

Motion Events in English and Japanese*

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1. Introduction

This paper is concerned with motion events in English and Japanese from the viewpoint of lexicalization patterns and the comparison between English prepositions and Japanese postpositions. There has been much discussion on motion events based on Talmy's two-way typology: satellite-framed languages and verb-framed languages. Several important issues have been discussed in the literature, and the question of whether manner and path are complementary or not is a controversial one in lexical semantics. As to the complementarity between manner and path, Beavers, Levin and Tham (2010) propose the following assumption.

- (1) a. Verb is the only clause-obligatory lexical category.
- b. A verb may lexicalize only one of manner and path.

I will examine assumption (1b) and claim that what is important is to clarify how manner and path are realized in motion expressions.

What is also interesting is that foreign researchers have presented papers on Japanese motion expressions. For example, Beavers (2008) examines Japanese postpositions *-ni* and *-made* in detail. This paper consists of a classification of motion verbs, an analysis of paths, and a comparison between English prepositions and Japanese postpositions.

2. Lexical Conceptual Structure (LCS)

2.1. Correspondence Rules

According to Jackendoff (2010), the leading questions of lexical semantics are as follows.

- (2) a. What fragments of conceptual structure can be encoded in lexical items.
 b. When lexical items are combined syntactically, how are they correspondingly combined in CS, and what principles license these correspondences?

(Jackendoff (2010: 9))

For example, the syntactic structure and the lexical conceptual structure in (3) are corresponded by the Argument Fusion on the basis of the lexical entries of *into* and *run*, as shown in (4)

- (3) a. [S [NP John], [VP ran [PP into [NP the room]]]]
 b. [Event GO ([Thing JOHN], [Path TO ([Place IN ([Thing ROOM])]])])]

- (4) a.
$$\left[\begin{array}{l} \text{into} \\ \text{P} \\ \text{— NP}_j \\ \text{[Path TO ([Place IN ([Thing }]_j)])}] \end{array} \right]$$

- b.
$$\left[\begin{array}{l} \text{run} \\ \text{V} \\ \text{— } \langle \text{PP}_j \rangle \\ \text{[Event GO ([Thing }]_i, [Path }]_j)] \end{array} \right]$$
 (Jackendoff (1990: 45))

The lexical entries in (4) show that English *run* takes GO as the event function and thing and path as the arguments, and that the preposition *into* contains the path function TO which itself takes place as its argument. The reading of sentence (3a) is constructed on the basis of the relation between the indices assigned in (4).

Yoneyama (2001, 2009) observes that English motion verbs are classified into three types: (a) motion verbs without manner, (b) motion verbs with manner, and (c) manner verbs based on the following examples.

- (5) a. John went to the station.
b. The mouse went under the table.
- (6) a. John ran to the station.
b. John swam to (the) shore.
- (7) a. John danced (without leaving the same spot).
b. John danced into the room.

As to the English motion verbs, we have to pay attention to the fact that *dance* can take path, as in (7b). Jackendoff (1990) explains the behavior of *dance* in (7b) by formulating the GO-Adjunct Rule.¹ This rule introduces the event function GO into the entire event and makes its original LCS subordinate. Further, it is in order here to consider the following examples.

- (8) a. *John went aimlessly around. (Marantz (1992: 184))
b. John ran to the station. (=6a)
c. John ran in the field.
d. John ran in place.²
- (9) a. John ate.
b. John ate a cake.
c. The lamb devoured the lion. (Jackendoff (2002: 133))

The unacceptability of (8a) indicates that *go* obligatorily takes path. On the other hand, sentences (8c, d) indicate that in the case of *run*, path is optional. This difference between *go* and *run* seems to be similar to the one between *eat* and *devour*. Sentence (9c) indicates that *devour* has to take a direct object. It might be possible to assume that in the case of *run*, although path is optional, an unspecified path may be implied like the case of *eat*. The fact that in (8d) there is no change of location can be explained by assuming that the overt expression *in place* forces path to be suppressed.

2.2. Verbs of Motion

Based on the above observations, we postulate the following LCSs of English motion verbs.³

- (10) a. Type A: Motion Verbs without Manner

$$[\text{Event GO } ([\text{Thing } _], [\text{Path } _])]$$

- b. Type B: Motion Verbs with Manner

$$\left[\begin{array}{l} \text{GO } ([\text{Thing } \alpha], [\text{Path } _]) \\ \text{Event } [\text{WITH/BY } [\text{MOVE } ([\text{Thing } \alpha])]] \end{array} \right]$$

- c. Type C: Manner Verbs

$$[\text{Event MOVE } ([\text{Thing } _])]$$

A-type verbs take the event function GO which obligatorily takes path. There is no manner element in them. On the other hand, B-type verbs which inherently take manner take the event function GO which may optionally take path. Finally, C-type verbs take the event function MOVE which takes thing as its argument.

2.3. Japanese Motion Verbs

How about the LCSs of Japanese motion verbs? Consider the following sentences.

- (11) a. John-wa eki-e/ni itta.
 John-Top station-to went
- b. ?John-wa eki-e/ni hashitta.
 John-Top station-to ran
- c. John-wa eki-e/ni hashitte-itta.
 John-Top station-to running-went
- d. John-wa eki-made hashitta.
 John-Top station-until ran

- e. John-wa eki-e-mukatte hashitta.
 John-Top station-toward ran

(11a) indicates that *iku* (go) corresponds to English *go* and it can take a bounded path. As has often been discussed, although the Japanese verb *hashiru* cannot take a bounded path, it can be compatible with an unbounded path such as *-e-mukatte*, as in (11e). *Hashiru* has to be combined with *iku* when it takes a bounded path, as shown in (11c). Finally, *hashiru* is compatible with *-made* and sentence (11d) expresses a telic motion event. (11) indicates that the LCSs of English verbs of motion do not apply to Japanese motion verbs except A-type verbs.

3. Language Typology

3.1. Two-way Typology

Talmy (1985, 1991) presents an intriguing assumption on lexicalization patterns to the effect that languages are divided into two types: satellite-framed languages and verb-framed languages. In satellite framed languages, manner is encoded into the verb and path is encoded into a satellite such as English particles and prepositions. On the other hand, in verb-framed languages, path is encoded into the verb and manner is expressed by a separate adjunct clause. The following example (12) shows the different realizations of path and manner in two types of languages.

- (12) a. Satellite-framed language: manner conflation
 John ran to the station.
 John ran into the room.
- b. Verb-framed language: path conflation
 La botella entró a la cueva (flotando).
 the bottle moved-in to the cave (floating)
 (Talmy (1985:69))

Sentence (13) shows that Japanese may also be classified as a verb-framed

language.

- (13) John-wa heya-e/ni haitta.
 John-Top room-to moved-in

3.2. Manner and Path

As mentioned in Introduction, Beavers, Levin and Tham (2010) propose an interesting assumption on lexicalization, repeated here as (14).

- (14) a. Verb is the only clause-obligatory lexical category.
 b. A verb may lexicalize only one of manner and path.

If (14b) were correct, then B-type English verbs in my classification would violate it. In this paper, I present a different view; that is, how manner and path are realized in motion expressions? Sentences (15) and (16) are examples of manner and path combinations in English and Japanese, respectively.

- (15) a. John went to the station. [-manner]
 b. John ran to the station.
 c. John danced into the room.
 d. John belched his way out of the restaurant. (Jackendoff (1990))
- (16) a. John-wa eki-e hashitte-itta. [compound predicate]
 John-Top station-to running-went
 b. John-wa 2-rui-e suberi-konda.⁴ [compound verb]
 John-Top 2nd-base-to sliding-went-into
 c. John-wa odori-nagara heya-ni haitta. [participle]
 John-Top dancing room-in entered

In English, manner, if any, is encoded into the verb, as discussed above. Sentences (15b) and (15c) may be represented as ‘John went to the station running’ and ‘John went into the room dancing.’ The same is true of the *way*-construction like (15d). Sentence (15d) may be represented as ‘John went

out of the restaurant belching.’ On the other hand, Japanese has three ways of expressing manner in motion events. (16a) contains a complex predicate such as *hashitte-iku* (go-running) and (16b) is a case of compound verb. In Japanese, *2 rui-e suberu* is unacceptable because *suberu* does not contain path. Finally, (16c) contains a participle as an adjunct clause. Sentences (15) and (16) indicate that as to lexicalization, there is a clear difference between English and Japanese.

3.3. Paths in English and Japanese

3.3.1 English

It is in order here to look at paths in English and Japanese. Originally, Talmy (1985) assumes that in English satellites consist of so called particles, stating as follows.

[S]atellites are certain immediate constituents of a verb root other than inflections, auxiliaries, or nominal arguments.... A verb root together with its satellite forms a constituent in its own right, the ‘verb complex’ ... (Talmy (1985:102)).

Example(17) shows that *out* is a satellite and *of* is a preposition, indicated as ◀and ▶, respectively.

(17) I ran ◀out of▶ the house. (Talmy (1985: 103))

However, in the linguistics literature, prepositions have also been regarded as satellites. Example (18) indicates that several types of paths are encoded in English verbs.

- (18) a. INTO (enter), ACROSS (cross), UP (ascend), DOWN (descend),
THROUGH (pierce),... (Gruber (1965); Jackendoff (1990))
b. TO (see)⁵, TO (put),... (Gruber (1967); Jackendoff (1990))

Jackendoff (1983, 1990) classifies paths into two types: bounded and unbounded paths, as in (19).

- (19) a. Bounded path: TO, FROM,...
John ran to the station.
b. Unbounded path: TOWARD, ALONG,...
John ran toward the station.

It is plausible to assume, following Beavers, Levin and Tham (2010), that PP should not be excluded from the notion of satellite and to propose a wider range of path encoding options than under a strict interpretation of Talmy's typology.

3.3.2. Japanese

Consider next Japanese postpositions, as shown in (20).

- (20) a. *-e*: [Direction]
hidari-e magaru (turn to the left)
[Goal]
eki-e iku (go to the station)
b. *-ni*: [Goal: with a path verb]
eki-ni iku (go to the station)
c. *-kara* [Source]
ie-kara eki-e aruite-iku (walk from my house to the station)

In this paper, following Beavers (2008), I treat *-made* as a general limit-marker. The following examples show that *-made* can take any kinds of entities as event participants.

- (21) a. John-wa hachi-ji- made neta.
John-Top eight-o'clock-until slept
b. John-wa eki-made aruita.
John-Top station-until walked

For further discussion, see Beavers (2008).

3.4. Path and Place

Recently, there has been discussion on the syntax of path and place. Stringer (2007), for example, cites the following sentence.

(22) John climbed onto the top of the hill. (Stringer (2007: 8))

Sentence (22) indicates that the VP includes PathPP and PlacePP which contains LocNP⁶ under it, and that PathPP and PlacePP combine when their heads are *on* and *to* or *in* and *to*. Needless to say, if the path is *from*, it does not combine with the head of PlacePP, as in (23).

(23) The mouse ran from under the table to behind the piano.

It is noteworthy that in Japanese, PathPP and PlacePP are complementary, as shown in (24).

(24) *ie-no-naka-ni-e hairu
 house-Gen-inside-in-to go-in

It seems that this is because Japanese postpositions depend on the verb of the sentence. The selection of PathPP or PlacePP depends on the main verb of the sentence and the verb takes only one postposition. We have to take this fact into consideration when we discuss the syntax of path and place.

3.5. NPs in English and Japanese⁷

When we analyze the difference in path between English and Japanese, it is helpful to consider NPs which contain prepositions or postpositions. Consider first the following examples in English.

- (25) a. the bridge into/out of New York
b. the road into/out of the city

(Beavers, Levin and Tham (2010: 335))

In English, a PP can have its own meaning even if there is no verb in the sentence. It is possible to imagine the situation in which *the bridge into New York* expresses. How about Japanese? Consider the following examples.

- (26) a. Tokyo e/*ni-no ressha (a train to Tokyo)

(Ayano (2001: 75), Stringer (p.c.))

- b. daigaku-e/*ni-no nyugaku (getting into college)
c. Kyoto-e/*o-no ryoko (a trip to Kyoto)
d. Tokyo-de/*ni-no taizai (stay in Tokyo)
e. haha-e/*ni-no tegami (a letter to my mother)

As (26) shows, in the case of NPs, *-ni* and *-o* cannot occur. This is because there is no verb which may take *-ni* or *-o*. Consider the following expressions containing *-ni* and *-o*, which are acceptable because they each contain a verb.

- (27) a. daigaku-e/ni nyugakusuru (enter college)
b. Kyoto-e/o ryoko-suru (go on a trip to Kyoto)
c. Tokyo-ni/de taizai-suru (stay in Tokyo)
d. haha-e/ni tegami-o kaku (write a letter to my mother)

The contrast between (25) and (26) indicates that English PPs have their own meaning, whereas Japanese postpositions are dependent on the verb. The difference between prepositions and postpositions seems to be related to the fact that English is a satellite-framed language and Japanese a verb-framed language.

4. Path Compensation and GO-Adjunct Rule in English

Based on the fact that English is a satellite-framed language and a PP can have its own meaning, we can explain that sentences (28) and (29) are derived by the application of different rules.

- (28) a. The mouse went under the table.
- b. The mouse went behind the piano.
- (29) a. John danced into the room.
- b. John wiggled out of the hole.

In (28), the Path Compensation⁸ introduces TO or VIA into the LCS of the sentence because the verb *go* inherently requires path. The same seems to be true of the following sentence.

- (30) The mouse ran under the table.

Sentence (30) may also have a goal reading because *run* is a B-type verb which may optionally take path. On the other hand, in (29) it is the PP *into the room* or *out of the hole* that forces the sentence to have a directional reading. That is, in (29) the GO-Adjunct Rule, a kind of meaning extension, makes it possible for the sentence to have a goal reading, although *dance* and *wiggle* do not inherently contain path.

5. Lexicalization as Tendency

It is not easy, in fact, to classify verbs of motion. Consider (31) and (32). Examples (31) and (32) show that while Japanese *demo-o-suru* is regarded as a motion verb which can take a bounded path, English *demonstrate* is an activity verb.

- (31) a. Gakusei-wa eikoku-taishikan-e demo-o shita.
 students-Top British Embassy-to demonstration did
- b. *The students demonstrated to the British Embassy.
- (32) a. The student demonstrators marched to the British Embassy.

- b. The students demonstrated their way to the British Embassy.
- c. The students demonstrated in front of the British Embassy.

(Yoneyama (1997: 269))

It seems to me that, as Beavers, Levin and Tham (2010) say, we have to be flexible about lexicalization. We had better regard lexicalization patterns as a kind of tendency. It seems that the existence of sentences such as (31) and a limit-marker *-made* indicates that Japanese as a verb-framed language may use cross-linguistically available strategy to get around the categorical constraint. In relation to *-made*, *John ran until the station* seems ill-formed in English, probably because English has *to* as a bounded path.

6. Verbs of Manner-of-Motion and Unbounded Paths

Finally, we have to explain why Japanese verbs such as *hashiru* are compatible with unbounded paths like *-e-mukatte* (toward). As discussed above, *hashiru* cannot take a bounded path *-e*. It is helpful here to look at the sentences cited from Helen Keller's *The Story of My Life*. She uses *feel* with the unbounded path *along*, as in (33a). What is interesting is that she uses the *way* construction when the verb *feel* takes a bounded path, as in (33b).

- (33) a. I used to feel along the square stiff boxwood hedges, and, guided by the sense of smell, would find the first violets and lilies.
- b. On entering the door, I remembered the doll I had broken. I felt my way to the hearth and picked up the pieces.

Klippel also uses the verb *eat* with *along*.

- (34) John ate along the river. (Klippel (1991: 29))

Based on these examples, I made sentences containing *feel*. Sentences (35) and (36) indicate that *feel* can take unbounded paths but when it takes a bounded path, it must occur in the *way* construction.

- (35) a. John felt around the tree.
 b. John felt toward the exit.
 c. John felt along the wall.
 (36) John felt his way to the exit.

It may be possible to assume that activity verbs and manner-of-motion verbs can be compatible with an unbounded path because unbounded paths represent a kind of region. Klipple (1991) calls unbounded paths discussed here frame locatives.

7. Verbs of Motion Reexamined

Based on the above observations, I assign the following LCSs to verbs of motion. It is important to notice that these LCSs will apply not only to English but also to other languages.

- (37) a.
$$\left[\begin{array}{l} \text{GO } ([_{\text{Thing}} \alpha], [_{\text{Path}} \text{ TO } ([_{\text{Thing/Place}} \text{]})]) \\ \langle [_{\text{WITH/BY}} [_{\text{MOVE}} ([_{\text{Thing}} \alpha])] \rangle \\ \text{Event} \quad \langle [_{\text{Path}'} \text{]} \rangle \end{array} \right]$$
- b.
$$\left[\begin{array}{l} \text{MOVE } ([_{\text{Thing}} \text{]}) \\ \text{Event} \quad \langle [_{\text{Path}'} \text{]} \rangle \end{array} \right]$$

In (37), < > notation indicates that the elements in it are optional. The conceptual category Path' stands for an unbounded path. Its argument-like structure is empty, because Path' may correspond to several structures including locatives. The fact that (37a) has the bounded path TO indicates that a goal reading has a special status in language. I assume that if a verb can take a bounded path, it can also take an unbounded path.

Let us look again at motion expressions in English, Japanese, French and Spanish.

- (38) a. John went to the station.
b. John ran to the station.
c. John danced into the room.
d. John joked his way into the room.
e. John danced in the room.
f. John ran toward the station.
g. John felt along the wall.
h. John walked around the lake to the restaurant.
- (39) a. John-wa eki-e itta.
John-Top station went
b. John-wa eki-e hashitte-itta.
John-Top station-to running-went
c. John-wa eki-e-mukatte hashitta.
John-Top station-toward ran
d. John-wa eki-made hashitta.
John-Top station-until ran
- (40) a. La fille est allée à la gare en dansant.
'The girl danced to the station.'
b. La fille a dansé vers le garçon.
'The girl danced towards the boy.'
c. La fille a dansé jusqu'à la gare.
'The girl danced to the station.' (Stringer (2001: 142))
- (41) a. La botella entró a la cueva (flotando). (Talmy (1985: 69))
'The bottle floated into the cave.'
b. La botella flotó hacia la cueva.
'The bottle floated towards the cave.'
c. Juan bailó hasta la puerta.
'John danced (all the way) to the door.' (Aske (1989: 3))

Sentence (38a) indicates that *go* corresponds to (37a) without a manner element. On the other hand, *run* in (38b) corresponds to (37a) with its manner element. *Dance* in (38c) corresponds to (37a) by the application of the GO Adjunct Rule.

It may be possible to assume that the *way*-construction also corresponds to (37a). English *dance* in isolation corresponds to (37b). In the case of (38f), the bounded path will be suppressed because an unbounded path is selected. (38g) corresponds to (37b) with an unbounded path. Finally, (38h) corresponds to (37a) with two paths.

How about Japanese? *Iku* in (39a) corresponds to (37a) without a manner element like English *go*. The compound predicate *hashitte-iku* in (39b) corresponds to (37a) like English *run*. *Hashiru* in (39c) corresponds to (37b) and takes the unbounded path *-e-mukatte*. (39d) contains the limit-marker *-made*. The same explanation is available for French and Spanish. Sentence (40a) corresponds to (37a). Sentence (40b) corresponds to (37b) and sentence (40c) contains a limit-marker. In Spanish, *entrar* in (41a) corresponds to (37a). Sentence (41b) corresponds to (37b) and (41c) contains a limit-marker.

8. Concluding Remarks

In this paper, we have examined motion events in English and Japanese. The above discussion demonstrates that path has to be reexamined on the basis of the concept of lexicalization. It has been taken for granted that prepositions are regarded as satellites, but we have to recognize that there is a difference between Talmy's and Jackendoff's frameworks. Within Jackendoff's (1990) framework, the event function GO, for example, requires path. He does not assume that path is encoded in the verb *go*. *Go* is different from *enter* in that the latter encodes INTO. This is why in English *enter* is inherently regarded as a transitive verb. We also have to pay attention to the difference between prepositions and postpositions. While English prepositions can have their own meanings, Japanese postpositions are dependent on the verb. Further, we have to take into consideration the fact that there are two types of rules in English which guarantees a motional reading: Path Compensation and the GO-Adjunct Rule. If this is the case, we need not introduce the type of manner-of-motion verbs which may unite our B-type and C-type verbs. Within our framework, there is a clear difference between them.

NOTES

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1 In Jackendoff (1990), the GO-Adjunct Rule is formulated as follows:

$$(i) \left[\begin{array}{l} \text{[}_{VP} \text{ V}_h \dots \text{PP]} \text{ may correspond to} \\ \text{GO ([}\alpha\text{], [}_{Path} \text{])} \\ \text{AFF ([} \text{]}_h^{\alpha} \text{)} \\ \text{Event [WITH/BY [MOVE ([}\alpha\text{])]}_h \end{array} \right]$$

AFF (AFFECT) is a function in the action tier and it designates how the action in the event affects the participant(s).

2 Natsuko Tsujimura (p.c.) told me that *sonoba-de hashiru* (run in place) is strange in Japanese. It is interesting that while English *run*, which is a verb of motion, can occur with *in place*, Japanese *hashiru* is not compatible with *sonoba-de*.

3 Recently, the term ‘manner-of-motion verb’ has been used in the literature, but I will not use it in my classification. This is because B-type and C-type verbs differ from each other crucially. Consider the following pair.

- (i) a. John ran in the room.
- b. John danced in the room.

While sentence (ia) could have a goal reading, sentence (ib) has a place reading predominantly.

4 Beavers (2008) and Beavers, Levin and Tham (2010), following Slobin (2004) discuss an equipollently-framed language in which both path and manner serve ‘equal’ encoding as main verbs. *2 rui-e suberi-komu* is a kind of a equipollently-framed expression. Japanese has lots of V+V compounds; for example, *kake-agaru* (run+go.up), *tobi-mawaru* (jump+go.around) (Beavers, Levin and Tham (2010: 354)) , in which the first verb represents manner and the second bears tense and aspect inflection. Beavers, Levin and Tham (2010) observe that Japanese has V+V compounds and a V-te-V complex predicates but that French does not.

5 TO in (18b), for example, indicates that the English verb *see* is a kind of motion verb. It is helpful here to look at the following sentence.

(i) I must have looked at that a dozen times, but I never saw it.

(Jackendoff (1983: 150))

It is possible to say that while *see* in (i) is similar to ‘recognize’, *look at* designates only an action.

6 LocNP stands for ‘Locative Noun Phrase’. For discussion, see Stringer (2007)

7 This section derives from discussion with David Stringer during my stay at Indiana University. It seems to me that the problem of NPs containing prepositions or postpositions needs further analysis.

8 The term ‘Path Compensation’ is due to Ono (2010).

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