PPs are obligatorily topicalized. That is, they already occupied a topic position, SpecTopP. That is why (21) is bad (Stowell 1981).

#### 4 Implications

My analysis has a few theoretical consequences. Let us consider first the claims given below:

- (22) Any categorial feature may enter into a checking relation with the EPP feature of T (Collins 1997).  
 (23) The EPP requirement is not a feature checking phenomena but a universal requirement that SpecTP must be overtly filled (Jang 1997).

These two claims are virtually identical on the empirical grounds in that any categories satisfy the EPP requirement. However, there are counterexamples to the claims in (22) and (23):

- (24) a. \**Completely drunk* jumped a man  
 b. \**Crammed with babies* rolled a baby carriage  
 c. \**In love with my daughter* entered a man  
 d. \**Crying loudly* fell a baby  
 e. \**At 10 o'clock* arrived the train

In short, my analysis lends support to Chomsky's (1995) assumption that only nominal elements satisfy the EPP requirement of T.

Second, there is good reason to reconsider Collins' (1997) claim that optionality provides potential evidence for local economy. Consider Neg-inversion cases:

- (25) a. At no point did I tell a lie  
 b. I told a lie at no point

Suppose that (25a) and (25b) involve the same lexical choices. Then, the inversion in (25a) would seem to be ruled out by global economy, since inversion requires one more step. The point is that it is not clear that the numeration is the same in each case, since (25a) may involve a Comp with a strong feature, as Collins acknowledges. With this point in mind, let us move on to locative inversion:

- (26) a. [<sub>TP</sub> John<sub>1</sub> [<sub>VP</sub> t<sub>1</sub> rolled down the hill]]  
 b. [<sub>TopP</sub> Down the hill<sub>1</sub> [<sub>TP</sub> t'<sub>1</sub> [<sub>FocP</sub> [<sub>VP</sub> t<sub>2</sub> rolled t<sub>1</sub>] JOHN]]]

Previously, I showed that in the case of locative inversion, the inverted PP undergoes topic movement, which involves an optional feature [+topic], while the postverbal subject NP undergoes focus movement, which involves an optional feature [+focus]. That is, the locative inversion construction contains two additional features, compared to the non-inverted counterpart. Therefore, the comparison of the two examples in (26) is not relevant to global vs. local economy simply because the numerations are not identical.

## 5 Conclusion

So far, I have discussed locative inversion in English within a minimalist framework. I argued that the locative PP in locative inversion is an NP in disguise; [<sub>NP</sub> [<sub>N'</sub>  $\emptyset_N$  [<sub>PP</sub> \_\_\_\_ ]]]. Consequently, I confirmed Chomsky's (1995) suggestion that it is only the nominal feature of an NP that enters into a checking relation with the EPP requirement of T, contrary to Collins' (1997) and Jang's (1997) proposals. In addition, I argued that the optionality of locative inversion derives from the optional application of the grammatical processes such as topicalization and focus movement. As a result, I showed that locative inversion does not provide empirical evidence of local economy over global economy. I also argued that syntactic focus movement in English is rightward. Hence, to the extent that this argument is successful, it will provide evidence against Kayne's (1994) claim that rightward movement is not allowed.

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