

Syntactic and Semantic Parallelisms between Prepositional Phrases Denoting Paths and Instruments*

Masaki Yasuhara

1. Introduction

Generally, motion verbs are compatible with path phrases. The verb *go*, for example, can be followed by several types of path phrases, as shown in (1):

- (1) a. John went into the room through the window.
 b. John went through the window into the room.

In the sentences above, the PP *into the room* denotes Goal, and *through the window* refers to a path which leads to the goal place. Sentences (1) show that the order of these two types of path phrases can be reversed.¹

When the PP *like a thief* intervenes between the two path phrases, however, a difference in grammaticality emerges between the two sentences. Observe the following:

- (2) a. John went into the room like a thief through the window.
 b. * John went through the window like a thief into the room.

In sentence (2a), where the *into* phrase precedes the *through* phrase, the expression *like a thief* can occur between them. Sentence (2b), on the other hand, shows that the opposite order of the two path phrases disallows the intervention of this expression between the two PPs.² This contrast suggests that we need to distinguish the two types of path phrases in syntactic terms.

Syntactic properties of path phrases have been widely discussed or investigated by many researchers (cf. Gruber (1965), Folli and Harley (2006), Nam (2004), etc). To the best of my knowledge, however, there is no exploration into

* I would like to express my thanks to the following people for their invaluable comments on earlier versions of this article: Nobuhiro Kaga, Yukio Hirose, Masaharu Shimada, Naoaki Wada and Hiromi Onozuka. I am also thankful to Takashi Shizawa, Shun Kudo, Masumi Iwai, and Shotaro Namiki for their helpful comments. Needless to say, any remaining errors and shortcomings are mine.

¹ In this article, we do not take into account of a shade of difference in meaning between sentences (1a) and (1b).

² Sentence (2b) is acceptable when a comma or pause is put between the expression *like a thief* and the PP *into the room*, as shown below:

- (i) John went through the window like a thief, into the room.

the syntactic difference between *through* phrases and *into* phrases as in (2).

The purpose of this article is to show that there is a syntactic and semantic asymmetry between *into* phrases and *through* phrases when they co-occur in a single clause. In syntactic terms, an *into* phrase obligatorily forms a constituent with a *through* phrase when the *into* phrase follows the *through* phrase, whereas a *through* phrase can be an adjunct or can form a constituent with an *into* phrase when the *through* phrase follows the *into* phrase. We further argue that the adjunct status of *through* phrases is motivated by a semantic property involved in them. On the basis of this argumentation, we propose the following semantic and syntactic difference between the *through* phrases and *into* phrases when they co-occur in a single clause:

- (3) a. When a *through* phrase follows an *into* phrase in a single clause, the *through* phrase can serve as an adjunct, and denotes a path for someone to go to the goal place of the *into* phrase.
- b. When an *into* phrase follows a *through* phrase in a single clause, the *into* phrase obligatorily forms a constituent with the *through* phrase, and denotes a goal place.

In (3), we propose that the *through* phrases, not the *into* phrases, can function as a means for going to somewhere (and make it possible for someone to go there). The meaning of enabling us to do something is shared by instrumental phrases occurring with change of state verbs or action verbs, and these instrumental phrases also involve adjunct status. On the basis of the syntactic property of instrumental phrases, we can give a semantic explanation of the adjunct status of the *through* phrases: the adjunct status of *through* phrases comes from their meaning of enabling someone to do an action of the VPs.

An immediate consequence of this study is that we can find a parallelism between change of state and change of location in terms of PPs (path phrases and instrumental phrases). Although many researchers have pointed out the parallelism, they focus on the correspondences between path phrases and resultative phrases, or that between manner of motion verbs and action verbs (cf. Goldberg and Jackendoff (2004)). Our close examinations of *through* phrases denoting means for motion allow us to validate the parallelism from the new perspective.

The organization of this article is as follows. In section 2, we will survey previous studies which deal with a syntactic restriction on the licit order of more than one PPs when they co-occur in a single clause. On the basis of these studies, section 3 will argue that *through* phrases can be distinguished from *into* phrases in

their syntactic properties, and propose that this syntactic distinction between *through* phrases and *into* phrases corresponds to a semantic difference between them. Section 4 will discuss other adjunct path phrases including the preposition *from*, and argue that this type of path phrases can involve the same syntactic and semantic properties with *through* phrases. In section 5, we will observe that the syntactic property of the *through* and *from* phrases is shared with other PPs with the same semantic property. Section 6 will suggest that the same kind of semantic and syntactic asymmetry can be observed between *through* phrases and *to* phrases in subjective motion expressions. Section 7 will give concluding remarks.

2. Previous Studies

It has been pointed out that when two PPs with argument status and adjunct status co-occur in a single clause, a syntactic restriction on the possible order of the two PPs can be observed (cf. Gruber (1965), Quirk and Greenbaum (1973), Schütze (1999), Huddleston and Pullum (2002), Nam (2004), Folli and Harley (2006), Randall (2010), to name a few.). As illustrated below, an intervention of an adjunct PP between a verb and an argument PP is not allowed (Folli and Harley (2006:133)):

- (4) a. Sue danced around the bathroom at the party.
 b. # Sue danced at the party around the bathroom.

In the sentences above, the PPs *around the bathroom* and *at the party* can be considered an argument PP and an adjunct PP, respectively (cf. Folli and Harley (2006:133-135)). The ungrammaticality of sentence (4b) is due to an intervention of the adjunct PP between the verb and the argument PP.

Similarly, when the order of two PPs in (5) is reversed, these sentences become very awkward:

- (5) a. John jumped off of the train in New York.
 b. The model electric trains went along their tracks about the room, and finally rammed into each other at the corner.
 (6) a. * John jumped in New York off of the train.
 b. * The model electric trains finally rammed at the corner into each other.

(Gruber (1965:90))

In the sentences in (5), the first PPs refer to motion of the referents of the subject NPs, and the second PPs modify these motion events. Gruber (1965:90) states that the sentences in (6) must be spoken with a pause between the two PPs if possible at

all. This statement is noteworthy because sentence (2b), which we have observed in section 1, also requires a pause (or a comma) before the *through* phrase (see footnote 2).

In this way, a syntactic restriction on the licit order of two directional or locative PPs has been widely discussed in the literature. To the best of my knowledge, however, there is no study that investigates a syntactic restriction on the licit order of *through* phrases and *into* phrases when they co-occur with the verb *go*. Although none of the studies we have mentioned above explores this matter, their studies are noteworthy in that they account for the licit order of more than one PPs (locative PPs and directional PPs) occurring in a single clause on the basis of syntactic properties involved by the PPs.

As for an intervention of a manner adverb between two path phrases in a single clause, Jackendoff (1973) gives a syntactic explanation. Observe the following:

- (7) a. A Martian grzch limbered down the street toward the frightened garbage collector.
 b. The mice raced from one end of the park to the other.
 c. Max sent the trilogy to Bill in New York.

(Jackendoff (1973:351))

The two PPs form a constituent in each sentence, which is confirmed by the following:

- (8) a. Down the street toward the frightened garbage collector lumbered a Martian grzch.
 b. From one end of the park to the other raced the mice.
 c. To Bill in New York, Max sent the trilogy.

(Jackendoff (1973:351-352))

In each sentence above, two PPs are preposed to the leftmost position of a sentence, indicating that they form a constituent.³

³ When two PPs in a single clause do not form a constituent, they cannot be preposed to the leftmost position of a sentence. For example, observe the following:

- (i) a. Harpo paraded down the aisle with Margaret Dumont.
 b. Down the aisle paraded Harpo with Margaret Dumont.
 c. ?* Down the aisle with Margaret Dumont paraded Harpo.

(Jackendoff (1973:352))

As Jackendoff (1973) points out, however, all of the sentences in (7) do not necessarily have the same syntactic structure. He notes that, although manner adverbs such as *noisily* can be interposed between the two PPs in sentence (7a), they cannot in sentences (7b) and (7c), as illustrated below:

- (9) a. A fearsome grzch lumbered down the street *noisily*(,) toward the frightened garbage collector.
 b. * The mice raced from one end of the park *rapidly*(,) to the other.
 c. * Max sent the trilogy to Bill *quickly*(,) in New York.

On the basis of this syntactic contrast, he argues that sentence (7a) is ambiguous between the following two structures:

- (10) a. [_{VP} V [_{PP} P NP PP]]
 b. [_{VP} V [_{PP} P NP]][_{PP} P NP]]

(cf. Jackendoff (1973:351))

Sentence (8a), where the two PPs form a constituent, includes the structure in (10a), whereas sentence (9a), where the two PPs are split by a manner adverb, has the structure in (10b). Sentences (7b) and (7c), on the other hand, have only the structure in (10a), because the two PPs do not allow the intervention of a manner adverb between them, as shown in (9b) and (9c), respectively.

In this way, Jackendoff (1973) gives an explanation for the syntactic contrast between sentence (9a) and sentences (9b, c) on the basis of the syntactic structures in (10). In section 3.1, we will show that Jackendoff's syntactic approach can account for the syntactic asymmetry between *into* phrases and *through* phrases. Based on this investigation, section 3.2 will argue that the syntactic asymmetry corresponds to a semantic distinction between the two types of path phrases, as proposed in (3).

3. Syntactic and Semantic Investigations of Path Phrases

3.1. A Syntactic Account

As observed in the previous section, a PP with adjunct status is not allowed to intervene between a verb and an argument PP. On the basis of this observation, we can predict that in the sentences in (2), repeated here as (11), the right side of the

The PP *down the aisle* is a path phrase, whereas the PP *with Margaret Dumont* is comitative. Although either of the two PPs can be moved to the leftmost position, as shown in (ia) and (ib), both of them cannot be preposed to this position simultaneously, as in (ic).

adjunct PP *like a thief* is a position where a PP with argument status cannot occur:

- (11) a. John went into the room like a thief through the window.
 b. * John went through the window like a thief into the room.

Given this structural analysis, the *through* phrase in sentence (11a) can be considered an adjunct PP, which allows the occurrence of the *through* phrase in this position. The asymmetry in grammaticality in (11) reminds us of sentences (9), which have been examined and accounted for by Jackendoff (1973). Therefore, let us apply his approach to the sentences in (11). Based on the structures proposed by him, the sentences in (11) can be considered to include the following syntactic representations:

- (12) a. [_{VP} went [_{PP} into the room] like a thief [_{PP} through the window]]
 b. * [_{VP} went [_{PP} through the window] like a thief [_{PP} into the room]]

The syntactic representations in (12) show that it is only sentence (11a), not (11b), that can have the syntactic structure in (10b). This observation allows us to predict that sentences where a *through* phrase follows an *into* phrase can have both the two syntactic structures in (10a) and (10b), whereas sentences where a *through* phrase precedes an *into* phrase can have only the structure in (10a).

On the basis of these observations, let us summarize our hypothesis in the following way:

- (13) a. When an *into* phrase precedes a *through* phrase in a single clause, the clause is ambiguous between the following two syntactic structures; (i) [_{VP} V [_{PP} P NP PP]] and (ii) [_{VP} V [_{PP} P NP][_{PP} P NP]].
 b. When a *through* phrase precedes an *into* phrase in a single clause, the clause has only one syntactic structure; (i) [_{VP} V [_{PP} P NP PP]].

Two PPs in a sentence with the structure in (10a) obligatorily form a constituent, whereas two PPs in a sentence with the structure in (10b) do not form a constituent. In other words, when an *into* phrase precedes a *through* phrase in a single clause, the two PPs in this clause do not necessarily form a constituent (13a), whereas when a *through* phrase precedes an *into* phrase in a single clause, the two PPs in this clause obligatorily form a constituent (13b). This hypothesis can be confirmed by the following two constituency tests; the *do so* substitution and pseudo cleft sentences.

First, let us consider the *do so* substitution. It has been claimed that a PP

with adjunct status can be stranded by the *do so* replacement, but an argument PP or a part of a constituent cannot:

- (14) a. Mary kissed John in the park and Sue did so in the bedroom.
 b. * Sue gave a book to John and Mary did so to Bill.
 (Folli and Harley (2006:134))
- (15) a. ??John went through the window into the kitchen, and Mary did so into the living room.
 b. John went into the room through the window, and then Mary did so through the door.

In the sentences in (14), for example, the PP *in the bedroom* can be left behind by the *do so* replacement, hence an adjunct PP, whereas the PP *to Bill* cannot, hence an argument PP. Likewise, the *through* phrase in (15b) can be stranded by the replacement, but the *into* phrase in (15a) cannot.⁴

Consider next the pseudo cleft sentences. An adjunct PP can occur on the right side of *do* in a pseudo cleft sentence, whereas an argument PP or a part of a constituent cannot, as illustrated below:

- (16) a. * What John did on the shelf was put the book.
 b. What John did on Tuesday was meet Mary.
 (Brunson (1993:24))

In sentence (16a), the PP *on the shelf* cannot be combined with the pro-form *did*, whereas the PP *on Tuesday* can. This contrast in grammaticality suggests that the former is an argument, while the latter is an adjunct. This constituency test can be applied to path phrases:

- (17) a. He went through the window into the room.
 = b. What he did through the window was go into the room.
 ≠ c. * What he did into the room was go through the window.

Note that sentences (17b) and (17c) are transformed from sentence (17a). The *through* phrase can be combined with the pro-form *did* in sentence (17b), but the *into* phrase cannot in sentence (17c).

⁴ A similar observation is made in Huddleston and Pullum (2002:684):

(i) * Kim went to London and Pat did so to NY.

The *do so* substitution and pseudo cleft sentences above show that the *into* phrases and *through* phrases occurring with the verb *go* can be distinguished in syntactic terms. When a *through* phrase follows an *into* phrase in a single clause, the *through* phrase can be an adjunct PP, and it does not have to form a constituent with the *into* phrase. When an *into* phrase follows a *through* phrase, on the other hand, the *into* phrase cannot be an adjunct PP, and it obligatorily forms a constituent with the *through* phrase.

In this subsection, we have given an account of a syntactic difference between a *through* phrase and an *into* phrase when they co-occur in a single clause. Although a *through* phrase can have an adjunct property, an *into* phrase cannot. In the next subsection, we will argue that the adjunct status included in *through* phrases can be licensed by a semantic property.

3.2. *A Semantic Property of Adjunct Paths*

In the previous subsection, we have observed a syntactic difference between *through* phrases and *into* phrases. In this subsection, we argue that this syntactic asymmetry between them corresponds to a semantic difference: *into* phrases refer to a goal place, whereas *through* phrases denote a path for us to go to the goal place.

This semantic difference between the two types of path phrases can be made explicit by using *how* questions. Interrogatives with *how* can elicit means or instrument adjuncts (cf. Quirk et al. (1985:558), Konishi (1989:916)), as shown below:

- (18) a. How did you get in? By climbing through the kitchen window.
 b. How is she going to pay for it? By cheque.
 c. How can I remove it? With a razor-blade.

(Huddleston and Pullum (2002:908), with slight modifications)

Huddleston and Pullum (2002:908) state that, for example, the question in (18a) presupposes that “You got in by some means / in some way.”

In the case of motion expressions, a *through* phrase can serve as an appropriate answer to a *how* interrogative, whereas an *into* phrase cannot, as shown below:

- (19) a. How did John go into the room? Through the window.
 b. * How did John go through the window? Into the room.

The contrast between (19a) and (19b) above shows that the PP *through the window*

can refer to a means for *John's* going into the room, but *into the room* cannot. In other words, *the window* in example (19a) serves as a means in the sense that it is a path for *John* to go into the room. In sentence (19b), on the other hand, *the room* cannot be considered to be a means for the motion through the window, so it does not function as a path for *John* to go through the window.

On the basis of this observation, we can predict that *through* phrases with adjunct status can be distinguished from *into* phrases in semantic terms: an *into* phrase refers to a goal place, whereas a *through* phrase represents a path for someone to go to the goal place.

What makes it possible for an entity to go to a goal place is typically a means for the motion, so an NP referring to it is compatible with *by* or *by way of*, which makes explicit that the NP following them expresses a means (cf. Konishi (1976), Jackendoff (1990:95)):⁵

- (20) a. John went into the room through the window.
 = b. John went into the room by the window.
 (21) a. John went through the window into the room.
 ≠ b. * John went through the window by the room.

As shown in the examples above, sentence (20a) can be paraphrased into (20b), but sentence (21b) is illicit as the paraphrase of (21a).

The same is true of the following examples:

- (22) a. John went into the room through the window.
 = b. John went into the room by way of the window.

⁵ As Tanaka (1997) states, the preposition *by* involves several uses. For example, he notes that this preposition has the following 8 uses (cf. Tanaka (1997:86)):

- (i) a. a tree by the house
 b. work by the rules
 c. a lawyer by profession
 d. miss the train by five minutes
 e. sell eggs by the dozen
 f. read by lamplight
 g. a novel (written) by Tolstoy
 h. arrive by five

Among these uses, the preposition *by* of the uses in (ia) and (if) is compatible with NPs which refer to places. *By* in (ia) conveys that a tree is near the house, hence denoting a positional relationship. In (if), on the other hand, *by* serves to show that lamplight is used as a means for reading something. Sentence (20b) does not mention a relationship in terms of location, but does mention the way *John* went into the room, so the preposition *by* in (20b) can be considered to have the use shown in (if).

- (23) a. John went through the window into the room.
 ≠ b. * John went through the window by way of the room.

In sentences (22b) and (23b), the PPs *through the window* and *into the room* are paraphrased using *by way of*. In this case, too, the PP *by way of the window* serves as the licit paraphrase of *through the window*, whereas *by way of the room* is illicit as the paraphrase of *into the room*.⁶

So far, we observed that the NP *the window* in the PP *through the window* can refer to a means for a motion, whereas the NP *the room* in the PP *into the room* cannot, which is shown by paraphrases using *by* and *by way of*. The status as a means is one of characteristics shared by things which enable us to do an action denoted by a VP.

In the previous subsection, we proposed the generalization (13); a *through* phrase can involve an adjunct property, whereas an *into* phrase cannot, when they occur with the verb *go*.⁷ On the basis of the syntactic account in the previous subsection and the semantic explanation in this subsection, we can distinguish a *through* phrase with adjunct status from an *into* phrase in syntactic and semantic terms:

- (24) a. When a *through* phrase follows an *into* phrase in a single clause, the *through* phrase can serve as an adjunct, and denotes a path for someone to go to the goal place of the *into* phrase.
 b. When a *through* phrase precedes an *into* phrase in a single clause, the

⁶ A similar contrast between *through* phrases and *into* phrases can be observed in the following examples:

- (i) a. John went into the room through the window.
 = b. John went into the room by going through the window.
 (ii) a. John went through the window into the room.
 ≠ b. * John went through the window by going into the room.

Sentences (ia) can be paraphrased into (ib), where the PP *through the window* is subordinated to the sentence *John went into the room* by supplementing *by going*, whereas it is illicit to subordinate the PP *into the room* to the sentence *John went through the window*, as shown in (ii).

⁷ Zubizarreta and Oh (2007) point out that the PP *to the park* may function as an adjunct when sentence (ia) including it can be construed as the interpretation in (ib):

- (i) a. John ran for a while to the park (he walked the rest of the way).
 b. On his way to the park, John ran for a while (he walked the rest of the way).
 (Zubizarreta and Oh (2007:129))

In sentence (ia), the preposition *to* is used in an atelic situation. We leave the exploration of this phenomenon for future research.

into phrase obligatorily form a constituent with the *through* phrase, and denotes a goal place.

(= (3))

In the next section, we will observe that this syntactic and semantic correspondence can also be seen in the cases where an *into* phrase and a *from* phrase co-occur in a single clause.

4. *From* Phrases with Adjunct Status

In the previous sections, we have restricted ourselves to the comparison between *through* phrases and *into* phrases, and argued that the *through* phrases can have adjunct status and function as a means for an action of a VP. In this section, we argue that *from* phrases also share the same syntactic and semantic properties with *through* phrases involving adjunct status.

In the same way as the preposition *through*, the preposition *from* can precede an NP such as *the window*, as shown below:

- (25) a. John went into the room from the window.
 b. John went from the window into the room.

The PP *from the window* above refers to a place through which *John* went into the room. In this case, too, the order of the two PPs *from the window* and *into the room* can be reversed.

Interestingly, an intervention of *like a thief* between the two PPs affects grammaticality of sentence (25b). For example, observe the following:

- (26) a. John went into the room like a thief from the window.
 b. * John went from the window like a thief into the room.

As shown in sentence (26a), when the PP *into the room* precedes the PP *from the window*, the intervention of *like a thief* between them is licit. In sentence (26b), on the other hand, where the PP *from the window* precedes the PP *into the room*, the two PPs cannot be separated by *like a thief*.⁸

The restriction on the appropriate order of two path phrases in (26) leads us to

⁸ Sentence (26b) is grammatical when the phrase *like a thief* and the PP *from the room* are separated by a comma intonation, or at least we have to put a pause between them. Thus, the following sentence with a comma is licit (see also footnote 2):

- (i) John went from the window like a thief, into the room.

predict that there is a syntactic difference between the two PPs *from the window* and *into the room*. This prediction can be verified by the following two syntactic tests.

First, let us consider the *do so* substitution test:

- (27) John went into the room through the window, and then Mary did so from the door.

As shown in sentence (27), the PP *from the door* need not be included as part of the sequence being replaced by *do so*. Pseudo cleft sentences below also show the same contrast in grammaticality:

- (28) a. He went from the window into the room.
 = b. What he did from the window was go into the room.
 ≠ c. * What he did into the room was go from the window.

Sentences (28b) and (28c) are transformed from sentence (28a). Although the PP *from the window* can be combined with the pro-form *did* in (28b), the PP *into the room* cannot in (28c). Both of the two constituency tests show that the *from* phrase is an adjunct. Based on these constituency tests, the syntactic structures of the VPs in sentences (25a) and (25b) can be represented in the following way:

- (29) Syntactic representations of the VP in (25a):
 a. [_{VP} went [_{PP} [_P into] [_{NP} the room] [_{PP} from the window]]]
 b. [_{VP} went [_{PP} into the room] [_{PP} from the window]]
 (30) Syntactic representations of the VP in (25b):
 a. [_{VP} went [_{PP} [_P from] [_{NP} the window] [_{PP} into the room]]]
 b. * [_{VP} went [_{PP} from the window] [_{PP} into the room]]

This syntactic difference between the *from* phrase and the *into* phrase corresponds to a semantic difference: the latter refers to a goal place, whereas the former denotes a path for someone to go to the goal place expressed by the *into* phrase. This semantic difference can be observed by the following *how* interrogatives:

- (31) a. How did John go into the room? From the window.
 b. * How did John go from the window? Into the room.

Although the *from* phrase can be an appropriate answer in (31a), the *into* phrase

cannot in (31b). The fact that the PP *into the room* cannot be a licit answer to the *how* interrogative in (31b) shows that this PP does not denote a path for *John* to go from the window; rather, the PP *from the window* expresses a path for *John* to go into the room.

This contrast in acceptability between the two types of path phrases in (31) comes from a semantic difference between the referents of the NPs in these path phrases. That is, *the window* refers to an opening for someone to go into a room, but *the room* does not refer to a path for someone to go from the window

The contrast below provides evidence for this semantic difference between the two types of PPs:

- (32) a. John went into the room from the window.
 = b. John went into the room by the window.
 (33) a. John went from the window into the room.
 ≠ b. * John went from the window by the room.

Sentences (32a) and (33a) are paraphrased into (32b) and (33b), respectively, by using the preposition *by*, which makes it explicit that the NPs following it denote a means for an action of the VPs. The NP *the window* can follow *by*, as shown in (32b), whereas the NP *the room* cannot, as in (33b).⁹

The same contrast can be observed in the following examples using *by way of*:

- (34) a. John went into the room from the window.
 = b. John went into the room by way of the window.
 (35) a. John went from the window into the room.
 ≠ b. * John went from the window by way of the room.

Although the path phrase *from the window* can be paraphrased into *by way of the window*, as illustrated in (34), the PP *by way of the room* is inappropriate as the paraphrase of the PP *into the room*, as in (35). The unacceptability of (33b) and (35b) follows from the fact that *the room* cannot be construed as a means for *John's* going from the window.

⁹ Sentence (32a) can be paraphrased into (ib) by supplementing *by going* before the PP *from the window*, whereas sentence (iib) is illicit as the paraphrase of (33a):

- (i) a. John went into the room from the window.
 = b. John went into the room by going from the window.
 (ii) a. John went from the window into the room.
 ≠ b. * John went from the window by going into the room.

In this subsection, we have argued that the PP *from the window* in *John went into the room from the window* can serve as an adjunct, and this PP refers to a path for *John* to go into the room. In this respect, the *from* phrase behaves in the same way as *through* phrases, which have been discussed in section 3.¹⁰

5. Syntactic Properties of Instrumental Phrases

In the previous sections, we have observed that certain path phrases can serve as an adjunct, and we argued that these adjunct PPs can be construed as a means for motion to a goal place. In this section, we argue that this generalization is not peculiar to motion expressions, but is shared with other types of expressions. In the expressions of change of state or actions, too, instrumental phrases function as an adjunct, and they typically refer to some instrument which enables us to do an action denoted by a VP.¹¹ The following sentences show that the PPs occurring with the change of state verb *break* and the action verb *eat* work as a means for the events of the VPs, in the same way as the *through* phrase and the *from* phrase occurring with the motion verb *go*:

- (36) a. This is the window for John to go into the room.
 (cf. John went into the room through the window.)

¹⁰ The preposition *from* is also compatible with NPs which denote Source, as shown below:

- (i) a. John went into the living room from the kitchen.
 b. John went from the kitchen into the living room.

The exploration of this kind of PPs, however, is beyond the scope of this article.

¹¹ *With* phrases occurring with the verb *break* can denote an instrument for breaking something. As for this type of instrumental phrases, however, it is not possible to make a paraphrase using *by*, as shown below:

- (i) a. John broke the vase with the hammer.
 ≠ b. * John broke the vase by the hammer.

Schlesinger (1995) notes that the preposition *by* is compatible with NPs referring to a means which is related to transportation or communication. This selectional restriction on the NPs might make unacceptable the paraphrase using *by* in (i). However, we have no explanation for this selectional restriction, so we leave this matter open for future research.

Contrary to paraphrase (ib), it is possible to paraphrase the instrumental PP *with the hammer* into *by means of the hammer*, as shown below:

- (ii) a. John broke the vase with the hammer.
 = b. John broke the vase by means of the hammer.

In this way, instrumental phrases compatible with the verb *break* also show the same semantic property with *through* phrases with adjunct status, in the sense that both of them refer to things which make it possible for us to do an action denoted by a VP.

- b. This is the window for John to go into the room.
(cf. John went into the room from the window.)
- c. This is the hammer for John to break the vase.
(cf. John broke the vase with the hammer.)
- d. This is the fork for John to eat the dish.
(cf. John ate the dish with the fork.)

As shown in sentences (36a) and (36b), the NP which can be construed as a means for an action denoted by the VP is compatible with the syntactic frame *this is the NP for someone to VP*.¹² Likewise, the NPs in the instrumental phrases occurring with the verb *break* and *eat* are compatible with this syntactic frame. In this way, the instrumental phrases and path phrases (*through* and *from* phrases) can be construed as a means for an action of the VPs.

This semantic parallelism between these PPs leads us to predict that they also share the adjunct status. In what follows, we will observe that instrumental phrases occurring with expressions denoting change of state or actions also involve adjunct status.

First, likewise path phrases with an adjunct property in (37), instrumental phrases can be left behind by the *do so* replacement, as illustrated in (38) and (39):

- (37) a. ??John went through the window into the kitchen, and Mary did so into the living room. (= (15a))
- b. John went into the room through the window, and then Mary did so through the door. (= (15b))
- c. John went into the room through the window, and Mary did so from the door. (= (27))
- (38) John ate Norwegian food with a fork, and Mary did so with chopsticks.
(Takamine (2010:50))
- (39) a. * John said he would break the vase into pieces, but instead he did so into a thousand pieces.

¹² When the NPs denoting Goal occur in the NP position of this syntactic frame, the sentences including them are not acceptable, as shown below:

- (i) * This is the room for John to go through the window.
(cf. John went into the room through the window.)
- (i) * This is the room for John to go from the window.
(cf. John went into the room from the window.)

In these sentences, the NP *the room* does not refer to a means for motion through or from the window, and therefore, it is incompatible with this syntactic frame.

- b. John said he would break the vase with a hammer, but instead he did so with a bat.

In sentence (38), the PP *with chopsticks* functions as an instrument for eating food. In sentence (39b), likewise, the PP *with a bat* works as an instrument for breaking the vase. Both of the two types of instrumental PPs can be included in the scope of *do so*. The PP *into a thousand pieces* in sentence (39a), which does not denote an instrument, on the other hand, cannot be left behind by the *do so* replacement.

Second, changing the order of two types of PPs can affect the grammaticality of the sentences including them:

- (40) a. John went into the room like a thief through the window.
 b. * John went through the window like a thief into the room.
 (= (11))
- (41) a. John went into the room like a thief from the window.
 b. * John went from the window like a thief into the room.
 (= (26))
- (42) a. John broke the vase into pieces with a hammer.
 b. * John broke the vase with a hammer into pieces.

Through phrases and *from* phrases in (40a) and (41a) can be considered to be adjunct path phrases, so they are allowed to occur on the right side position of the adjunct PP *like a thief*. Sentence (42b), on the other hand, is ungrammatical because the instrumental PP *with a hammer*, which functions as an adjunct, intervenes between the verb *break* and the argument PP *into pieces*.

Finally, in the same way as *through* phrases and *from* phrases denoting means, the instrumental phrase *with a hammer* occurring with the change of state verb *break* can combine with the pro-form *did*, but the PP *into pieces* cannot:

- (43) a. What he did through the window was go into the room. (= (17b))
 b. * What he did into the room was go through the window. (= (17c))
- (44) a. What he did from the window was go into the room. (= (28b))
 b. * What he did into the room was go from the window. (= (28c))
- (45) a. What he did with a hammer was break the vase into pieces.
 b. * What he did into pieces was break the vase with a hammer.

In this way, the adjunct status of path phrases and instrumental phrases are closely related to a semantic property, that is, both of them refer to entities which

enable us to do an action denoted by a VP. This semantic property determines whether the *through* phrases and *from* phrases have an adjunct status or not.

6. PPs Denoting Means for Motion in Subjective Motion Expressions

In section 3, we have observed that *through* phrases with adjunct status refer to a path which enables us to go somewhere. This correspondence between syntax and semantics can also be applied to subjective motion expressions with the verb *go*.

Certain motion verbs with path phrases are compatible with subjective motion expressions, which denote static situations, as illustrated below:

- (46) The highway runs from San Francisco to New York.
(Matsumoto (1996:137))

Sentence (46) does not involve any change of location. This sentence expresses the situation where the highway ranges from San Francisco to New York.

The verb *go* is also compatible with this kind of expressions:

- (47) a. The road goes from the village to the city through the tunnel.
b. The road goes from the village through the tunnel to the city.

The order of the two PPs *to the city* and *through the tunnel* is opposite between sentences (47a) and (47b). Interestingly, when the expression *like a snake* intervenes between the two PPs, the sentence in which the *through* phrase precedes the *to* phrase becomes very awkward.

- (48) a. The road goes from the village to the city like a snake through the tunnel.
b. ??The road goes from the village through the tunnel like a snake to the city.

This syntactic contrast is similar to that we observed in section 3, where we argued that certain *through* phrases, which refer to a path enabling us to go somewhere, can have an adjunct property. On the basis of this argumentation, we can predict that the *through* phrase can be distinguished from the *to* phrase in (48) in terms of their semantic properties. In fact, it is possible to differentiate them semantically by using *how* interrogatives:

- (49) a. How does the road go from the village to the city? Through the tunnel.

- b. * How does the road go from the village through the tunnel? To the city.

The contrast in acceptability above suggests that *the tunnel* in the *through* phrase may be conceptualized as a means for the subjective motion of the road, but *the city* in the *to* phrase may not.

Paraphrases using *by* also show the same contrast between the two types of path phrases:

- (50) a. The road goes from the village to the city through the tunnel.
 = b. The road goes from the village to the city by the tunnel.
 (51) a. The road goes from the village through the tunnel to the city.
 ≠ b. * The road goes from the village through the tunnel by the city.

Although the PP *through the tunnel* can be paraphrased into *by the tunnel* in (50), the PP *by the city* is not appropriate as the paraphrase of *to the city* in (51). As for paraphrases using *by way of*, however, it seems to be difficult to differentiate the two types of path phrases:

- (52) a. The road goes from the village to the city through the tunnel.
 ≠ b. ?? The road goes from the village to the city by way of the tunnel.
 (53) a. The road goes from the village through the tunnel to the city.
 ≠ b. ?? The road goes from the village through the tunnel by way of the city.

Paraphrases using *by way of* are very awkward in both types of path phrases.¹³

To summarize this section, a syntactic restriction on the licit order of *through* phrases and *to* phrases can be detected in subjective motion expressions. This syntactic asymmetry between the two types of path phrases, likewise that between *through* phrases and *into* phrases we have discussed in section 3, corresponds to a semantic difference. Although the *through* phrases occurring in the subjective motion expressions do not refer to a path along which an entity physically moves, they can denote a path for a road to run to somewhere. The *to* phrases, on the other hand, do not denote a path for a road to run through somewhere.

7. Conclusion

In this article, we have argued that a certain type of PPs serve as adjuncts, and this syntactic status corresponds to a semantic property: path phrases of this type

¹³ We have no explanation for the unacceptability of sentence (52b). We leave this matter open for future research.

refer to a path for someone to go somewhere. What is noteworthy is that this correspondence between syntax and semantics is not restricted to motion expressions. We have also observed that in other types of expressions like those denoting change of state, PPs with the same semantic property serve to be adjuncts. An immediate consequence of this exploration is that we might shed light on the conceptual parallelism between change of state and change of location in terms of PPs denoting means or instruments (cf. Goldberg (1991, 1995), Goldberg and Jackendoff (2004), etc.). We leave the further exploration of the parallelism open for future research.

REFERENCES

- Brunson, B. A. (1993) "The Instrumental Role: Argument or Adjunct?," *Toronto Working Papers in Linguistics* 12(1), 13-25.
- Folli, R. and H. Harley (2006) "On the Licensing of Causatives of Directed Motion: Waltzing Matilda All Over," *Studia Linguistica* 60, 1-35.
- Goldberg, A. E. (1991) "It Can't Go Down the Chimney Up: Path and the English Resultative," *BLS* 17, 368-378.
- Goldberg, A. E. (1995) *Constructions*, University of Chicago Press.
- Goldberg, A. E. and R. Jackendoff (2004) "The English Resultative as a Family of Constructions," *Language* 80(3), 532-568.
- Gruber, J. S. (1965) "Studies in Lexical Relations," Doctoral dissertation, MIT.
- Huddleston, R. D. and G. K. Pullum (2002) *The Cambridge Grammar of the English Language*, University of Cambridge Press.
- Jackendoff, R. (1973) "The Base Rules for Prepositional Phrases," S. R. Anderson and P. Kiparsky (eds.) *A Festschrift for Morris Halle*, 345-356, Holt, Rinehart and Winston.
- Jackendoff, R. (1990) *Semantic Structure*, MIT Press.
- Konishi, T. (1976) *Eigo no Zenchishi* (Prepositions in English), Taishukan.
- Konishi, T. (1989) *A Dictionary of English Word Grammar on Adjectives and Adverbs*, Kenkyusha.
- Matsumoto, Y. (1996) "Subjective-Change Expressions in Japanese and Their Cognitive and Linguistic Bases," G. Fauconnier and E. Sweetser (eds.) *Spaces, Worlds, and Grammar*, 124-156, University of Chicago Press.
- Nam, S. (2004) "Goal and Source: Asymmetry in Their Syntax and Semantics," Paper presented at the Workshop on Event Structure.
- Quirk, R. S. and S. Greenbaum (1973) *A University Grammar of English*, Longman.
- Quirk, R., S. Greenbaum, G. Leech and J. Svartvik (1985) *A Comprehensive Grammar of the English Language*, Longman.
- Randall, J. (2010) *Linking: The Geometry of Argument Structure*, Springer.
- Schlesinger, I. M. (1995) *Cognitive Space and Linguistic Case: Semantic and Syntactic Categories*

in English, University of Cambridge Press.

Schütze, C. T. (1999) "Argumenthood and English Prepositional Phrase Attachment," *Journal of Memory and Language* 40, 409-431.

Takamine, K. (2010) "The Postpositional Hierarchy and Its Mapping to Clause Structure in Japanese," Doctoral dissertation, Tromsø University.

Tanaka, S. (1997) "Kukan-hyogen no imi-kino (Semantics and Functions of Spatial Expressions)" S. Tanaka and Y. Matsumoto (eds.) *Kukan to Ido no Hyogen* (Spatial and Motion Expressions), 1-123, Kenkyusha.

Zubizarreta, M. L. and E. Oh (2007) *On the Syntactic Composition of Manner and Motion*, MIT Press.

CORPUS

British National Corpus. [BNC] (<http://info.ox.ac.uk/bnc>).

Doctoral Program in Literature and Linguistics

University of Tsukuba

e-mail: dorariononeone@yahoo.co.jp