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Author(s)	Kikuchi, Yuki
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A Review on the Well-Formedness Conditions of Locative Inversion Constructions in English

KIKUCHI Yuki

1. Introduction

This paper aims to discuss the well-formedness conditions of locative inversion constructions in English, as exemplified in (1b). The sentence in (1a) is the normal word order of a structure with a subject, a verb, and a prepositional phrase (PP), while in (1b) this word order is inverted. The construction in (1b) is called a "locative inversion construction," where the PP precedes the verb, while the logical subject follows it.¹

(1) a. [A vase of glass with roses] is [on the dining table].

subject

PP

b. [On the dining table] is [a vase of glass with roses].

PP

subject

(Kuno and Takami 2007: 272)

In this paper, I outline the phenomenon of locative inversion based on Kuno and Takami (2007) and give my opinion about their discussion

This paper is organized as follows. Section 2 reviews a semantic and functional analysis of locative inversion constructions in English proposed by Kuno and Takami (2007), focusing mainly on the well-formedness conditions of the constructions. Section 3 presents an overall evaluation of their analysis. Section 4 concludes with a brief review of English locative inversion.

2. An Outline of Kuno and Takami (2007)

Kuno and Takami (2007) state that the generalization about locative inversion constructions in the literature is problematic. Many researchers, including Birner (1994) and Levin and Rappaport Hovav (1995), have offered the well-formedness conditions of locative inversion constructions, as shown in (2).

- (2) a. Only intransitive verbs expressing existence or appearance can be found in locative inversion constructions.
 - b. Only unaccusative verbs including their passive forms can be found in locative inversion constructions; unergative verbs and transitive verbs cannot be found.
 - c. Verbs occurring in locative inversion constructions must be "informationally light" within the context.

(based on Kuno and Takami 2007: 310-311)

2.1. Problem 1: The Occurrence of Verbs Not Expressing Existence or Appearance

The generalization in (2a) implies that "verbs of existence" like *be, live,* and *stand* and "verbs of appearance" like *appear* are acceptable in the sentences of locative inversion. Consider the examples in (3) and (4).

- (3) a. Once upon a time in a faraway land **lived** a contented prince.
 - b. From the mansion **appeared** an old man with a stick.
- (4) a. *On the corner **smoked** a woman.
 - b. *At the supermarket on Main St. **shop** local residents. (Kuno and Takami 2007: 273)

The verb *live* in (3a) describes the "existence" of a contented prince on the scene expressed by the preposed PP in a faraway land, and

the verb *appear* in (3b) describes the "appearance" of an old man on the scene expressed by the PP *from the mansion*. On the other hand, the verbs *smoke* and *shop* in (4) are "activity verbs" that describe the intentional actions of the subject referents. These verbs do not have the meanings of existence or appearance, and therefore, the sentences in (4) are ill-formed.

However, as Kuno and Takami point out, some verbs not expressing existence or appearance can be used in locative inversion constructions. Consider the examples in (5) and (6).

- (5) a. In the ballroom **danced** a dozen Scottish boys and girls.
 - b. Around the fire **chattered** and **sang** many girls and boys wearing their native costumes.
 - c. In the gym **ran** most of the track team, avoiding the impossible weather outside.
- (6) a. From the water **disappeared** every animal that had been drinking or waiting to drink.
 - b. From the dresser had **vanished** two rings left me by my mother.

(ibid:: 275, 277)

In (5), the verbs *dance*, *chatter*, *sing*, and *run* are typical activity verbs, which describe the intentional actions of the subject referents. In (6), the verbs *disappear* and *vanish* are called "verbs of disappearance," which describe the subject referent's "disappearance" or "ceasing to be visible." We find that verbs used in locative inversion constructions are not exclusively limited to verbs of existence and appearance.

2.2. Problem 2: The Occurrence of Unergative Verbs

For (2b), only unaccusative verbs can be found in locative inversion constructions. This is due to the difference in acceptability be-

tween (7) and (8).

- (7) a. Under the doormat **lay** the key to the front door.
 - b. Down the street **rolled** the baby carriage.
 - c. On the table **was put** a valuable book.

(*ibid*: 278)

- (8) a. *Onto the ground **spit** a few sailors.
 - b. *On the corner **smoked** a woman. (= 4a)
 - c. *Into the room rolled John the ball.

(ibid:: 278)

According to Kuno and Takami (2007: 224), it has been noted in the literature that unaccusative verbs are intransitive verbs that describe the non-intentional actions of the subject referents. The verb *lie* in (7a) is an unaccusative verb that describes the existence of the key. The verb *roll* in (7b) is also an unaccusative verb, and describes the non-intentional action of the baby carriage. In (7c), the phrase *be put*, which is the passive form of *put*, behaves in the same way as an unaccusative verb. The sentences in (7) satisfy (2b), and they are well-formed. In contrast, unergative verbs are considered intransitive verbs that describe the intentional actions of the subject referents. The verbs *spit* and *smoke* are unergative verbs, and the verb *roll* is a transitive verb. The sentences in (8) do not satisfy (2b), and therefore they are ill-formed.

However, unergative verbs can also be used in locative inversion constructions, as shown in (9).

- (9) a. In the ballroom **danced** a dozen Scottish boys and girls. (= 5a)
 - b. Around the fire **chattered** and **sang** many girls and boys wearing their native costumes. (= 5b)
 - c. In the gym ran most of the track team, avoiding the

impossible weather outside.

(= 5c)

d. Down in the hot and muddy ditch **toiled** a gang of indentured laborers.

(*ibid*: 280)

The verbs *dance*, *chatter*, *sing*, *run*, and *toil* in (9) serve as unergative verbs, which describe the intentional actions of the subject referents. Preposed PPs such as *in the ballroom* and *around the fire* are spatial PPs, not directional PPs, and the subject referents in (9) can continue activities such as dancing, chattering, and singing on each scene.² The sentences involving locative inversion in (9) are all well-formed, contrary to the prediction that they do not satisfy (2b). Furthermore, there are some cases where locative inversion constructions involving unaccusative verbs are ill-formed.

- (10) a. *On the streets of Chicago **melted** a lot of snow.
 - b. *To the tourists were sold the most garish souvenirs.

(ibid:: 282)

The verb *melt* in (10a) is an unaccusative verb that describes the non-intentional event of snow's melting on the scene. The phrase *be sold* is the passive form of *sell*, and this phrase has the same structure as an unaccusative verb in the sense that the internal argument of *sell* becomes the subject by undergoing passivization. Although the generalization in (2b) predicts that the sentences in (10) are well-formed, they are judged to be ill-formed.

2.3. Problem 3: The Occurrence of Verbs Not Informationally Light

Finally, let us consider the generalization in (2c), which is the informational constraint imposed on locative inversion constructions like (11) and (12).

- (11) a. ... in this lacey leafage **fluttered** a number of grey birds with black and white stripes and long tails.
 - b. Inside \mathbf{swam} fish from an iridescent spectrum of colors
- (12) From this pulpit **preached** no less a person than Cotton Mather.

(ibid:: 284, 286)

In (11a), the typical entities that flutter are "birds' wings," and the typical activity of birds' wings is "to flutter." The verb and the postposed subject can be semantically inferred from each other. In (11b), to swim is one of the typical activities of fish, and the verb swim can be inferred from the subject fish. Therefore, the verbs flutter and swim are considered informationally light within the context.³ In (12), since we predict the verb preach from pulpit in the preposed PP from this pulpit, this verb is also informationally light. Furthermore, verbs of existence and appearance used in (1) and (3) are also informationally light, because the preposed PPs imply some entity's existence on the scene. Verbs of existence and appearance do not provide further information.

However, main verbs occurring in (13) and (14) are acceptable in locative inversion, while there are cases where an "informationally light" verb is not acceptable.

- (13) a. From the water **disappeared** every animal that had been drinking or waiting to drink. (= 6a)
 - b. From the dresser had **vanished** two rings left me by my mother. (= 6b)
- (14) Into the room **crawled/ran/walked** a young man.

(ibid:: 287)

(15) *At the supermarket on Main St. **shop** local residents.

(= 4b)

The verbs *disappear* and *vanish* in (13) are verbs of disappearance, and the verbs *crawl*, *run*, and *walk* in (14) cannot be inferred from the PP *into the room* and the subject *a young man*. These verbs in (13) and (14) have the "informationally heavy" semantic content, and the sentences in (13) and (14) are well-formed. In (15), the verb *shop* can be inferred from *supermarket* in the preposed PP. Although this verb is informationally light, the sentence in (15) does not satisfy (2c).

2.4. Kuno and Takami's (2007) Proposal

As mentioned in Sections 2.1-2.3, Kuno and Takami (2007) suggest that the generalizations about locative inversion constructions in (2) are not plausible. They examine the constructions from semantic and functional perspectives, and propose the following functional constraints

(16) Functional constraints on locative inversion constructions:

Locative inversion constructions are well-formed if the subject referent is interpreted as existing or appearing on the scenes described by preposed PPs or as disappearing from such scenes.

(Kuno and Takami 2007: 309, 311)

Note that the subject referent draws a hearer's (a reader's) attention to the scene and that such a subject referent can be seen to be "in a continual state" or to perform "a continual action."

Consider the examples in (17) and (18), which can be explained by the constraint in (16).

(17) a. On the dining table is a vase of glass with roses.

(= 1b)

b. Once upon a time in a faraway land **lived** a contented prince. (= 3a)

- 8
- (18) a. *On the sidewalk **fell** the child.
 - b. Onto the sidewalk **fell** the child. (*ibid*: 304)

In (17a), a vase of glass exists on the scene described by the preposed PP on the dining table. (17b) indicates the "existence" of a prince on the scene by the PP once upon a time in a faraway land. For the verb fall, (18a) is ill-formed because the sentence here describes what happened to the child on the sidewalk. That is, the sentence does not indicate the child's existence on such a scene. However, the sentence in (18b) indicates that the child moved from one place to the sidewalk and then fell onto it. The well-formedness of (18b) is attributed to the "appearance" on the sidewalk.

Additionally, the constraint in (16) is supported by the examples in (19) and (20).

- (19) a. *At the supermarket on Main St. **shop** local residents. (= 4b)
 - b. At the supermarket on Main St. **were shopping** several newly arrived Somali immigrants. (*ibid*: 297)
- (20) a. From the water **disappeared** every animal that had been drinking or waiting to drink.
 - b. From the dresser had **vanished** two rings left me by my mother. (= 6, 13)

(19a) describes the residents' habitual activity on the scene, while (19b), where the progressive form of *shop* is used, expresses how the action of immigrants' shopping continues right in front of a speaker's (an observer's) eyes. That is, the sentence in (19b) can be interpreted as expressing the existence of immigrants. As the verbs *disappear* and *vanish* show, the examples in (20) indicate that the subject referent moved from the scene and has disappeared right in front of the speaker's eyes.

Thus, locative inversion constructions do not present descriptions of the subject referent, such as what the subject referent did and what happened to the subject referent, but rather describe the preposed PP, such as who is there (what is there) and who (what) appeared there or disappeared from there.

3. Comments

As outlined in Section 2, the well-formedness conditions of locative inversion constructions in English proposed by Kuno and Takami (2007) is that the subject referent that attracts a hearer's attention must exist or appear on the scene the speaker is observing, or that the subject referent must disappear from the scene. The functional constraints like (16) are based not on the syntactic distinction between unaccusative and unergative verbs or whether the verb is informationally light or heavy, but on the existence or absence of the subject referent on the scene expressed by the preposed PP. These constraints enable us to explain why unergative and informationally heavy verbs occur in locative inversion constructions. Therefore, Kuno and Takami's (2007) semantic and functional analysis of locative inversion constructions seems to be valid in that they regard the "existence," "appearance," or "disappearance" of the subject referent as a crucial factor in the well-formedness conditions of this construction.

Here I would like to mention two points that I noticed from Kuno and Takami's analysis. First, they state that the crucial factor in a well-formed locative inversion construction is whether it is interpreted as a sentence expressing the existence, appearance, or disappearance of the subject referent. In that case, considering "the semantic description of prepositions" from a cognitive-semantic perspective may be a good idea. In general, the spatial relation where the subject referent (trajector) exists on the scene (landmark) described by the NP contained within the PP is expressed as im-

age-schematic meanings by prepositions such as *on*, *in*, or *at*.⁴ Furthermore, the PPs involving *onto*, *into*, or *from* contain abstract, schematic information that an entity (corresponding to a subject) moves to one place (or from one place). Such prepositions imply both the "existence" and "motion" of the subject referent.

Reconsider the locative inversion constructions in (18), which are the sentences with the prepositions *on* or *onto*.

- (18) a. *On the sidewalk **fell** the child.
 - b. Onto the sidewalk **fell** the child.

As already mentioned in Section 2.4, the sentence in (18a) only describes what happened to the child on the sidewalk. That is, it does not refer to the child's existence on such a scene. On the other hand, the sentence in (18b) describes the child's appearance on the sidewalk. This is caused by the child's moving to the sidewalk and then falling onto it. In addition to this analysis, let us take a look at "the semantic description of prepositions" in each case. The preposition on evokes the "contact" schema, the situation of a trajector's contact with the landmark. In (18a), the situation in which the child (trajector) is in contact with the sidewalk (the salient landmark) is evoked by on, and the child is originally expected to exist on the sidewalk. However, the verb fall in (18a) describes an entity's motion event, and the preposed PP on the sidewalk does not convey the meaning of the child's movement toward the sidewalk. The situation of "contact (or existence)" between the trajector and the salient landmark is inconsistent with the "motion" meaning of the verb fall, and the sentence in (18a) is ill-formed. By contrast, the preposition onto evokes the image schema of a trajector's moving to a landmark and the resulting state of contact. In (18b), the preposed PP onto the sidewalk conveys both meanings of "contact (i.e., existence)" and "motion" of the child with respect to the sidewalk. The preposition onto evokes the course of the situation in which the child (trajector) moves to the sidewalk (the salient landmark) and makes contact with it. Such a situation is consistent with the semantic content of the verb *fall*, and the sentence in (18b) is well-formed. We know the effectiveness of Kuno and Takami's analysis in resolving various examples of locative inversion constructions. At the same time, we must focus on the semantic descriptions of prepositions within the preposed PP.

Another point to keep in mind in Kuno and Takami's analysis is that, for locative inversion constructions, there are cases where fictive motion is evoked and those where the postposed subject does not necessarily refer to a physical entity, as illustrated in (21).

- (21) a. The frame is dusty, and <u>across the glass</u> **zigzags** a violent crack. (COCA: FIC, 1990)
 - b. They are chanted to a singsong type of melody, half speech, half music, whose short phrases are repeated with endless monotony. <u>Under the voice</u> runs a twanging countermelody, plucked out on the onestringed gusla. (TIME, 1942)
 - c. <u>From the kitchen</u> **wafted** aromatic smells of fresh-cooked meat, spices, garlic, and onion.

(Birner 1994: 254)

In (21a), the preposition *across* indicates a spatial position, and has the image schema of "crossing." The positional relation of the cracks moving across the glass matches with the motion verb *zigzag*, which means "moving along in a zigzag course." The point to notice here is that the cracks are merely made to look like they are "moving" in a zigzag course, which shows that the glass has cracks in a zigzag pattern. This is an example of so-called fictive motion.

The second sentence in (21b) describes a situation where a

countermelody is played independently of the main melody (i.e., a singing voice expressed by the preposed PP *under the voice*). The motion verb *run* in (21b) does not represent the physical movement of the subject referent, but represents a situation in which the countermelody lies beneath the invisible singing voice. Moreover, (21c) shows that aromatic smells came from the kitchen. The preposition *from* here has the image schema of a "starting point" for movement, and evokes the relation between aromantic smells and the kitchen. As a result, the sentence in (21c) describes the movement (or appearance) of the subject referent from the kitchen.

As mentioned above, the example in (21a) is interpreted as a sentence with locative inversion expressing "fictive motion." The speaker can directly observe the existence of cracks in the glass. For locative inversion constructions in (21b) and (21c), what they have in common is that the subject referents clearly do not represent physical entities. The subject referent in (21b) is a countermelody related to the auditory sense. Furthermore, the subject referents in (21c) are aromatic smells related to the olfactory sense. The speakers directly feel the existence of sounds with their ears and the appearance of smells with their noses. Hence, we can understand that in locative inversion constructions, the "existence," "appearance," or "disappearance" of the subject referent may or may not directly be observed by the speaker.

4. Conclusion

In this paper, I outlined Kuno and Takami's (2007) semantic and functional approach to locative inversion constructions in English. For the well-formedness conditions of this construction, Kuno and Takami claim that the traditional generalizations in (2) are not plausible and propose the following constraint: locative inversion constructions are well-formed if the subject referent is interpreted as existing or appearing on the scenes described by preposed PPs or as

disappearing from such scenes (cf. (16)).

As mentioned in Sections 2 and 3, the semantic and functional analysis proposed by Kuno and Takami can capture various examples of locative inversion constructions that other researchers cannot address. Kuno and Takami's analysis seems to be plausible because they claim that the "existence," "appearance," or "disappearance" of the subject referent are a crucial factor in the well-formedness conditions of this construction. Therefore, we can also apply their analysis to other data on locative inversion constructions collected from the corpus.

Notes

- Prepositional phrases before the verb in inversion, known as "locative PPs," include phrases expressing direction, path, and time, as well as phrases that simply describe a place. In this paper, even when I present the descriptions of locative inversion constructions, I use the term "prepositional phrase (PP)" because the PP does not necessarily mean a place.
- The generalization in (2b) includes the assumption that unergative verbs co-occurring with directional PPs are unaccusative verbs.
- Kuno and Takami (2007: 284) present the explanation of (11) following Levin and Rappaport Hovav (1995: 255).
- For the terms "trajector" and "landmark," Radden and Dirven (2007: 305) explain the following: "In the cognitive-linguistic literature on space, the thing to be located is usually described as the **trajector** and the thing that serves as the reference point as the **landmark**." In terms of the principle of "figure" and "ground," a trajector is a salient figure, and a landmark is a non-salient background or simply ground. In locative inversion, the NP within the PP is regarded as more salient than the postposed subject.

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