Inversion and Adverbial Complements

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1. Introduction

Some have so far analyzed locative inversion constructions with respect to the syntactic properties of the verb under Unaccusativity Hypothesis. (Bresman & Kanerva 1989, Coopmans 1989, Culicover & Levine 2001, etc.) Other linguists have recently challenged this argument, who have argued that the appearance of intransitive verbs in these constructions which belong to the class of unergative verbs (such as *work*, *glitter*, *swim*, and so forth), impede a syntactic characterization common to all instances of the structure of locative inversion constructions in favor of a pragmatic/discourse analysis. (Levin & Rappaport Hovav (1995)). We will follow the syntactic approach under the assumptions that topic Phrase and some semantic motivations should be added. Section II deals with the structure of inverted PP constructions. Section III indicates the problem of the unaccusative analysis proposed in Mendikoetxea (2006)and others. We will refer to the necessity of Topic Phrase. IV will try to discover the

generalization of PP inversion shown in intransitive constructions. V is a conclusion.

2. Observations

2.1 The structure of Inverted PP construction Assumed

The inverted PP constructions as that in (1a) shows non-canonical order (PP V DP) and is descriptively analyzed as variants of non-inverted sentences like (1b), which shows canonical order (DP V PP): (1a) seems to be the result of switching positions of the DP and the PP in (1b).

- (1) a. [$_{PP}$ In this issue] lies [$_{DP}$ the difference between the two political parties].
 - b. [DP] the difference between the two political parties [PP] in this issue.

The structure in (1a) is descriptively characterized as follows: (i) the clause opens with a preverbal PP (often locative or directional); (ii) the notional subject occupies a postverbal position; and (iii) the verb is intransitive or copular, with rare exceptions. As L&RH pointed out, it is this restriction on the syntactic class of verbs, as well as the observation that not all intransitive verbs are found in the construction, that has led to the analysis of inverted PP constructions as a possible unaccusative diagnostic. Perlmutter's (1978) Unaccusative Hypothesis distinguishes two classes of intransitive verbs: unergative and unaccusative verbs, which are associated with different base or underlying syntactic value. As in (2a), Unergative verbs are associated with an external argument, but no internal

argument at the level of D-structure exist, as opposed to unaccusative verbs in (2b), which are associated with an internal argument, but no external argument (2b):

(2) a.
$$[_{DP} \text{ Mary } [_{vp} [_{v} \text{ sang }]]]$$
 unergative b.___ $[_{vp} [_{v} \text{ arrived }] [_{DP} \text{Mary}]$ unaccusative

NP-movement raises the internal argument Mary in (2b) to the external argument (<spec, IP>=the specifier position in the IP) to generate the canonical DP V structure, as shown in (3):

(3)
$$[IP [DP Mary_i] [VP [V arrived] [DP t_i]]]$$

Assuming that *lie* in (1a) is a typical unaccusative verb, which appears in an underlying structures like that in (4), the sentence structure of (1b) with canonical DP V PP order, would be the result of movement of the DP to the external argument position in <spec, IP> of (5a), while the inverted PP constructions in (1a) would result from a movement rule which places the PP in preverbal position of (5b):

Under the unaccusative analysis, the postverbal DP in constructions like (1a) surfaces in its D-Structure position (5b) in inverted PP constructions. This shows the inadequacy of the term 'inversion'. But we will continue to use this label for the construction in (5b), as is commonly used in both descriptive grammars and the theoretical linguistics literature.

2.2. Questions on Unaccusative Condition

Prototypical unaccusative verbs like *come* and *appear* are commonly found in inverted PP constructions in (6):

- (6) a. On a hill in front of them stood a great castle.
 - b. Round the corner walked a large policeman.
 - c. Under the table was lying a half-conscious young man.

It has been pointed out, however, that intransitive verbs belonging to the class of unergative verbs are incompatible with the construction. Indeed, the ungrammaticality of examples like those in (7) has led to the analysis of inverted PP constructions as an unaccusative approach:

- (7) a. *At the supermarket on Main St. SHOP local residents.
 - b. *In the cafes of Paris TALK many residents.
 - c. *In the nursery SMILE half a dozen newborn babies.
 - d. *In government offices COMPLAIN many disgruntled people.
 (From L&RH, 222)

In this regard, we cannot but raise one question how unergative verbs appear in inverted PP constructions. Coopmans (1989) argued that verbs triggering locative inversion should be unaccusative, as those in (8):

- (8) a. *[Through the wedding band] shot a marksman.
 - b. [Through the wedding band] shot a bullet.

The postverbal DP in (8a) is the agent argument of the verb *shoot*, but that in (8b) is the theme. Thus, the verb *shoot* of (8a) is not the

unaccusative verb and that of (8b) is unaccusative verb. But regarding the seemingly awkward data, followed in (9), Coopmans (1989) argued that unergative verbs that allow locative inversion can be collapsed into a class of unaccusative verb when they are combined with directional PP and locative PP. But Coopmans leaves unsolved a question what to be collapsed from unergative into unaccusative means, which will be treated at the end of this section.

- (9) a. [Into the room] waltzed the troll.
 - b. [Out of the office] ran a man.
 - c. [Out of the house] strolled my mother's best friend.

Here I want to take note of the semantic criterion that should be observed when prepositions can take its DP as a complement. Coopmans should have dealt with a so-called systematic semantic treatment of prepositional phrases, as well as the distribution of prepositional phrases carrying considerable load in expressing the semantic relations about space and time and many other kinds of relations between a preposition and its complement DP. We know that PP becomes either a participant or a non-participant of a verb. In the following sentence (10), to Mary is an argument of the verb show and theta-marked from it. Whereas, in the library is not an argument of the verb show and has its own internal structure where in is the head of the PP and selects the DP the library. In the latter case, there is only a shared semantic information between the preposition in and the DP library.

(10) John showed something to Mary in the library.

With respect to (10), we can suggest that the verbs should also share the semantic features that the prepositions and the DP's in the inverted PP's share together. Thus, the verb *showed*, the preposition *in*, and the DP *the library* all include either [+locative] or [+directive] features. The verbs in (10) such as *be* and *live* take adverbial complements as their own complements. Some other intransitive verbs that may require an adverbial complement are *sit*, *stand*, *hang*, and *get*:

- (11) a. Why don't you sit over there.
 - b. The bookcase *stood* against the wall.
 - c. The victim lay in a pool of blood.
 - d. The picture hangs in the National Gallery.
 - e. The passengers must get below as soon as possible.

The reason why these verbs have to be classified to take their own complements is that the complements cannot be left out without making the sentences in which they occur grammatically incomplete:

- (12) a. My brother is in his room.
 - b. *My brother is.
- (13) a. He doesn't *live* here.
 - b. *He doesn't *live*.1)

As adverbial complements, these inverted locative PP's are distinguished from the other PP's, which do not give birth to any kind of inversion.²⁾

¹⁾ Note that a sentence element is only said to function as a complement if it cannot be left out without substantially changing the meaning of the lexical verb. The last example above is not an acceptable sentence if live means reside it would be acceptable, however, in the meaning of enjoy life to the full.

²⁾ Apart from this, other adverbials (referring to manner, time, means, and attitude) do not induce an inversion, shown in the following:

The equal thing is found in the complex transitive constructions with direct object and adverbial complement, shown in (14). Verbs commonly found with a direct object and an adverbial complement denote 'placing' or 'positioning' are *hang*, *lay*, *place*, *put*, etc.:

- (14) Roland put the book in the bathroom.
- (15) *Roland put the book.

In (14), the verb put, the preposition in, and the bathroom have [+locative] feature in common. These locative adverbial complements must be selected by verbs.

In this article, we will deal with two main issues. First, the inverted PP constructions should be described as just one general type of subject-V' inversion(in intransitive constructions, but not in transitive constructions) rather than a unique kind of inversion. The verbs of subject-V' inversion constructions occur with be-verbs, linking verbs, and verbs of direction and location. Linking verbs take very various complements. With the movement of the complement to <spec, TopicP>, the linking verb is moved to <head, TopicP> and the subject which is located in <spec, VP> under the VP-internal Subject Hypothesis is moved to <Spec, IP>. Furthermore, other unaccusative verbs and unergative verbs can alsoundergo the same movement, just in case the following constraint is satisfied. We will call (16) 'VPD' (Verb-Preposition-DP feature agreement constraint):

(16) [IP SUBJECT [VP VERB([+locative/directive]]) [PP PREPOSITION ([+locative/directive]) DP([+locative/directive])]]

⁽i) In a careful way, the engineer walked on the narrow

⁽ii) At 9, he came home.

The PP in (16) is a locative, which is closely related to its verb in semantic relation. The semantic features between the PP and the verb are in accordance. On the other hand, other PP's such as time adverbials, manner adverbials, and means adverbials tend not to have a semantically close relation to its verb. So I suggest that the inversion is triggered by a semantic proximity between the locative PP and the verb. This also means that a semantic proximity is based on the complement hood selected by the verbs.

Second, the locative inversion structure includes both the DP with theme theta role and locative/directional PP. Regarding locative/directive PP inversion, I suggest that all locative/directional PP should be moved to [spec, TopP].

Mendikoetxea (2006) argues that the unergatives of inverted PP constructions should experience the meaning—shift in the course of converting unergatives to unaccusatives. The next section will examine the Mendikoetxea's argument.

2.3. Mendikoetxea (2006)'s Idea

Mendikoetxea (2006) assumes that the subjects of unergative verbs are generated in <Spec, VP>, following Koopman & Sportiche's VP-internal Subject Hypothesis, L&RH claim that the derivation of sentences like those in the following (17-18) with unergative verbs involves movement of the PP to the 'surface'subject position <spec, IP>, with the postverbal DP remaining in its VP-internal subject position, and the subject appears in [spec, IP] at some point in the derivation and subsequently postposes to the right of VP.

- (17) a. Inside *swam* fish form an iridescent spectrum of colours. [J. Olshan, the Waterline, 177]
 - b. On the folds of his spotless white clothing, above his left breast, glittered an enormous jewel. [N. Lofts, Silver Nutmeg, 460](from L&RH, 225)
- (18) a. On the third floor worked two young women called Maryanne Thomson and Ava Brent... [L. Colwin, Goodbye without Leaving, 541
 - b. At one end, in crude bunks, *slept* Jed and Henry... [L.Bromfield, the Farm, 18]

Since <spec, IP> is no more available for the external argument, this subject DP must move to a right-adjoined position, which L&RH take to be the 'focus' position, as in (19b):

(19) a.
$$[_{IP} \ [_{I'} \ I \ [_{VP} \ DP \ _{subj} \ [_{V'} \ V \]]]]$$

b. $[_{IP} \ PP_i \ [_{I'} \ V_i + I \ [_{VP} \ t_k \ [_{V'} \ V_i \ < t_i > \]] \ DP \ _{subj/k}]]$

The derivation in (19b) involves, thus, an operation akin to Culicover & Levine's (2001) Heavy-NP Shift of the subject. These linguists claim that all instances of what looks like inverted PP constructions with unergative verbs are actually examples of what they refer to as 'Heavy Inversion', as opposed 'Light Inversion', which is found with unaccusative verbs and is a true inverted PP construction.

Mendikoetxea discusses the problems of positing a right-adjunction rule of the type illustrated in (19b), as well as both the theoretical and empirical problems encountered by Culicover & Levine's (2001) proposal that all instances of what looks like inverted PP constructions with unergative verbs are actually examples of heavy inversion. If those

unergative verbs like *swim* and *work* in (17)-(18) are interpreted as verbs of existence and appearance, he expects their lexical-syntactic representations to be identical to those of verbs belonging to this semantic class, which are unaccusative and thus lack an external argument in their argument structure. He supposes that there should be one meaning-shift which many turn unergative verbs into unaccusative verbs with existential meaning. He accepts L&RHs assumption of changing telicity: the unergative verbs of manner of motion which undergo meaning-shift become telic predicates with the addition of the directional PP. Existential unaccusative verb, however, are atelic, like the activity verbs in (17)-(18). His hypothesis is that unergative verbs can be associated with an unaccusative structure only when they express an atelic existential meaning, as required by the discourse function of inverted PP constructions.

But there seem to exist some questions with reference to Mendikoetxea's argument. If Mendikoetxea's argument is true, the verbs of the following examples might be supposed to lack its external argument as well as to be atelic. But it seems that is not the case, as shown in (20):

- (20) a. [Into the room] waltzed the troll.
 - b. [Out of the office] ran a man.
 - c. [Out of the house] strolled my mother's best friend.

As Coopmans (1989) and Mendikoetxea (2006) claimed, if the unergative verbs of locative inversion in (20) could be collapsed into a class of unaccusative verb, combined with directional PP and locativePP, these verbs would have to lack its external argument and express an atelic existential meaning. In other words, they have a common assumption that no agent—role is necessary and the aspectual meaning of state is derived

in the process, following the unaccusativity restriction on inverted PP constructions.

However, it is obvious that the examples in (20) are intransitive unergative constructions. The subjects in (20) (the troll, a horse, and my mother's best friend) receive the agent theta role from the verbs: waltzed, ran, and strolled, respectively. The intransitive verbs in (20) require a volitional entity. As Jackendoff (1972) suggested, if the expressions deliberately and in order to modifying an event that stems from an intentional action is added to a sentence, it requires an agent:

- (21) a. The troll waltzed into the room *deliberately*. The troll waltzed into the room in order to see her.
 - b. A man ran out of the office deliberately. A man ran out of the office in order to see her.
 - c. My mother's best friend strolled out of the house *deliberately*. My mother's best friend strolled out of the house *inorder to* see her.

I argue, thus, that inverted PP constructions can own not only unaccusative but also unergative. Mendikoetxea (2006) pointed out, however, that unergative verbs are incompatible with the constructions in (22) and the ungrammaticality of those in (22) requires an unaccusative approach in analyzing inverted PP constructions:

- (22) a. *At the supermarket on Main St. shop local residents.
 - b. *In the cafes of Paris talk many residents.
 - c. *In the nursery smile half a dozen newborn babies.
 - d. *In government offices complain many disgruntled people. (From L&RH, 222)

Here, our present assumption is that unaccusativity is related to the inverted PP construction partially, but not totally. Rather we suppose that the structure of the complement of a verb has a close relation to the inverted PP constructions, whether the verb is an unaccusitive or unergative. In other words, it is possible that inverted PP constructions will be derived from almost all intransitive verbs. The ungrammaticality of the examples in (22) is attributed to the semantic irrelevance between the verb and its complement PP. Moreover, the PP's in (22) violate the VDP (16) in that they are no longer an adverbial complement.

3. The structure of Inverted PP Constructions Revisited

3.1 Topic Phrase

Chung (2002) pointed out that in English locative inversion, preverbal DP, PP, and topic are equally distributed, and he proposed that among them, the inverted PP in locative inversion has either some properties of a subject or those of an extracted element, topic. In the following (23) and (24) are some properties of a subject in preverbal PP constructions, regarding a tag question:

- (23) In the garden is a beautiful statue, isn't there? (Bowers 1976)
- (24) *In the garden is a beautiful statue, isn't it?

In the tag question (23) and (24), the locative PP appears in the tag copy and the PP *in the garden* is shown to be a subject. On the other hand,

the preverbal PP may be used as a topic rather than as a subject, as follows. A topic property of the preverbal PP carries background information to which information of a new participant is introduced by the postverbal DP. This phenomenon refers to the topicalization which typically conveys background information. Let us see the following example:

(25) a. *In San Jose's a great restaurant. (Kaisse 1985) b. Under the bed's a great place to hide a toy.

As Kaisse (1985) pointed out, the preverbal PP in the inverted construction does not accept the contraction between a subject and auxiliary, while the genuine PP in (25b) accepts it.3) Thus if we assume that the preverbal PP in the inverted construction functions as a topic, we can account for the ill-formedness of (25a). In addition to the subject-auxiliary contraction, there is another difference between the preverbal PP inverted and the genuine PP subject. Note that the former does not trigger the subject-verb agreement and the subject-aux inversion as in (26a) and (27a), while the latter does, as in the (26b) and (27b).

- (26) a. Down through the hills and into the forest *flow/flows the little brook. (Levine 1989)
 - b. Under the bed and in the fireplace are/*is not the best combination of places to leave your toys. (Levine 1989)
- (27) a. *Did into the room walk a woman?
 - b. Is under the bad a good place to hide a toy?

³⁾ Kaisse (1985) shows that the contracted clitic form of is, /z/, is possible only when the pre-clitic phrase is the subject, but not when it is a fronted element such as a topic and interrogative (e.g., Who's the man looking for?).

Also, the postverbal PP as a topic is closely related to the distribution of the complementizer, *that*. When the PP inversion and topicalization occurs in a complement of a bridge verb, the overt complementizer *that* must exist, as in (28)–(29):

- (28) a. Mary said [that under the tree sat a woman].
 - b. *Mary said [under the tree sat Mary].
- (29) a. Mary said [that the dog, the man kicked].
 - b. *Mary said [the dog, the man kicked].

Judging from the grammatical similarity between (28) and (29), obviously the inverted PP construction and the typical topicalized construction must be derived from the same origin. If so, how should (23) and (24) be explained? As of now, supposedly, it seems that the tag copy can be either a subject or a topic. If we take a topic phrase for inverted PP constructions, the locative PP moves to <Spec, TopicP> and the verb, a topic position. The DP can move either to <Spec, IP> as or be left behind on the original position.⁴⁾

3.2 Subject Properties of the Postverbal DP

As has been examined above, the preverbal PP seems to have subject properties in some respects, even though it does not appear to have all characteristics of the typical subject. Kathol and Levine (1992) propose that the postverbal DP, rather than the preverbal PP, is the real subject.

⁴⁾ Rochemont (1986) noted that the pronoun can be accusative when the postverbal pronoun is used as deitic, not as anaphoric. In other cases, the pronoun is nominative.

⁽i) a. Into the forest ran HIM.

b. Next to his father stood Her.

First, it is not usual for pronouns to occur as a postverbal DP in inverted PP construction, but Kathol and Levine (1992) claims that they sometimes occur in a postverbal position of inverted PP constructions, where nominative case is more preferred than accusative case, as in (30):

(30) Under the tree sat I/*me (waiting for my friends to appear).

Second, the subject-verb agreement in (31) is also likely to show the subjecthood of the postverbal DP. Thus, the verb sit agrees with the postverbal DP. This means that although the postverbal DP does not appear at the subject position in inverted PP constructions, it invariably plays the role of subject in the subject-verb agreement:

- (31) a. Under the tree sits/*sit a woman.
 - b. Under the tree *sits/sit two women.

Third, two young boys in (32) binds the anaphor each other. In (32a), the subject two young boys c-commands the anaphor each other normally. In (32b), also, the subject two young boys ought to c-command each other, now that (32b) is grammatical:

- (32) a. Two young boysisat beside each other, quietly.
 - b. Beside each other; sat two young boys; quietly.

Fourth, the preverbal PP cannot be an understood subject of a non-finite VP complement as shown in (33b), which suggests that not the preverbal PP but the postverbal DP is the subject:

(33) a. I expect a woman to walk into the room.

b. *I expect into the room to walk a woman.

4. Generalization

As disccused above, all inversion constructions whether they have unergatives or unaccusatives can be represented as an underlying structure. The inverted PP's of unergative constructions and accusative ones are moved to [spec, TopP] commonly. The difference between both the constructions is that the subjects of unergative constructions are moved to [Spec, IP] but those of accusative constructions are left in the VP—internal subject position without any movement.

Several other syntactic categories as adjectives, adverbs or PP emerge at the same position where the inverted PP emerges, as Jan and Robat (1984) suggests in (34):

- (34) a. Herein *lies* the difference between the two political parties.
 - b. From behind the door came strange muffled cries and grunts.
 - c. After the revolution *followed* a long period of social unrest.
 - d. Equally important *is* the question of how to raise the necessary funds.
 - e. To this period *can be* attributed the rise of the middle class in England.
 - f. Out came the Mayor in all his finery.

Almost all the examples in (34) include an intransitive lexical verb denoting position or motion except for (34d,e). It must be that all kinds of the verbs as in (34) select the preposed elements as its complement. This is in agreement of Jan and Robat (1984)'s argument pointing out that the

initial element in each case is syntactically so closely related to the predicator that its fronting appears to have pulled the predicator into pre-subject position.

5. Conclusion

We can find that there are many kinds of intransitive verbs in inverted PP construction: unaccusative verbs, unergative verbs, copular verbs, etc. Though some linguists claim that the accusative analysis is eminent in generalizing inverted PP constructions, they have some difficulty describing the inverted PP constructions with unergative verbs under the Unaccusativity Hypothesis. So we claim that there is no constraint on the verb selection in inverted PP constructions. So satisfied with VDP, unergative constructions can also emerge in inverted PP constructions. This inverted PP construction is only one of many inversion types that take place in intransitive constructions.

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Abstract

Inversion and Adverbial Complements

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There are many kinds of intransitive verbs in inverted PP construction: unaccusative verbs, unergative verbs, copular verbs, etc. of which only unaccusative verbs have been analyzed under Unaccusative Hypothesis without any stipulations. Though some linguists claim that the accusative analysis is eminent in generalizing inverted PP constructions, they have some difficulty describing the inverted PP constructions with unergative verbs under the unaccusative hypothesis. So we claim that there is no constraint on the verb selection in inverted PP constructions. So satisfied with presence of Top Phrase and VDP, the subjects of accusative constructions stay in VP-internal position and those of unergative constructions stay in [spec, IP], commonly with preposing the inverted PP to [spec, TopP]. This inverted PP construction is proposed to be only one of many inversion types that take place in intransitive constructions.

Key Words: Inverted PP construction, Unaccusativity Hypothesis, Unergative, Topic Phrase, Complement PP도치구문, 비대격성 가설, 비능격동사, 주제구, 보충어

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