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The Lexical Semantic Approach to
Particle *away* Constructions

A Thesis Submitted for the Degree of Doctor of
Philosophy,
Studies in Language and Culture,
Graduate School of Language and Culture,
Osaka University

by

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Chapter1

Introduction

The particle *away* has a wide variety of meanings depending on what it co-occurs with, as shown in the following examples.

- (1) a. Mary walked away.
b. Mary threw the ball away.
- (2) a. The hill falls away steeply.
b. The cliff slides away sharply.
- (3) a. Mary looked away.
b. Mary faced away.
- (4) a. The hotel is away from the beach.
b. Her birthday is three days away.
- (5) a. Mary put some money away.
b. Squirrels store nuts away for winter.
- (6) a. Mary gave her money away.
b. Mary gambled all her money away.
- (7) a. Mary brushed the dust away.
b. Mary slept the pain away.
- (8) a. Bill slept the afternoon away. (Jackendoff 1997b: 534)
b. Fred drank the night away. (Jackendoff 1997b: 535)
- (9) a. Her anger melted away.
b. Her body fat burned away.
- (10)a. Mary sang away.
b. Billy bashes away at the piano. (Jackendoff 1997b: 540)

The particle *away* means spatial movement in (1), the direction of slope in (2), the direction of one's gaze or face in (3), place in (4a), future time in (4b), storage in (5), donation in (6a), loss in (6b), removal in (7), waste of time in (8), disappearance in (9),

and continual aspect in (10). It is clear from these examples that *away* is polysemous. The meanings of *away* in the above examples are different but seem to be intuitively related in some way to the spatial meaning of *away* in (1). On the other hand, it seems difficult to relate the aspectual use of *away* like (10) with any of the other uses of *away*. In fact, the aspectual and directional uses of *away* are regarded as distinct senses by Jackendoff (1997b, 2002a). In addition, Jackendoff (1997b) points out that sentences like (8) have semantic content above and beyond what is contained in the syntactic constituents and have their own peculiar semantic restrictions. Therefore, such sentences are classified as ‘time’-*away* constructions and distinguished from resultative constructions with the same syntactic form like (7) due to the difference in semantics. Thus, *away* is also a constituent word of a peculiar construction called the ‘time’-*away* construction. The above observations could lead us to the following research questions: how is the interpretation of *away* determined? How are the different meanings of *away* related?

The aim of this dissertation is to elucidate the mechanism of how the interpretation of *away* is determined and to provide a unified explanation for the different meanings of *away*. As a theoretical tool to analyze the meanings of particle *away* constructions, I adopt Jackendoff (1990)’s theory of Conceptual Semantics.¹ This framework makes it possible to formalize how the meaning of *away* is integrated into the meanings of particle *away* constructions, to capture what is common among the different meanings of *away*, and furthermore to elucidate the mechanism of how the interpretation of *away* is determined. There is, however, a limit to the LCS-based semantic analysis. The Jackendovian approach cannot accommodate cases where the interpretation of *away* can change depending on context, as in the following:

- (11) a. Mary danced away.
 b. Mary danced away to her bedroom.
- (12) a. Mary jumped away.

¹ This dissertation claims that the meanings of particle *away* constructions are compositional and takes a different view from Construction Grammar theory in Goldberg (1995). She considers constructions (pairings of form and meaning) as the basic units of language and emphasizes that constructions per se carry meaning, as well as the words in the sentences.

b. Mary jumped away on the trampoline.

Away in (11a) has the aspectual meaning of continuation but assumes the meaning of spatial movement when a PP like *to her bedroom* as in (11b) is appended to the sentence. *Away* in (12a) has the meaning of spatial movement but takes on the aspectual meaning of continuation when a PP like *on the trampoline* as in (12b) is appended to the sentence. The Jackendovian approach also cannot account for the cases where the interpretation of *away* can change depending on what the subject NP is, as follows:

(13) a. The kettle whistled away.

b. The bullet whistled away.

(14) a. The sewing machine rattled away.

b. The truck rattled away.

Although the same VP is used in both (a) and (b) for the above examples, the interpretation of *away* is different for (a) and (b): *away* in (a) has the aspectual meaning of continuation while in (b) it has the meaning of spatial movement. This demonstrates that the Jackendovian approach cannot account for the fact that the interpretation of *away* changes depending on context or the subject NP. To solve this problem, I argue the necessity of introducing the theoretical framework of Generative Lexicon developed by Pustejovsky (1995).

The organization of this dissertation is as follows: Chapter 2 outlines the theoretical framework which is adopted in this dissertation, Jackendoff (1990)'s theory of Conceptual Semantics. Chapter 3 argues that the theoretical framework makes it possible to elucidate the mechanism of how the interpretation of *away* is determined and to clarify how different meanings of *away* are related. Simultaneously, I point out the problems and limitations of Jackendoff (1990)'s theory. Chapter 4 deals with the temporal use of *away* which Jackendoff (1997b) regards as the 'time'-*away* construction. Jackendoff (1997b: 555) regards the 'time'-*away* construction as a pairing of form and meaning. He points out that there are two insinuations and several semantic restrictions on the 'time'-*away*

construction. Takami (2015), however, refutes the validity of Jackendoff (1997b)'s analysis on the 'time'-*away* construction by providing many counterexamples. I demonstrate that Takami (2015)'s Functional/Semantic Constraint is also problematic, while attempting to elucidate how the 'time'-*away* construction is created and understood, why the 'time'-*away* construction has its own peculiar semantic properties, and why Takami (2015)'s analysis conflicts with Jackendoff (1997b)'s. Chapter 5 deals with sentences including aspectual *away*, and I show that there is no theoretical consistency between the explanation of aspectual *away* provided by Jackendoff (1997b, 2002a) and the GO-Adjunct Rule proposed by Jackendoff (1990: 224) and therefore there is a case where *away* is incorrectly interpreted by the adjunct rule. Furthermore, I show that the Jackendovian theoretical framework cannot account for how context or the subject NP influences the interpretation of *away*. To solve these problems, I propose more elaborate semantic representations into which the Jackendovian semantic representations are incorporated by introducing Pustejovsky (1995)'s theoretical framework and demonstrate that the richer semantic representations and the operation of co-composition make it possible to provide correct interpretations for sentences including the aspectual *away*. I also attempt to formalize the mechanism of how context and subject NPs affect the semantic interpretation of *away*. Chapter 6 is the conclusion of this dissertation and remaining issues.

Chapter 2 Theoretical Framework

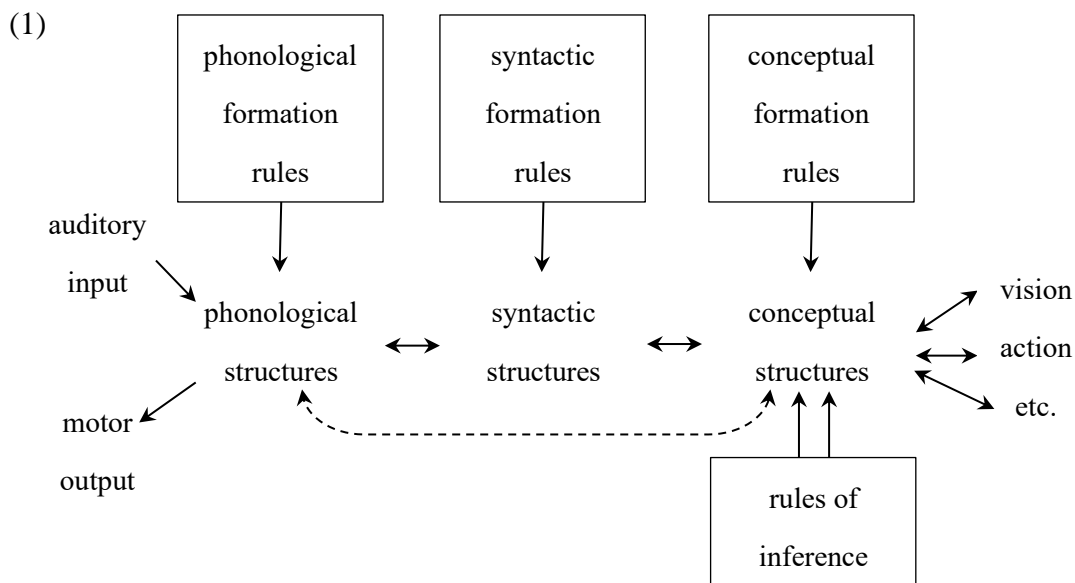
2.1 Introduction

The aim of this chapter is to introduce the theoretical framework which is adopted in this thesis. The following sections provide a brief outline of Jackendoff's framework, focusing on the Parallel Architecture, conceptual structure, and correspondence rules proposed by Jackendoff (1990).

2.2 Parallel Architecture

Why can humans create and interpret an infinitely large variety of sentences even if they have not previously heard them? Jackendoff (1990: 9) develops the theory of Conceptual Semantics under the following hypotheses: sentences and sentential concepts cannot be listed in the lexicon but are generated and understood on the basis of a finite set of primitives and principles of combination. In addition, lexical concepts cannot be also encoded as lists of instances but consist of finite schemas which are compared to arbitrary novel objects to determine whether they matches. The primary concerns of the theory are the level of conceptual structure and the formal relation among phonological, syntactic, and conceptual structures.

Figure in (1) is the Parallel Architecture (an overall organization of the mental information structure which is involved in language) proposed by Jackendoff (1990: 16).



(Jackendoff 1990: 16)

Jackendoff (1990: 16) does not preserve Chomsky's syntactocentrism, the assumption that phonology and semantics are derived from syntax, but instead claims that phonology, syntax, and semantics are autonomous with their own characteristic primitives and principles of combination. The mental information structure shown in Figure in (1) is invoked when language users generate and understand sentences. The three levels of structure are generated by each formation rule.

Each level of the three structures is linked by sets of correspondence rules. Let us consider the following syntactic and phonological structures.

(2) a. Syntactic structure

[_{NP} This] [_{VP} is [_{NP} the cat [_{CP} that [_{VP} caught [_{NP} the rat
[_{CP} that [_{VP} stole [_{NP} the cheese]]]]]]]]]]

b. Phonological structure

[_{IntPhr} This is the cat] [_{IntPhr} that caught the rat] [_{IntPhr} that stole the cheese]

(Jackendoff 2002b: 119)

The linear order is the same for both the syntactic and phonological structures. On the

other hand, the places where syntactic phrases are divided are different from those of phonological phrases as shown in (2). This is due to the difference in formation rules. The syntactic structure is linked to the phonological structure by one set of correspondence rules.

Conceptual structure is also linked to syntactic structure by the following general correspondence rule.

$$(3) \left(\begin{array}{c} X^0 \\ \text{---} \end{array} \langle YP \langle ZP \rangle \rangle \right) \text{ corresponds to } \left(\begin{array}{c} \text{Entity} \\ F \end{array} (\langle E_1 \rangle , \langle E_2 \langle E_3 \rangle \rangle) \right)$$

where YP corresponds to E_2 , ZP corresponds to E_3 , and the subject (if there is one) corresponds to E_1 .

(Jackendoff 1990: 25)

Let us examine the following syntactic and conceptual structures.

(4) a. Syntactic structure

[_S[_{NP} John] [_{VP} ran [_{PP} into [_{NP} the room]]]]

b. Conceptual structure

[_{Event} GO ([_{Thing} JOHN], [_{Path} TO ([_{Place} IN ([_{Thing} ROOM]))])]]

(Jackendoff 1990: 45)

The syntactic arguments in (4a) correspond to the conceptual arguments in (4b) by means of the correspondence rule given in (3). The whole sentence corresponds to the entire Event, the verb corresponds to the Event-function GO, the PP corresponds to the Path argument of GO, and the subject corresponds to the Thing argument of GO.

Phonological and conceptual structures serve as an interface between linguistic domain and nonlinguistic domain. Phonological structures interface with the auditory and motor peripheries. Conceptual structures interface with nonlinguistic information such as

vision and action. In contrast, syntactic structures are not linked to nonlinguistic domain but are just regarded as a way station between phonological and conceptual structures.

The dashed line in Figure in (1) indicates cases where aspects of meaning are determined directly by phonological structure without the intervention of syntactic structure. Let us look at (5).

- (5) a. yes, no
b. hello, goodbye, thanks
c. ouch, oops, wow, phoey, hooray, gadzooks, oboy, oy vey, dammit, shit, yuck, upsey-daisy
d. hey, fiddlesticks, pshaw, humph, oo-la-la
e. shh, psst, tsk-tsk
f. abracadabra, hocus-pocus
g. bow-wow, cockadoodledoo

(Jackendoff 2002b: 131,132)

The words are meaningful utterances on their own but cannot combine with any other words. The conceptual structures of the words are directly linked to their phonological structures.

Next, let us consider a component called rules of inference in Figure in (1). Inferences are not freely performed but are defined based on the whole configurations of conceptual structures. Rules of logical inference, rules of invited inference, pragmatics, and heuristics are all encompassed in this component. Inference rules also serve as mapping of a conceptual structure into another conceptual structure. (6) is an example of inference rules.

- (6) At the termination of [_{Event} GO ([X], [_{Path} TO ([Y]))],
it is the case that [_{State} BE ([X], [_{Place} AT ([Y]))].

(Jackendoff 1990: 27)

The above inference rule enables us to infer that the terminal state of the *go*-sentence in (7a) corresponds to the meaning of the *be*-sentence in (7b).

- (7) a. The bird went from the ground to the tree.
b. The bird is in the tree.

(Jackendoff 1990: 25)

In the following chapter, I will argue that there are cases where an inference rule is necessary for particle *away* constructions to receive accurate interpretations.

2.3 Conceptual Structure

Conceptual structure is a level of mental representation, which is regarded as forms encoding speakers' construal of the world. The basic units of conceptual structure are conceptual constituents, which belong to conceptual categories such as Event, State, Action, Thing, Place, Path, Property, and Amount. The conceptual categories are represented by a combination of conceptual functions such as CAUSE, GO, BE, ORIENT, VIA, FROM, TO, and AT and their arguments. Jackendoff (1983: 188, 1990: 25) represents conceptual structure, based on Gruber (1965)'s Thematic Relations Hypothesis:

(8) Thematic Relations Hypothesis (TRH)

In any semantic field of [EVENTS] and [STATES], the principal event-, state-, path-, and place-functions are a subset of those used for the analysis of spatial location and motion. Fields differ in only three possible ways:

- a. what sorts of entities may appear as theme;
- b. what sorts of entities may appear as reference objects;
- c. what kind of relation assumes the role played by location in the field of spatial expressions.

(Jackendoff 1983: 188)

The above conceptual structures are different in terms of the semantic field features. The semantic field in (11a) is spatial; the one in (11b) is possessional; the one in (11c) is identificational. The difference of the semantic fields results from what counts as an entity traversing a Path. In the spatial field, it is counted as a spatially moving Thing; in possessional, it is counted as a possession; in identificational, it is counted as a Thing with a property. The conceptual structures in (11) enables us to capture the conceptual difference as well as the conceptual parallelism among the sentences in (10). It is clear from the conceptual structures in (11) that the different meanings of *go* are represented by a common conceptual structure. In the following chapters, I will argue that the polysemous meanings of *away* are also represented by a common conceptual structure.

2.4 Correspondence Rules

2.4.1 Argument Fusion

Jackendoff (1990: 53) proposes the rule of Argument Fusion as a machinery for relating the syntactic arguments in a head verb to the conceptual arguments of the conceptual structure.

(12) Argument Fusion

To form the conceptual structure for a syntactic phrase XP headed by a lexical item H:

- a. Into each indexed constituent in H's LCS, fuse the conceptual structure of that phrase YP that satisfies the coindexed position in H's subcategorization feature.
- b. If H is a verb, fuse the conceptual structure of the subject into the constituent indexed *i* in H's LCS.

(Jackendoff 1990: 53)

The readings of syntactic arguments are integrated with the co-indexed conceptual arguments of the conceptual structure of a verb by means of Argument Fusion.

Let us see Jackendoff (1990: 54)'s explanation of how Argument Fusion applies in the following examples.

- (13) a. Harry drank the wine.
 b. Harry drank it.
 c. Harry drank.

(Jackendoff 1990: 54)

The following lexical entry is assumed for *drink*.

- (14) $\left[\begin{array}{l} \text{drink} \\ \text{V} \\ \text{_____} \langle \text{NP}_j \rangle \\ [\text{Event CAUSE} ([\text{Thing} \quad]_i, [\text{Event GO} ([\text{Thing LIQUID}]_j, \\ \quad \quad \quad [\text{Path TO} ([\text{Place IN} ([\text{Thing MOUTH OF} ([\text{Thing} \quad]_i)])])])])]) \end{array} \right]$

In the lexical entry, the conceptual information LIQUID is already embedded in the Thing argument of GO. In (13a), the direct object *wine* carries the feature LIQUID and matches the co-indexed constituent $[\text{Thing LIQUID}]_j$ in (14) and therefore is allowed to fuse with the constituent. In (13b), the reading of the pronoun is fused with j -indexed constituent. As a result, the direct object is interpreted as a contextually specific liquid. Next, (13c) has no NP which is fused with the j -indexed constituent and hence the reading of liquid is inherited only from the conceptual structure of the verb.

Argument Fusion can also provide a theoretical account for why the following example cannot be interpreted felicitously.

- (15) Harry drank the powder. (Jackendoff 1990: 54)

Again, the direct object of *drink* is semantically restricted to liquid, as shown in (14).

When the reading of the direct object *the powder* in (15) is fused with the co-indexed Thing argument, the feature SOLID carried by *powder* clashes with the semantic information LIQUID which is already present in the Thing argument of the verb. It becomes clear that the direct object in (15) violates the semantic restriction when Argument Fusion applies to the VP. Argument Fusion makes it clear that the direct object in (15) violate the semantic restrictions on the direct object of the verb.

2.4.2 Adjunct Rules

Jackendoff (1990: 158) argues that subcategorized arguments of a verb are integrated into the interpretation of the VP by Argument Fusion. On the other hand, non-subcategorized phrases such as place, path and resultative phrases are integrated into the interpretations of sentences not by Argument Fusion but by alternative correspondence rules.

Let us examine the following examples.

- | | |
|----------------------------------------------|------------------------|
| (16) a. Sam threw the ball to Sandy. | (Jackendoff 1990: 198) |
| b. Willy wiggled out the hole. | (Jackendoff 1990: 89) |
| c. The critics laughed the show out of town. | (Jackendoff 1990: 233) |

The PP *to Sandy* in (16a), the PP *out the hole* in (16b), and the NP *the show* and the PP *out of town* in (16c) are not subcategorized by the verbs but can appear in the VPs. Jackendoff (1990) calls them adjuncts and proposes that they are integrated into the interpretations of the sentences by means of the following adjunct rules: (16a) is interpreted by the PP-Adjunct Rule; (16b) is interpreted by the GO-Adjunct Rule; (16c) is interpreted by the Spatial Resultative Adjunct Rule.

(17) PP-Adjunct Rule

If V corresponds to [. . . GO/BE (. . . , [X]) . . .], with [X] unindexed, and PP corresponds to [Y],

then [s . . . [VP V . . . PP . . .] . . .] may correspond to

[. . . GO/BE (. . . , $\begin{pmatrix} X \\ Y \end{pmatrix}$) . . .], where $\begin{pmatrix} X \\ Y \end{pmatrix}$ is distinct from [X].

(Jackendoff 1990: 170)

(18) GO-Adjunct Rule

[VP V_h . . . PP] may correspond to

$\left(\begin{array}{l} \text{GO} ([\alpha], [\text{Path} \quad]) \\ \text{AFF} ([\quad]^{\alpha_i}, \quad) \\ [\text{WITH}/\text{BY} [\text{MOVE} ([\alpha])]_h] \end{array} \right)$

(Jackendoff 1990: 224)

(19) Spatial Resultative Adjunct Rule

[VP V_h NP_j PP_k] may correspond to

$\left(\begin{array}{l} \text{CAUSE} ([\alpha], [\text{GO} ([\beta], [\quad]_k)]) \\ \text{AFF}^- ([\quad]^{\alpha_i}, [\{\alpha\}]^{\beta_j}) \\ [\text{BY} [\text{AFF}^- ([\alpha], \{[\beta]\})]_h] \end{array} \right)$

(Jackendoff 1990: 234)

The PP-Adjunct Rule applies when GO-verbs and BE-verbs co-occur with an optional PP; the GO-Adjunct Rule applies when MOVE-verbs co-occur with a Path expression; the Spatial Resultative Adjunct Rule applies when a VP of the form [V NP PP] does not match the argument structure of the head verb and the verb is also an AFF-verb.

If these adjunct rules do not exist, non-subcategorized phrases such as place, path, and resultative phrases must be included in the lexical entries of verbs. Hence, adjunct

rules contribute to the simplicity of lexical entries. I will provide detailed explanations of the adjunct rules in the following chapter.

2.5 Conclusion

In this chapter, I have briefly sketched out the theoretical framework which is adopted in this thesis, Jackendoff's theory of Conceptual Semantics. In the following chapter, I will demonstrate that the theory enables us to formalize how the meaning of *away* is integrated into the meanings of particle *away* constructions and to capture what is common among the different meanings of *away*. I will also show that the theory contributes toward elucidating the mechanism of how the interpretation of *away* is determined.

Chapter 3

A Wide Variety of Meanings of *away* in Particle *away* Constructions

3.1 Introduction

The particle *away* has a wide variety of meanings depending on what it co-occurs with, as shown in the following examples.

- (1) a. Mary walked away.
b. Mary threw the ball away.
- (2) a. The hill falls away steeply.
b. The cliff slides away sharply.
- (3) a. Mary looked away.
b. Mary faced away.
- (4) a. The hotel is away from the beach.
b. Her birthday is three days away.
- (5) a. Mary put some money away.
b. Squirrels store nuts away for winter.
- (6) a. Mary gave her money away.
b. Mary gambled all her money away.
- (7) a. Mary brushed the dust away.
b. Mary slept the pain away.
- (8) a. Her anger melted away.
b. Her body fat burned away.
- (9) a. Mary sang away.
b. Billy bashes away at the piano. (Jackendoff 1997b: 540)

The particle *away* means spatial movement in (1), the direction of slope in (2), the direction of one's gaze or face in (3), place in (4a), future time in (4b), storage in (5),

donation in (6a), loss in (6b), removal in (7), disappearance in (8), and continual aspect in (9). The different meanings of *away* in the above examples intuitively appear to be related to each other though not identical. Simultaneously, it seems to be difficult to relate the aspectual meaning of *away* in (9) to any of the other meanings. In fact, the directional and aspectual meanings of *away* are treated as different distinct senses in Jackendoff (2002: 77). Now, what explanation can be given of the relationship among the various meanings of *away*? Is it best to list all the possible senses of *away* in the lexicon? If so, it is clearly contrary to the economy principle in language or the simplicity of lexical items.

The aim of this chapter is to elucidate the mechanism of how the interpretation of *away* is determined and to seek the commonalities among the different meanings of *away* in particle *away* constructions. To achieve this aim, I adopt the theoretical framework of Conceptual Semantics developed by Jackendoff (1990) and analyze how different examples of particle *away* constructions are interpreted under the theoretical framework.

This chapter is organized as follows. In Section 2, I propose the lexical conceptual structure of *away*. In Section 3, I explore how the lexical conceptual structure of *away* is integrated into the whole conceptual structure of sentences and how the interpretation of *away* in particle *away* constructions is determined. In Section 4, I point out that some problems arise when analyzing particle *away* constructions based on Jackendoff (1990)'s theory and propose some solutions. Section 5 presents my conclusion.

3.2. The Lexical Conceptual Structure of *away*

In this section I examine the semantic property of *away* in detail and propose the LCS of *away* and its lexical entry. First let us look at the following examples.

- (10) a. The criminal ran away from the scene.
b. The criminal ran away.
- (11) a. Mary pushed the box away from her foot.
b. Mary pushed the box away.

The *from*-phrase in (10a) and (11a), indicates the point at which the movement of the criminal and the box is initiated. Even if a *from*-phrase does not follow *away* as in (10b) and (11b), the criminal is still understood to have run away from a reference point and Mary is still understood to have pushed the box away from a reference point. It follows that the Source concept of ‘from a reference point’ is lexicalized in *away*. The reference point is the point of reference intended by the speaker (or the conceptualizer). The reference point is determined by the speaker and is variable depending on each individual case. However, the hearer is able to understand the intended reference point from the surrounding context. In the cases of (10b) and (11b), the reference point is not syntactically expressed but can be understood as the place where the criminal or the box was before moving from the surrounding context.

Next, let us consider the following examples.

- (12) a. The hotel is 3 kilometers away from the airport.
 b. The hotel is away from the beach.
- (13) a. Mary swam a few meters away from the boat.
 b. Mary swam away from the boat.

Measure phrases such as *3 kilometers* and *a few meters* specify a distance from the source as shown in (12a) and (13a). On the other hand, even if such a measure phrase is absent syntactically, the sentences in (12b) and (13b) still mean that the subject *the hotel* in (12b) is located at an unspecified distance from the source *the beach* and the subject *Mary* in (13b) moved to an unspecified distance from the source *the boat* by (or while) swimming. It follows that the Goal concept of ‘to an unspecified distance’ is lexicalized in *away* itself. It follows from these observations that the Path concept of ‘from a reference point to an unspecified distance’ is lexicalized in *away*. In light of this observation, I propose (14) as the LCS of *away*.

- (14) The LCS of *away*: $\left[\begin{array}{l} \text{FROM ([Place A REFERENCE POINT])} \\ \text{Path TO ([Place AN UNSPECIFIED DISTANCE])} \end{array} \right]$

The LCS of *away* expresses a path which extends from a reference point to an unspecified distance. As shown in (14), the LCS of *away* is itself composite, consisting of two Path-functions, FROM and TO, and their semantic arguments. A Path-function FROM expresses a SOURCE, from which motion originates. A Path-function TO expresses a Goal, at which motion terminates. The conceptual information, A REFERENCE POINT and AN UNSPECIFIED DISTANCE, is lexically embedded as the argument of FROM and TO, respectively.

It should be noted that the LCS of *away* proposed here seems to be considerably different from the one given by Jackendoff (1983, 1990), who treats *away* itself as a conceptual primitive AWAY. However, I assert that the LCS of *away* proposed here is just an elaborate version of the primitive AWAY and has the same concept as the primitive AWAY. There are two reasons for adopting (14) as the lexical representation of *away* instead of the primitive AWAY in the present analysis.

Firstly, (14) makes it clear how it is conceptually distinct from other particles like *out* or *off*. The particles *out* and *off* are similar to *away* in that they express a movement from a place or a thing. Strictly speaking, however, there is a conceptual difference between *out* and *away* and between *off* and *away*. According to Rudzka-Ostyn (2003: 14), the particle *out* involves the concept of a container and means the movement of an object out of the container. Hence, *out* is used in a situation where someone or something moves out of an enclosed area as in (15a) while *away* does not include the concept of a container and just means the movement from a reference point to an unspecified distance as in (15b).

(15) a. As the fire was spreading, we knocked out a window and jumped out.

(Rudzka-Ostyn 2003: 15)

b. As the fire came closer, we jumped away.

Next, Rudzka-Ostyn (2003: 121) points out that *away* emphasizes distance and lack of ready access and thus the cap in (16a) is out of the man's reach and cannot be retrieved while *off* includes the concept of loss of contact with a surface in the meaning and thus

off in (16b) expresses that her pajamas are within her reach.

- (16) a. It's a pity you threw away your cap. (Rudzka-Ostyn 2003: 121)
b. She threw off her pajamas and slipped into her work clothes.

Thus, each of the three particles has its own particular concept. The primitives OUT, OFF, or AWAY are not enough to discern the particles conceptually. It follows from this observation that more elaborate semantic representations are necessary to distinguish the differences in concept among the three particles. At least, regarding *away*, (14) can serve the purpose and is considered to be superior to the primitive AWAY.²

Secondly, (14) helps to make explicit what *away* and transitive PPs have in common and what is different between them. Although both *away* and transitive PPs like *into the house* are Path expressions, *away* itself, unlike transitive prepositions such as *into*, cannot take a direct object NP as shown in (17b), while a transitive preposition, unlike *away*, cannot be used by itself as shown in (18a).

- (17) a. Mary walked away.
b. *Mary walked away the house.
- (18) a. *Mary walked into.
b. Mary walked into the house.

It is shown that *away* is different from transitive prepositions like *into* in (17b) in terms of the subcategorization frame. Let us examine the lexical entry of *into* proposed by Jackendoff (1990: 45).

² I withhold the proposal of LCSs of *out* or *off* because I need to conduct an exhaustive investigation to confirm the validity of the proposal.

(19) The lexical entry of *into*

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

(Jackendoff 1990: 45)

The LCS in (19) shows that the indexed argument position is open and must be substituted with the reading of the direct object NP. On the other hand, the LCS of *away*, unlike that of *into*, has no indexed open conceptual argument as shown in (14). The reason why the conceptual arguments of *away* are unindexed is because the conceptual information, A REFERENCE POINT and AN UNSPECIFIED DISTANCE, is already embedded within the Place-constituents of FROM and TO, respectively. Thus, the LCS of *away* given in (14) enables us to capture the difference in subcategorization frame between *away* and transitive prepositions like *into*. Furthermore, the LCS of *away* given in (14) enables recognition of the similarity between *away* and transitive prepositions like *into*. The direct object of transitive PPs serves as a reference object. Although *away* does not take the direct object, the Source argument of *away* also plays the role of reference point. Thus, *away* is similar to transitive PPs in that it has a referential function. (14) makes it explicit that the Source argument of *away* plays the same referential role as the direct object of transitive PPs. These considerations support the validity of adopting (14) as the LCS of *away*.

Next, let us consider the part of speech of *away*. Jackendoff (1973) regards particles such as *away*, *down*, *up*, *out*, *over*, and *through* as types of preposition, namely intransitive prepositions. Aside from these, locational and directional adverbs such as *there*, *outside*, *upstairs*, and *downstairs* are also regarded as intransitive prepositions. Intransitive prepositions differ from transitive prepositions like *at*, *from*, and *into* in that they do not take an object. However, some commonalities among transitive PPs, particles, and locational and directional adverbs confirm the validity of classifying particles and locational and directional adverbs into the same category “PP” as transitive PPs.

Let us survey some of the commonalities pointed out by Jackendoff (1973). First, the verb *put* cannot be used with only a direct object as shown in (20a), requiring after the direct object a locational or directional expression as shown in (20b).³

(20) a. *Irving put the book.

b. Irving put the books {
on the shelf.
there.
away.

(Jackendoff 1973: 346)

Locational and directional expressions which can appear in the same syntactic position as a transitive PP are a locational and directional adverb or a particle, as shown in (20b). Jackendoff (1973: 346) points out that if the three are analyzed as the same category of PPs rather than distinct categories, the strict subcategorization frame of the verb *put* can be more simplified.

Next, it is pointed out that locational and directional transitive PPs, locational and directional adverbs and particles are the only constituents which are preposed at the beginning of sentences and can cause inversion of an intransitive verb with the subject as shown in (21).

(21) a. Into the opera house raced Harpo. (Jackendoff 1973: 346)

b. Downstairs rolled the two screaming dentists. (Jackendoff 1973: 347)

c. Away flew the remnants of your tattered hat. (Jackendoff 1973: 347)

³ However, particles are different from transitive PPs and locational and directional adverbs in that they can precede the direct object of a verb. In general, the inversion of the direct object and a particle arises from factors such as the length of the direct object, whether the direct object is a pronoun, the effect of discourse, etc. Regardless, however, of whether the inversion of the direct object and a particle occurs or not, the two syntactic structures correspond to the same conceptual structure. Hence, the present study does not take into account the inversion and deals only with the word order of [V NP Particle].

Finally, directional transitive PPs, directional adverbs, and particles are the only constituents which can be followed by *with* and a definite NP.

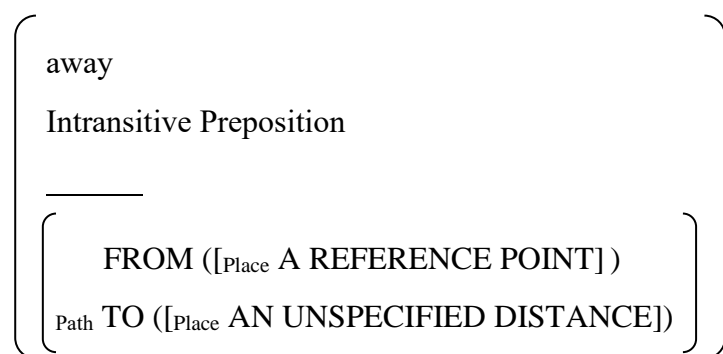
- (22) a. Down the well with your money!
 b. Upstairs with these noisy machines!
 c. Away with the evidence!

(Jackendoff 1973: 347)

From these observations it is clear that particles and locational and directional adverbs can appear in the same syntactic position as transitive PPs. Jackendoff (1973: 347) claims that if the three are analyzed in the same category of PPs, the rules that form curious constructions like (21) and (22) are more simplified. The facts that particles occupy the same syntactic position as transitive PPs in sentences like (20)-(22) and that they have the same directional and locational meanings as transitive PPs support the validity of treating particles and locational and directional adverbs as the category “PP”.

Following Jackendoff (1973), the present study classifies *away* into the same category “PP” as transitive PPs and regards *away* as an intransitive preposition. Unlike transitive PPs, *away* cannot take a direct object and therefore the internal structure of the PP includes P alone and has no complement. In light of these observations, the present study proposes (23) as the lexical entry of *away*.

(23) The lexical entry of *away*



Away is an intransitive preposition and takes no complement. The syntactic structure

corresponds to the lexical conceptual structure. Unlike transitive prepositions, the intransitive preposition *away* takes no obligatory argument. The conceptual constituents are unindexed. Conceptual information, A REFERENCE POINT and AN UNSPECIFIED DISTANCE, is already embedded in the Place arguments of FROM and TO, respectively. In the following sections, I will explore how the LCS of *away* proposed in (14) is integrated into the conceptual structures of particle *away* constructions.

3.3 A Wide Variety of Meanings of *away*

This section explores how *away* interacts and combines with the other constituent words in particle *away* constructions at the level of conceptual structure by using the theoretical framework proposed by Jackendoff (1990) and attempts to formalize the mechanism of how the meaning of *away* in particle *away* constructions is determined.⁴ The following subsections are organized according to which correspondence rule enables the LCS of *away* to be integrated into the whole conceptual structures of sentences.

3.3.1 Argument Fusion

This subsection concerns the case where the LCS of *away* is incorporated into conceptual structures of sentences by Argument Fusion proposed by Jackendoff (1990). First, let us consider the following example.

(24) Mary went away.

The above sentence means ‘Mary left a place’ and in this case *away* has the meaning of spatial movement. The verb *go* in (24) denotes an inherently directed motion. (25) is the

⁴ The present research deals only with the word order of ‘V NP away’ when the verb is followed by the direct object and *away*. Again, regardless of whether the inversion of the direct object and *away* occurs or not, the syntactic structures correspond to the same conceptual structure. The present research is chiefly interested in examining what conceptual structure different examples of particle *away* constructions have and therefore does not take into consideration the inversion of the direct object and *away*.

lexical entry of *go* proposed by Jackendoff (1990: 57).

$$(25) \left[\begin{array}{c} \text{go} \\ \text{V} \\ \text{--- PP}_j \\ \text{[Event GO ([Thing }]_i, [\text{Path }]_j)] \end{array} \right] \quad (\text{Jackendoff 1990: 57})$$

The subcategorization frame in (25) stipulates that the verb takes an obligatory PP argument. The PP may be either a transitive PP or an intransitive preposition. The LCS of *go* consists of an EVENT-function GO and its two arguments, a Thing and a Path. The subject and the PP are co-indexed i, j with the Thing and Path arguments, respectively. The LCS means that a Thing traverses a Path.

Now, let us examine how the readings of *Mary* and *away* in (24) are integrated with conceptual constituents in the LCS of *go*. By Argument Fusion, the reading of *Mary* is substituted for the Thing constituent indexed i in the verb's LCS. *Away* is an intransitive preposition, so the reading of *away* is substituted for the Path constituent indexed j . (26) is the conceptual structure for (24).

$$(26) \text{ [Event GO}_{\text{Spatial}} \text{ ([Thing MARY],} \\ \left[\begin{array}{c} \text{FROM}_{\text{Spatial}} \text{ ([Place A REFERENCE POINT])} \\ \text{Path TO}_{\text{Spatial}} \text{ ([Place AN UNSPECIFIED DISTANCE])} \end{array} \right])]}$$

The Thing argument of GO, *Mary*, is a spatially moving object, so the semantic field in (26) is spatial. *Away* serves as the spatial path which *Mary* traverses at the level of conceptual structure. (26) means that *Mary* goes from a reference point to an unspecified distance. In this case, the reference point is unspecified but we can infer that the reference point is the place where *Mary* was before moving.

Let us continue with the following examples.

- (27) a. The smile went away.
b. The fear went away.

Although the VP *go away* in (27) is the same as that of (24), *away* in (27) does not signify a spatial movement, but rather a disappearance. It must be noted that the subjects in (27), *the smile* and *the fear*, indicate a visible facial expression and an invisible feeling respectively, and are not spatially movable objects. Nevertheless, the subjects in (27) co-occur with the VP *go away*. How can the subjects in (27) co-occur with the VP? A similar phenomenon is observed in the following examples.

- (28) a. The tide ebbed away.
b. Her strength ebbed away.

Away in (28a) means a spatial movement while *away* in (28b) means a disappearance. The subject in (28b), unlike that in (28a), is not actually a spatially movable object. Interestingly, in this case, the verb *ebb* itself has not only the meaning of spatial movement but also the meaning of disappearance. It is no accident that VPs which denote a spatial movement can also express the concept of disappearance depending on the co-occurring subject. A possible cause for this phenomenon is that disappearance is conceptualized as movement away from a place. It should be noticed that the VP *ebb away* in not only (28a) but also in (28b) can be followed by a *from*-phrase which expresses a source of movement, as follows:

- (29) a. The tide ebbed away from the shore.
b. Her strength ebbed away from her.

The same holds true for (27), as shown in (30).

- (30) a. The smile went away from her face.

b. The fear went away from her mind.

The fact that these VPs can be followed by a *from*-phrase when they indicate a disappearance serves as a further evidence that supports the validity of the conceptualization of disappearance as movement away from a place. These considerations lead us to confirm that disappearance is conceptualized as movement away from a place and thus the event of disappearance should be represented using the same conceptual structure as the event of movement away from a place. The following is the conceptual structure for the sentences in (27).⁵

(31) [Event GO_{Spatial} ([Thing SMILE/FEAR],

$$\left[\begin{array}{l} \text{FROM}_{\text{Spatial}} ([\text{Place A REFERENCE POINT}]) \\ \text{Path TO}_{\text{Spatial}} ([\text{Place AN UNSPECIFIED DISTANCE}]) \end{array} \right)]]$$

As shown in (31), the conceptual structure of (27) is exactly the same as that of (24). Again, the subjects in (27), *the smile* and *the fear*, unlike the subject *Mary* in (24), are not actually spatially movable objects. The problem is that the meaning of disappearance of the VP in (27) cannot be obtained directly from the conceptual structure in (31) itself.

How is the meaning of disappearance brought about? In general, it is known that an object no longer exists in the place where it was before if it moves from a place to another. The following inference rule reflects this common knowledge.

(32) At the termination of [Event GO ([Thing X], [Path FROM ([Place Y]) TO ([Place Z])])],
 it is the case that [State NOT BE ([X], [Place AT ([Y])])].

The first conceptual structure in (32) expresses the movement of an object from a place

⁵ The sentences in (27), unlike the sentences in (30), do not have a *from*-phrase. Hence, the reference point is unspecified in the conceptual structure as shown in (31) but we can infer that the reference point is her face and her mind.

to another. The second conceptual structure means ‘the object is not in the previous position’ and expresses disappearance. The inference rule shows that the first conceptual structure logically entails the second conceptual structure. I contend that the concept of disappearance can be always obtained from the first conceptual structure in (32) through the inference rule.

Taking into consideration the inference rule, let us reconsider how the meanings of sentences in (27) are obtained. Again, the subjects *the smile* and *the fear* in (27) are not regarded as spatially movable objects. Hence, *away* in (27) is blocked from being interpreted as a spatial movement. On the other hand, the conceptual structure in (31) matches the first conceptual structure in the inference rule in (32). It follows that the concept of disappearance is obtained from (31) through the inference rule in (32). Thus, *away* in (27) assumes the meaning of disappearance. It has been shown that *away* has the same semantic structure at the level of conceptual structure regardless of whether *away* means spatial movement or disappearance.

Next, let us consider the following examples.

- (33) a. The tiles fell away.
b. The hill fell away.

Although the same VP is used in (33), the meaning of *away* is different between (a) and (b); *away* in (a) means the spatial movement of the tiles while *away* in (b) means the direction of slope of the hill. What causes the difference? First let us focus on the verb *fall*. The verb *fall* is similar with the verb *go* in that it is a verb of inherently directed motion and takes a Thing and a Path argument. However, the verb *fall* differs from the verb *go* in that the path is lexically restricted to “in a downward direction”. Taking these into account, I propose (34) as the lexical entry of the verb *fall*.

$$(34) \left(\begin{array}{l} \text{fall} \\ \text{V} \\ \text{--- PP}_j \\ \\ \left[\text{Event GO} \left(\left[\text{Thing } \right]_i, \left[\text{Path } \left[\text{Path } \right]_j \right] \right) \right] \end{array} \right)$$

The subject is co-indexed i with the Thing constituent and the PP is co-indexed j with the Path constituent. The PP must be compatible with the semantic restriction on the Path, in a downward direction. The intransitive preposition *away* is a PP and does not conflict with the semantic restriction on the Path constituent of *fall* but instead further specifies the path. Hence, the reading of *away* can be fused with the Path indexed j . The following conceptual structures are for (33).

(35) a. [Event GO_{Spatial} ([Thing TILES]

$$\left(\begin{array}{l} \text{DOWNWARD}_{\text{Spatial}} \\ \\ \left(\begin{array}{l} \text{FROM}_{\text{Spatial}} \left(\left[\text{Place A REFERENCE POINT} \right] \right) \\ \text{Path TO}_{\text{Spatial}} \left(\left[\text{Place AN UNSPECIFIED DISTANCE} \right] \right) \end{array} \right) \end{array} \right) \text{Path} \right)$$

b. [Event GO_{Ext} ([Thing HILL]

$$\left(\begin{array}{l} \text{DOWNWARD}_{\text{Ext}} \\ \\ \left(\begin{array}{l} \text{FROM}_{\text{Ext}} \left(\left[\text{Place A REFERENCE POINT} \right] \right) \\ \text{Path TO}_{\text{Ext}} \left(\left[\text{Place AN UNSPECIFIED DISTANCE} \right] \right) \end{array} \right) \end{array} \right) \text{Path} \right)$$

The subject *the tiles* in (35a) is a spatially moving object, so the semantic field is spatial.

On the other hand, the subject *the hill* itself in (35b) cannot move, but our survey from the top of the hill to the bottom allows us to perceive *the hill* as an extended object. As a result, the semantic field of (35b) becomes ‘ext’, the abbreviation of extension. (35b) means ‘the hill extends downward from a reference point to an unspecified distance’. In contrast, (35a) means ‘the tiles go downward from a reference point to an unspecified distance’. The reference point in (35) is unspecified but we can infer that the reference point in (35a) is the place where the tiles were before moving and that of (35b) the top of the hill. *Away* in (35a) serves as a spatial path while *away* in (35b) serves as an extensional path. As a result, the former has the meaning of spatial movement and the latter has the meaning of direction of slope. It is shown that the difference of the meanings of *away* in (33) is attributed to the difference in the semantic fields.

Next, let us consider the following sentence.

(36) *John left away from the house. (Gruber 1976: 32)

The sentence is unacceptable although the verb *leave* designates an inherently directed motion and is classified into the same verb class as *go*. What causes the unacceptability of the sentence? Let us examine the verb. The verb *leave* appears in the following two syntactic contexts.

(37) a. John left.

b. John left the house.

(Gruber 1976: 32)

The verb *leave* can optionally take a direct object as shown above. Gruber (1976: 32) points out that the verb *leave* obligatorily incorporates the conceptual primitives AWAY and FROM in its meaning. In light of his view, I propose (38) as the lexical entry of *leave*.

$$(38) \left(\begin{array}{l} \text{leave} \\ \text{V} \\ \text{_____} \langle \text{NP}_j \rangle \\ \left[\text{Event GO} \left(\left[\text{Thing} \quad \right]_i, \left[\begin{array}{l} \text{FROM} \left(\left[\text{Place A REFERENCE POINT} \right] \right)_j \\ \text{Path TO} \left(\left[\text{Place AN UNSPECIFIED DISTANCE} \right] \right) \end{array} \right) \right] \right) \end{array} \right)$$

In (38), the angle bracket surrounding the NP shows that the NP is an optional argument. The LCS consists of a GO-function and its arguments, a Thing and a Path argument. The LCS of *away* proposed in (14) is already embedded within the LCS of *leave*. The optional NP-argument is co-indexed *j* with A REFERENCE POINT. Again, a NP-argument alone can occur after the verb optionally. It suggests that *away from the house* in (36) is not a NP but a PP and therefore cannot occur after the verb *leave*. It is concluded that the unacceptability of (36) comes from the mismatch between the subcategorization frame of *leave* and the part of speech of *away*.

Next, let us consider the following example.

(39) Mary gave her money away.

Away in (39) means donation. First let us focus on the verb. The verb *give* designates a change of possession from a person to another. (40) is the lexical entry of *give*.

$$(40) \left(\begin{array}{l} \text{give} \\ \text{V} \\ \text{_____} \text{NP}_j \text{ [PP to NP}_k \text{]} \\ \left[\text{CAUSE} \left(\left[\quad \right]^{\alpha}_i, \left[\text{GO}_{\text{Poss}} \left(\left[\quad \right]_j, \left[\begin{array}{l} \text{FROM} \left[\alpha \right] \\ \text{TO} \left[\quad \right]_k \end{array} \right) \right] \right) \right] \right) \end{array} \right)$$

(Jackendoff 1990: 194)

The verb obligatorily takes a direct object and a *to*-dative. The subject NP is co-indexed *i* with the Agent argument. The direct object is co-indexed *j* with the Thing argument of GO. The indirect object is co-indexed *k* with a Goal argument of TO. The argument of FROM is unindexed but it is bound to the Agent by α and is identified as the Agent himself/herself.

Let us examine how the syntactic constituents in (39) are integrated into the LCS of *give*. The reading of *Mary* is substituted for the Agent argument in the LCS of *give*. Simultaneously, the argument of FROM is identified as *Mary*. The reading of *her money* is substituted for the Thing argument of GO in the LCS of *give*. It should be noticed that the PP argument of the verb is restricted to a *to*-phrase as shown in the subcategorization frame of *give*. *Away* itself is not a *to*-phrase. However, the Goal argument in the LCS of *away* has more specific information about the Goal than *give* and therefore *away* is allowed to be fused with the Path argument of *give* without producing a clash. (41) is the conceptual structure for (39).

(41) [CAUSE ([MARY] ^{α} , [GO_{POSS} ([HER MONEY],

$$\left[\begin{array}{l} \text{FROM}_{\text{POSS}} ([\text{Place } \alpha]) \\ \text{Path TO}_{\text{POSS}} ([\text{Place AN UNSPECIFIED DISTANCE}]) \end{array} \right) \right)]$$

The conceptual structure means ‘Mary causes her money to go from herself to an unspecified distance’. *Away* serves as the Path which the money follows. In this case, the receiver is unspecified and instead Mary’s action of her causing her money to go away from herself is focused on and therefore *away* in (39) assumes the meaning of donation.

Next, let us consider the following examples.

- (42) a. Mary looked away.
 b. Mary faced away.

Away in (42) means the direction of Mary’s gaze or face. Let us examine how the constituent words of (42) combine at the level of conceptual structure. The following lexical entries are for *look* and *face*, respectively.

- (43) a. $\left(\begin{array}{l} \text{look} \\ \text{V} \\ \text{—— PP}_j \\ [\text{Event CAUSE} ([\text{Thing } \]^{\alpha}_i, \\ \quad [\text{Event INCH} ([\text{State ORIENT} ([\text{Thing } [\text{Thing } \alpha] \text{'s GAZE}], [\text{Path }]_j)])]] \end{array} \right)$
- b. $\left(\begin{array}{l} \text{face} \\ \text{V} \\ \text{—— PP}_j \\ [\text{Event CAUSE} ([\text{Thing } \]^{\alpha}_i, \\ \quad [\text{Event INCH} ([\text{State ORIENT} ([\text{Thing } [\text{Thing } \alpha] \text{'s FACE}], [\text{Path }]_j)])]] \end{array} \right)$

In the LCSs of *look* and *face*, the INCH- and the ORIENT-functions mean ‘becoming a state’ and ‘directing something in a specified direction’, respectively. In the above lexical entries, an ORIENT-function, like a GO-function, takes a Thing and a Path argument but conceptual information, the subject’s GAZE or FACE, is already embedded in the Thing argument of ORIENT. The subject is co-indexed *i* with the Agent and is bound to the possessive determiner by α . The PP is co-indexed *j* with the Path. The LCSs roughly mean ‘one directs his/her gaze or face in a Path direction’. By Argument Fusion, the reading of *Mary* is substituted for the Agent argument indexed *i* and the reading of *away* is substituted for the Path argument indexed *j*. As a result, the following conceptual structures are formed.⁶

⁶ Jackendoff (1990: 93) mentions that an INCH-function cannot be reduced to a GO-function when an ORIENT-function, unlike a BE-function, follows an INCH-function because the

- (44) a. [Event CAUSE ([Thing MARY]^α,
 [Event INCH ([State ORIENT_{Spatial} ([Thing [Thing α] 's GAZE],

$$\left(\begin{array}{l} \text{FROM}_{\text{Spatial}} ([\text{Place A REFERENCE POINT}]) \\ \text{Path TO}_{\text{Spatial}} ([\text{Place AN UNSPECIFIED DISTANCE}]) \end{array} \right)])]]]$$
 b. [Event CAUSE ([Thing MARY]^α,
 [Event INCH ([State ORIENT_{Spatial} ([Thing [Thing α] 's FACE],

$$\left(\begin{array}{l} \text{FROM}_{\text{Spatial}} ([\text{Place A REFERENCE POINT}]) \\ \text{Path TO}_{\text{Spatial}} ([\text{Place AN UNSPECIFIED DISTANCE}]) \end{array} \right)])]]]$$

The Thing arguments of ORIENT, *Mary's gaze* and *Mary's face*, are objects which are spatially directed in a direction, so the semantic field is spatial. The conceptual structures roughly mean 'Mary changed the direction of her gaze or face from a reference point to an unspecified distance'. The reference point is unspecified but we can infer that the reference point is the point where Mary has directed her gaze or face before turning it. *Away* has the meaning of direction of one's gaze or face.

Next, let us consider the following examples.

- (45) a. The hotel is away from the beach.
 b. Mary stood away.

Away in (45) denotes not a Path but a Place. First let us focus on the verbs. The verb *be* in (45a) is a stative verb and takes a Thing and a Place argument, as shown in (46).

resulting meaning is far from the same as the meaning which can be expressed by a GO-function. Following Jackendoff, I use the INCH-function in the case where an INCH-function is followed by an ORIENT-function.

(46) [State BE ([Thing X], [Place Y])] (Jackendoff 1990: 26)

The verb *stand* in (45b) designates a spatial configuration and has two readings, an inchoative Event and a State. Hence the verb has two LCSs. The notation in (47a) encodes the inchoative Event reading. The notation in (47b) encodes the State reading.⁷

(47) a. [Event GO ([Thing X], [Path TO ([Place Y])])] (Jackendoff 1990: 26)
 b. [State BE ([Thing X], [Place Y])]

The verb *stand* takes a Thing and a Place argument as shown in (47). It should be remembered that *away* is of the conceptual category Path as proposed in (14), (repeated below as (48)).

(48) The LCS of *away*: $\left[\begin{array}{l} \text{FROM ([Place A REFERENCE POINT])} \\ \text{Path TO ([Place AN UNSPECIFIED DISTANCE])} \end{array} \right]$

The problem arising here is that the LCS of *away* expresses a Path and cannot be integrated into the Place argument of the BE-verbs, *be* and *stand*. The present analysis cannot give a theoretical explanation for the combination of the BE-verbs and *away* like (45). Is there no choice but to propose an additional LCS for a Place sense of *away*?

Before providing an answer for this question, let us take a look at other prepositions because it is not rare for prepositions to have both meanings of Place and Path. Jackendoff (1990: 72-74) points out that prepositions like *up*, *down*, and *through* have a Place sense

⁷ Jackendoff (1990: 93) claims that the conceptual structures of (a) and (b) represent the same inchoative Event and therefore INCH BE can be reduced to GO.

(a) [Event INCH ([State BE ([X], [Place Y])])]

(b) [Event GO ([X], [Path TO ([Place Y])])]

In contrast, he points out that INCH cannot be reduced to GO if not BE but ORIENT or EXT follows INCH. The present study adopts the (b) notation as the semantic representation for the Inchoative Event reading of *stand* because the (b) notation enables us to capture the general property that *away* in particle *away* constructions is an Path argument of GO at the level of conceptual structure.

as well as a Path sense, as shown in the following examples.

(49) a. Bill ran up the hill/down the road/through the tunnel.

b. Bill's house is up the hill/down the road/through the tunnel (from here).

(Jackendoff 1990:73)

The PPs in (a) denote a Path while the PPs in (b) denote a Place. Bill's house in (49b) is located at the final point of a Path that extends from a particular place up the hill, down the road, or through the tunnel. It indicates that the Place sense of the PPs is based on the Path sense. In light of this consideration, Jackendoff (1990: 74) claims that the Path sense of the PPs is the conceptual core and the Place sense is simply an elaboration of the conceptual core. Jackendoff (1990: 74) represents the two senses of *through* with the dashed underline as follows:

(50) [Place AT-END-OF ([Path VIA ([Place IN ([Thing])]))] (Jackendoff 1990: 74)

The conceptual category of the above LCS is a Place but the core Path meaning of *through* is embedded within the LCS. The Place function AT-END-OF, the part marked with the dashed underline, is optional. Hence, when *through* co-occurs with verbs that takes a Path argument, the outer optional function AT-END-OF is deleted. The dashed underline in (50) enables the preposition *through* to correspond to either LCS of Path or Place. For instance, the sentence, *Bill's house is through the tunnel* receives the following conceptual structure.

(51) [State BESpatial ([BILL'S HOUSE],

[Place AT-END-OF ([Path VIA ([Place IN ([Thing TUNNEL])])])])]

In this case, the overall LCS shown in (50) is fused with the Place argument of the verb *be* by Argument Fusion. Jackendoff (1990: 73)'s analysis is attractive in that the Path and Place meanings of the prepositions, *up*, *down*, and *through* are represented by a single

conceptual structure like (50).

However, it is difficult to accept Jackendoff (1990:73)'s claim that both the Path and Place senses of the prepositions must be encoded in the lexicon. I posit that the Place readings of the prepositions, *up*, *down*, and *through*, unlike the Path senses, need not necessarily be stored in the lexicon because if they are not yet stored in the lexicon, the Place readings are drawn from the core Path senses through the cognitive operation of focusing. To be more specific, the prepositions are blocked from being interpreted as a Path when they co-occur with verbs that take a Place argument. Instead, the final point of the Path is focused on and as a result the prepositions take on Place readings.

In the light of the above discussion, let us now reconsider the cases where *away* is interpreted as a Place. Following Jackendoff (1990: 74), I propose the following semantic representation for the Place reading of *away*.

$$(52) \text{ [Place } \underline{\text{AT-END-OF}} \left(\begin{array}{l} \text{FROM ([Place A REFERENCE POINT])} \\ \text{Path TO ([Place AN UNSPECIFIED DISTANCE])} \end{array} \right)]_1}$$

The above LCS means 'at the final point of the Path which extends from a reference point to an unspecified distance'. The dashed underline in (52) shows that the Place function, AT-END-OF, is optional. When it co-occurs with verbs that take a Place argument, *away* is blocked from being interpreted as a Path; instead, the final point of the Path is focused on and consequently the LCS of *away* is identified as (52). I claim that the Place meaning of *away*, unlike the Path meaning of *away*, need not necessarily be stored in the lexicon because it is drawn from the core Path sense of *away* by focusing on the final point of the Path.

Now let us examine how the sentences in (45) (repeated below as (53)) are interpreted.

- (53) a. The hotel is away from the beach. (=45a)
 b. Mary stood away. (=45b)

Let us begin with (53a). The verb *be* takes a Place argument. Hence, the overall LCS given in (52) is identified as the LCS of *away*. The sentence in (53a) receives the following conceptual structure.

(54) [State BE_{Spatial} ([HOTEL],

$$[\text{Place AT-END-OF} \left(\begin{array}{l} \text{FROM} ([\text{Place BEACH}]) \\ \text{Path TO} ([\text{Place AN UNSPECIFIED DISTANCE}]) \end{array} \right)]]$$

The Place reading of *away* is substituted for the Place argument of *be*. The PP *from the beach* has more specified information than the source of *away*. Hence, the argument of FROM is deleted and is instead replaced by BEACH. The Thing argument of BE, *hotel* is a spatially located object, so the semantic field of (54) is spatial. The conceptual structure in (54) roughly means ‘the hotel is located at the final point of the Path that extends from the beach to an unspecified distance’.

Next, let us turn to (53b). The verb *stand* takes a Place argument. Hence, the overall LCS given in (52) is, in this case also, identified as the LCS of *away*. The reading of *Mary* is substituted for the Thing-argument. The following conceptual structures are for (53b).

(55) a. [Event GO ([MARY], [Path TO

$$([\text{Place AT-END-OF} \left(\begin{array}{l} \text{FROM} ([\text{Place A REFERENCE POINT}]) \\ \text{Path TO} ([\text{Place AN UNSPECIFIED DISTANCE}]) \end{array} \right)])]]$$

b. [State BE_{Spatial} ([MARY],

$$[\text{Place AT-END-OF} \left(\begin{array}{l} \text{FROM} ([\text{Place A REFERENCE POINT}]) \\ \text{Path TO} ([\text{Place AN UNSPECIFIED DISTANCE}]) \end{array} \right)]]$$

(55a) and (55b) are for the inchoative Event and State readings of (53b), respectively.

(55a) means ‘Mary goes to the final point of the Path that extends from a reference point to an unspecified distance’. (55b) means ‘Mary is at the final point of the Path that extends from a reference point to an unspecified distance’. The reference point in (55) is unspecified but we can infer that the reference point in (55a) is the place where she was before moving and that the reference point in (55b) indicates a place arbitrarily determined by the conceptualizer. I have argued that the Place meaning of *away* need not necessarily be stored in the lexicon and is drawn from the core sense through the operation of focusing.

Next, let us consider the following example.

(56) Her birthday is three days away.

Away in (56), unlike that of (53a), means not a location but a future time. Let us examine how the interpretation of *away* in (56) is obtained. The following conceptual structure is for (56).

(57) [State BE_{Temp} ([Event HER BIRTHDAY], [Place AT-END-OF

$$\left(\begin{array}{l} \text{FROM ([Place A REFERENCE POINT])} \\ \text{TO ([Place A SPECIFIED DISTANCE])} \\ \text{Path [Measure THREE DAYS]} \end{array} \right)]]$$

The subject *her birthday* is an Event, so the semantic field is temporal. In this case, the reference point in (57) is unspecified but we can infer that it indicates a point of time arbitrarily determined by the conceptualizer. The time phrase *three days* specifies distance from the reference point. Hence, the Goal argument of *away* is shifted from AN UNSPECIFIED DISTANCE to A SPECIFIED DISTANCE. (57) roughly means ‘her birthday is three days after a point of time determined by the conceptualizer’. Thus, *away* has the meaning of a future time.

Finally, let us look at the following examples.

b. [Event CAUSE ([Thing MARY], [Event GO_{Spatial} ([Thing SOME MONEY],
 [Path TO ([Place AT-END-OF

$$\left(\begin{array}{l} \text{FROM ([Place A REFERENCE POINT])} \\ \text{Path TO ([Place AN UNSPECIFIED DISTANCE])} \end{array} \right)])])]$$

c. [Event CAUSE ([Thing SQUIRRELS], [Event STAY_{Spatial}
 ([Thing NUTS], [Place AT-END-OF

$$\left(\begin{array}{l} \text{FROM ([Place A REFERENCE POINT])} \\ \text{Path TO ([Place AN UNSPECIFIED DISTANCE])} \end{array} \right)])]$$

[FOR ([Thing WINTER])]]

By Argument Fusion, the Place reading of *away* is substituted for the Place argument of the verbs. The Thing arguments of STAY in (60a) and (60c) are a spatially located object. The Thing argument of GO in (60b) is a spatially moving object. Hence, the semantic fields in (60) are spatial. In (60a), *away* serves as the Place where everyone is. In (60b), *away* serves as the Place to which some money goes. In (60c), *away* serves as the Place where nuts are. Hence, *away* in (60) is interpreted as a Place. The expressions *put something away* and *store something away* mean ‘storage’ and are often regarded as idiomatic expressions. However, I assert that the supposed idiomatic meaning is not unpredictable but rather arise from the interaction of the semantic property of *away* and our world knowledge. Lexically, *away* does not specify a distance from a reference point. Hence, when a thing is located away from a place, nobody but the agent knows where it is put because the final location is unspecified. We can logically infer that the subject puts it in a hidden or safe place.

It is concluded that even supposed idiomatic meanings are built up from the meanings of the constituent words of the sentences through the interaction of the semantic property of *away* and our world knowledge.

3.3.2 The Spatial Resultative Adjunct Rule

This subsection treats the case where the LCS of *away* is incorporated into conceptual structures of sentences by the Spatial Resultative Adjunct Rule. First, let us consider the following sentences.

- (61) a. Mary pushed the cart away.
b. A tow truck pulled the car away.

(61a) mean ‘Mary caused the cart to go away by pushing it’. (61b) means ‘Mary caused the car to go away by pulling it’. It should be noticed that that the sentences mean that the location of the cart/the car changed but the verbs themselves do not imply a change of location. Jackendoff (1990: 133) presents (62) as the evidence.

- (62) Amy pushed/pulled (on) the door as hard as she could, $\left. \begin{array}{l} \text{and it finally opened.} \\ \text{but it wouldn't budge.} \end{array} \right\}$

(Jackendoff 1990: 133)

It is found from the continuations that the verbs themselves are unspecified regarding whether the door opened or not. In this respect, the verbs differ from the verb *throw* which includes a change of location in the meaning, as shown in (63).

- (63) Amy threw the ball as far as she could, $\left. \begin{array}{l} \text{and it finally went quite a distance.} \\ \text{*but it wouldn't budge.} \end{array} \right\}$

It is clear that the verbs *push* and *pull* have the same property as the verb *throw* in that they imply exertion of effort, but the former is different from the latter in that they do not

imply a change of location.

To represent the semantic property of verbs like *push* and *pull* more precisely, Jackendoff (1990: 133) introduces the new CS-function which encodes exertion of effort and the superscripts (+, -, u) which is placed to the right of the function. The superscripts provide information about whether the verb in question imply a change of location or state. The notation CS⁺ shows exertion of effort with a positive outcome and is used to represent verbs of a change of state or location such as *break* or *throw*. The function CS⁺ is equivalent to the CAUSE-function which has been used in Jackendoff (1990) in order to notate standard causation. The notation CS⁻ shows exertion of effort with a negative outcome and is used to represent verbs like *fail*. The notation CS^u shows exertion of effort with an indeterminate outcome and is used to represent verbs like *push* and *pull*. In Jackendoff (1990: 133), “X *push* (on) Y” and “X *pull* (on) Y” are paraphrased by “X CS^u Y to go away from X” and “X CS^u Y to go toward the Actor”, respectively. Thus, Jackendoff (1990: 132) introduces the new function CS with a superscript and makes it possible that verbs of exertion of effort are distinguished with respect to whether they imply a change of location and state. However, Jackendoff (1990: 229) does not use the new function CS but rather the existing CAUSE-function in proposing the Spatial Resultative Adjunct Rule. This suggests that the new CS-function itself has the same meaning as the CAUSE-function and need not be substituted for it. Hence, the present study adopts the CAUSE-function and appends the superscripts to the CAUSE-function only when the effect is negative and indeterminate. Hence, CAUSE, CAUSE⁻ and CAUSE^u are used here instead of CS⁺, CS⁻ and CS^u.

In light of this consideration, I propose (64) as the lexical entries of the verbs *push* and *pull*.

- (64) a. $\left[\begin{array}{l} \text{push} \\ \text{V} \\ \text{--- NP}_j \\ [\text{Event CAUSE}^u ([\text{Thing } \alpha], [\text{Event GO } ([\text{Thing } \beta], \\ \left[\begin{array}{l} \text{FROM } ([\text{Place } \beta\text{'s PREVIOUS POSITION}] \\ \text{Path TO } ([\text{Place AN UNSPECIFIED DISTANCE}]) \end{array} \right])))] \\ [\text{ACT ON}^- ([]^{\alpha}_i, []^{\beta}_j)] \end{array} \right]$
- b. $\left[\begin{array}{l} \text{pull} \\ \text{V} \\ \text{--- NP}_j \\ [\text{Event CAUSE}^u ([\text{Thing } \alpha], [\text{Event GO } ([\text{Thing } \beta], [\text{Path TOWARD } ([\text{Place } \alpha]])])] \\ [\text{ACT ON}^- ([]^{\alpha}_i, []^{\beta}_j)] \end{array} \right]$

As shown above, the LCSs of *push* and *pull* consist of thematic and action tiers.⁹ The NP is co-indexed *j* with the Patient on the action tier. The Patient in (64a) is further bound to the Theme and the possessive determiner on the thematic tier by β . The Patient in (64b) is bound to the Theme on the thematic tier by β . The subject in (64a) is co-indexed *i* with the Actor on the action tier, which is further bound to the Agent on the thematic tier by α . The subject in (64b) is co-indexed *i* with the Actor on the action tier, which is further bound to the Agent and the Goal on the thematic tier by α . The action tiers in (64a) and (64b) mean ‘the Actor acts on the Patient’.¹⁰ The action tier with the superscript ($\bar{\quad}$) means

⁹ Jackendoff (1990: 126) divides conceptual roles (such as Theme, Source, Goal, Agent, and Patient) into a thematic and an action tier. A thematic tier deals with thematic relations (motion and location) and conveys the information of what moves where under whose agency. An action tier deals with Actor-Patient relations. An Actor expresses a doer of an action and a Patient an entity affected by the action.

¹⁰ Jackendoff (1990: 127) represents Actor-Patient relations by using the AFF-function. The AFF-function is the abbreviation of “affect”. According to Jackendoff (1990: 128), the AFF-

the adverse/negative effect of the Agent on the Patient. The thematic tier in (64a) roughly means ‘the Agent causes the Patient/Theme to go from its previous position to an unspecified distance but the outcome is indeterminate’. The thematic tier in (64b) roughly means ‘the Agent causes the Patient/Theme to go toward the Agent but the outcome is indeterminate’.

It should be noted that the verbs *push* and *pull* themselves do not subcategorize a PP argument. It suggests that *away* in (61) is not an argument of the verbs. What allows *away* to co-occur with the verbs? Let us take a look at Jackendoff (1990: 133, 234)’s analysis for the following sentences with the same syntactic form as (61).

(65) Amy pushed/pulled Bill out the window. (Jackendoff 1990: 133)

He regards the above sentences as resultative constructions and proposes that they are interpreted by the following adjunct rule.¹¹

function takes an Actor and a Patient argument but one of its arguments may be absent. The AFF-function is mainly used to represent intransitive verbs as well as transitive activity verbs. The present study adopts the ACT (ON)-function instead of the AFF-function. I will explain the reason when I propose the revised version of the Spatial Resultative Adjunct Rule.

¹¹ According to Jackendoff (1990: 231), the disjunctive curly brackets in (66) indicate that the direct object is divided into the following two types: one is the Patient and the other is a reflexive. (a) is for the former and (b) is for the latter.

$$(a) \left[\begin{array}{l} \text{CAUSE } [\alpha], [\text{GO} ([\beta], [\quad]_k)] \\ \text{AFF}^- ([\quad]_i^\alpha, [\quad]_j^\beta) \\ [\text{BY} [\text{AFF}^- ([\alpha], [\beta])]_h] \end{array} \right] \quad (b) \left[\begin{array}{l} \text{CAUSE } [\alpha], [\text{GO} ([\beta], [\quad]_k)] \\ \text{AFF}^- ([\quad]_i^\alpha, [\alpha]_j^\beta) \\ [\text{BY} [\text{AFF}^- ([\alpha], \quad)]_h] \end{array} \right]$$

In (a), the Patient of the means clause is bound to the Patient of the main clause. On the other hand, in the (b)-case where the direct object is a reflexive, the Patient of means clause is absent and instead α is embedded in the position of the Patient of the main clause. As a result, the actor in the main clause is considered to be identical to the Patient of the main clause.

(66) Spatial Resultative Adjunct Rule

$[_{VP} V_h NP_j PP_k]$ may correspond to

$$\left(\begin{array}{l} \text{CAUSE } [\alpha], [\text{GO} ([\beta], [\quad]_k)] \\ \text{AFF}^- ([\quad]_i^\alpha, [\{\alpha\}]_j^\beta) \\ [\text{BY} [\text{AFF}^- ([\alpha], \{\{\beta\}\})]_h] \end{array} \right)$$

(Jackendoff 1990: 234)

The Spatial Resultative Adjunct Rule relates the VP consisting of a verb, a NP object, and a PP to the conceptual structure of causative motion in (66). The PP as well as the NP is regarded as an adjunct even if the NP is subcategorized by the main verb. When the syntactic structure of the VP does not match the argument structure of the head verb, the adjunct rule applies to the VP and makes it possible to interpret the VP.

The subject NP is co-indexed i with the first argument of AFF in the main clause, the Actor role. The object is co-indexed j with the second argument of AFF in the main clause, the Patient role. The Actor of the main clause functions as a binder and binds the Agent of the main clause and the Actor of the subordinate clause. The binding relation indicates that the subject has multiple roles. The Patient of the main clause also functions as a binder and binds the Theme of the main clause and the Patient of the subordinate clause. The argument binding makes it clear that the three roles are the same individual. The PP corresponds to the Path argument of GO. The main verb is co-indexed h with the argument of BY in the subordinate clause and serves as the means modifier. The AFF-function embedded in the means clause implies that the main verb is restricted to the verb class represented by the AFF-function. AFF^- means ‘ α negatively affects β ’. The conceptual structure in (66) roughly means ‘the Agent causes the Patient (also the Theme) to traverse the Path by the activity denoted by the main verb. Let us recall the syntactic structure of (65). It does not match the argument structure of the verbs *push* and *pull*, but match the syntactic structure of the Spatial Resultative Adjunct Rule. Hence, the adjunct rule provides the sentences felicitous interpretations.

The adjunct rule is superior in that it provides a way of interpreting the VP consisting of $[V NP PP]$ which does not match the argument structure of the main verb. However,

the present analysis cannot adopt the adjunct rule without changing anything for the following reason: the AFF-function in the subordinate clause in (66) are not appropriate when considering the following resultative constructions.

- (67) a. The professor talked us into a stupor.
 b. His friends laughed Bill out of town.

(Jackendoff 1990: 227)

The above verbs, *talk* and *laugh*, are intransitive, expressing an activity alone and not entailing the concept of affecting something. It is clear that not all the verbs used in the resultative construction entail the concept of affecting something. From this observation it is clear that the AFF-function is not appropriate as the function encoding verbs occurring in resultative constructions. On the other hand, an ACT (ON)-function adopted by Kageyama (1996) and Kageyama and Yumoto (1997), unlike an AFF-function, does not conceptually contradict the meaning of intransitive activity verbs like *talk*, *laugh*, and *play*. Hence, I adopt the ACT (ON)-function instead of the AFF-function.

The following adjunct rule is a revised version of Spatial Resultative Adjunct Rule.

- (68) Spatial Resultative Adjunct Rule (revised version)

$[_{VP} V_h NP_j PP_k]$ may correspond to

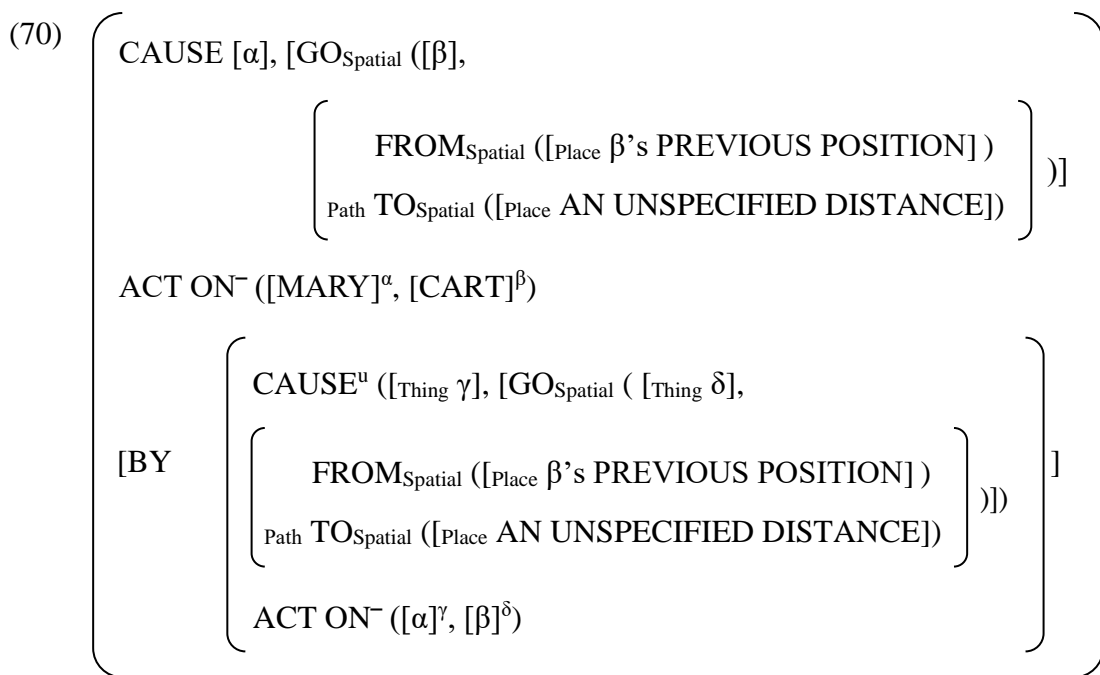
$$\left(\begin{array}{l} \text{CAUSE } [\alpha], [\text{GO } ([\beta], [\quad]_k)] \\ \text{ACT ON}^- ([\quad]_i^{\alpha}, [\{\alpha\}_j^{\beta}]) \\ \text{[BY [ACT ON}^- ([\alpha], \{\beta\})]_h} \end{array} \right)$$

The ACT (ON)-function is used in the subordinate clause instead of the AFF-function. For consistency with the subordinate clause, the ACT ON-function is used in the main clause, too.

Let us now examine how the sentences in (61), repeated in (69), are interpreted by the revised version of the Spatial Resultative Adjunct Rule in (68).

- (69) a. Mary pushed the cart away. (=61a)
 b. A tow truck pulled the car away. (=61b)

The syntactic structures in (69) do not match the argument structure of the verbs but match that of (68). Hence, the adjunct rule is applied to the sentences so that they can be correctly interpreted. The following conceptual structure is for (69a).



By the adjunct rule, the LCS of *push* is incorporated into the argument of BY. The verb serves as a means modifier. *Away* is a PP, so the LCS of *away* is incorporated into the Path argument of GO in the main clause. The Source argument of *push* has more specific information than that of *away*. Hence, the Source argument of *away* in the main clause is deleted and replaced with the source argument of *push*. The reading of the subject *Mary* is directly embedded into the Actor of the main clause, which is bound to the Agent of the main clause and the Actor of the subordinate clause by α . The Actor of the subordinate clause is further linked to the Agent of the subordinate clause by γ . The reading of the direct object *cart* is directly embedded into the Patient of the main clause, which is linked

to the Theme and the possessive determiner of the main clause and the Patient of the subordinate clause by β . The Patient of the subordinate clause is further bound to the Theme of the subordinate clause by δ . It is found that both the subject and the direct object have multiple roles. The Thing argument of GO, *cart*, is a spatially moving object, so the semantic field of the thematic tier in the main clause is spatial. The conceptual structure roughly means ‘Mary causes the cart to go from its previous position to an unspecified distance by pushing on it’. Thus, *away* in (69a) has the meaning of spatial movement.

The same explanation holds for (69b). (71) is a conceptual structure for (69b).

$$(71) \left(\begin{array}{l} \text{CAUSE } [\alpha], [\text{GO}_{\text{Spatial}} ([\beta], \\ \left[\begin{array}{l} \text{FROM}_{\text{Spatial}} ([\text{Place A REFERENCE POINT}]) \\ \text{Path TO}_{\text{Spatial}} ([\text{Place AN UNSPECIFIED DISTANCE}]) \end{array} \right])] \\ \text{ACT ON}^- ([\text{TOW TRUCK}]^\alpha, [\text{CAR}]^\beta \\ [\text{BY} \left[\begin{array}{l} \text{CAUSE}^u ([\text{Thing } \gamma], [\text{GO}_{\text{Spatial}} ([\text{Thing } \delta], [\text{Path TOWARD}_{\text{Spatial}} ([\text{Place } \gamma])]) \\ \text{ACT ON}^- ([\alpha]^\gamma, [\beta]^\delta) \end{array} \right]] \end{array} \right)$$

The LCS of *pull* is incorporated into the argument of BY. The LCS of *away* is inserted into the Path argument of GO. The readings of the subject *tow truck* and the direct object *car* are directly embedded into the Actor and Patient in the main clause, respectively. The Actor in the main clause is bound to the Agent in the main clause and the Actor in the subordinate clause by α , which is further linked to the Agent and the Place argument of TOWARD in the subordinate clause by γ . The Patient in the main clause is bound to the Theme in the main clause and the Patient in the subordinate clause by β , which is linked to the Theme in the subordinate clause by δ . The Thing argument of GO, *car*, is a spatially moving object, so the semantic field of the thematic tier in the main clause is spatial. The Path of the main clause is further specified by the inheritance of the Path argument in the subordinate clause. Hence, the conceptual structure roughly means ‘the tow truck causes

the car to go from a reference point toward itself to an unspecified distance by pulling on it'. Thus, *away* in (69b) has the meaning of spatial movement.

Next, let us consider the following examples.

(72) a. Mary frightened the dog away.

b. ??Mary sang the dog away.

The syntactic structures of (72) do not match the argument structures of the main verbs but that of the Spatial Resultative Adjunct Rule (revised version). Hence, the above sentences are also interpreted by the adjunct rule. It should be noticed that the acceptability of sentence in (72b) is low compared with sentence in (72a). What causes the low acceptability of (72b)? Jackendoff (1990: 230) points out that in order for resultative constructions to be accepted, the postverbal NP must be assigned a Patient role by the main verb or identified as a Patient by the surrounding context. Jackendoff (1990: 230, 231) calls the former Patient a grammatical Patient and the latter Patient a discourse Patient.

Taking his view into account, let us reconsider (72a) and (72b). The verb in (72a) is a transitive verb, by which the direct object in (72a) is assigned a Patient role. On the other hand, the direct object in (72b) is not an argument of the verb *sing* and cannot be assigned a Patient role. In addition, it is also difficult, without context, to consider the direct object in (72b) as a discourse Patient. The acceptability of (72b) is improved if (72b) is put into a context that makes it easier to identify the direct object as a Patient: for instance, Mary is a wizard and the dog disappears as a result of her singing a magical song. It is concluded that the low Patienthood of the direct object in (72b) results in its low acceptability. Thus, the acceptability of resultative constructions is affected by the Patienthood of the direct object.

Next, let us consider the following examples.

(73) a. Mary gambled all her money away.

b. Mary signed her baby away.

Away in (73) has the meaning of “loss”. Let us examine how the interpretation of *away* is determined. Both of the *away* in (73a) and (73b) are not arguments of the verbs. The direct object in (73a) is subcategorized by the verb while the direct object in (73b) is not an argument of the verb, as shown in (74).

- (74) a. Mary gambled all her money.
 b. *Mary signed her baby.

The syntactic structures of (73) do not match the argument structures of the verbs but the syntactic structure of the Spatial Resultative Adjunct Rule (revised version). Hence, the adjunct rule applies to the sentences so that they can be correctly interpreted.

The following conceptual structures are for (73).

- (75) a.
$$\left(\begin{array}{l} \text{CAUSE } [\alpha], [\text{GO}_{\text{Poss}} ([\beta], \\ \left[\begin{array}{l} \text{FROM}_{\text{Poss}} ([\text{Place A REFERENCE POINT}]) \\ \text{Path TO}_{\text{Poss}} ([\text{Place AN UNSPECIFIED DISTANCE}])] \end{array} \right)] \\ \\ \text{ACT ON}^- ([\text{MARY}]^\alpha, [\text{ALL HER MONEY}]^\beta) \\ \\ [\text{BY} \left[\begin{array}{l} \text{CAUSE} ([\text{Thing } \gamma], [\text{Event GO}_{\text{Ident}} ([\text{Thing } \delta], \\ \text{Path TO} ([\text{Place IN} ([\text{Thing DANGER}]))])]) \\ \\ \text{ACT ON}^- ([\alpha]^\gamma, [\beta]^\delta) \end{array} \right]] \end{array} \right)$$

$$\text{b. } \left[\begin{array}{l} \text{CAUSE } [\alpha], [\text{GO}_{\text{Poss}} ([\beta], \\ \left[\begin{array}{l} \text{FROM}_{\text{Poss}} ([\text{Place A REFERENCE POINT}]) \\ \text{Path TO}_{\text{Poss}} ([\text{Place AN UNSPECIFIED DISTANCE}])] \end{array} \right)] \\ \text{ACT ON}^- ([\text{MARY}]^\alpha, [\text{HER BABY}]^\beta) \\ [\text{BY} \left[\begin{array}{l} \text{SIGN} ([\text{Thing } \gamma]) \\ \text{ACT ON}^- ([\alpha]^\gamma, [\beta]) \end{array} \right)] \end{array} \right]$$

The direct object in (73a) is subcategorized by the verb. Hence, the reading of the postverbal NP, ALL HER MONEY, is directly embedded into the Patient of the main clause which is bound to the Theme of the main clause, and into the Patient of the subordinate clause by β which is further linked to the Theme of the subordinate clause by δ . Conversely, the direct object in (73b) is not subcategorized by the verb but instead is identified as a Patient by virtue of the surrounding context: her baby is separated from her mother by signing a consent form. The reading of the direct object, HER BABY, is directly embedded into the Patient of the main clause, which is bound to the Theme of the main clause, and into the Patient of the subordinate clause by β , linked to nothing on the thematic tier of the subordinate clause. Both the direct objects in (73) are the subjects' possessions, so the semantic fields of the thematic tiers in the main clauses are possessional as shown in (75). We can infer that the reference points in (75) are the possessor, *Mary*. (75a) roughly means that Mary causes all her money to go from a reference point (herself) to an unspecified distance by gambling it. (75b) roughly means that Mary causes her baby to go from a reference point (herself) to an unspecified distance by signing.

It is obvious that the precise meaning of *away* in (73) cannot be drawn directly from the conceptual structures in (75). How is the meaning of loss for *away* in (73) brought about? I assert that the inference rule given in (32) (repeated in (76)) plays an important role in drawing the meaning of loss in (73) from the conceptual structure in (75).

(76) At the termination of [Event GO ([Thing X], [Path FROM ([Place Y]) TO ([Place Z]])]),
it is the case that [State NOT BE ([X], [Place AT ([Y]])]]]. (=32)

Again, the inference rule allows us to infer that an object no longer exists in the place where it was before at the termination of this event. In 3.3.1, I have argued that the concept of disappearance is brought about from the first conceptual structure in (76) through the inference rule. The thematic tier in the main clause in (75) partially matches the first conceptual structure in (76). Hence, the following conceptual structures are drawn from the thematic tier in the main clause in (75a) and (75b) through the inference rule.

- (77) a. [State NOT BE ([Thing ALL HER MONEY], [Place AT ([Place A REFERENCE POINT]])]]]
b. [State NOT BE ([Thing HER BABY], [Place AT ([Place A REFERENCE POINT]])]]]

The Theme arguments in (77) are her possessions; the Place arguments are the possessor, Mary. Hence, the conceptual structures in (77) mean ‘she lost all her money/her baby’. It has been shown that the concept of loss for *away* in (73) is drawn from (75) through the inference rule.

Next, let us consider the following examples.

- (78) a. Mary brushed the dust away.
b. Mary slept the pain away.

Away in (78) means “removal”. Neither the direct objects nor *away* in (78) are an argument selected by the verb. The syntactic structures of (78) do not match the argument structure of the verb but match the syntactic structure of the Spatial Resultative Adjunct Rule. Hence, the adjunct rule is applied to the sentences so that they can be interpreted felicitously. The following conceptual structures are for (78).

$$(79) \text{ a. } \left[\begin{array}{l} \text{CAUSE } [\alpha], [\text{GO}_{\text{Spatial}} ([\beta], \\ \left[\begin{array}{l} \text{FROM}_{\text{Spatial}} ([\text{Place A REFERENCE POINT}]) \\ \text{Path TO}_{\text{Spatial}} ([\text{Place AN UNSPECIFIED DISTANCE}])] \end{array} \right)] \\ \\ \text{ACT ON}^- ([\text{MARY}]^\alpha, [\text{DUST}]^\beta) \\ \\ [\text{BY} \left[\begin{array}{l} \text{BRUSH} ([\text{Thing } \gamma]) \\ \text{ACT ON}^- ([\alpha]^\gamma, [\beta]) \end{array} \right]] \end{array} \right]$$

$$\text{b. } \left[\begin{array}{l} \text{CAUSE } [\alpha], [\text{GO}_{\text{Spatial}} ([\beta], \\ \left[\begin{array}{l} \text{FROM}_{\text{Spatial}} ([\text{Place A REFERENCE POINT}]) \\ \text{Path TO}_{\text{Spatial}} ([\text{Place AN UNSPECIFIED} \end{array} \right)] \\ \\ \text{ACT ON}^- ([\text{MARY}]^\alpha, [\text{PAIN}]^\beta) \\ \\ [\text{BY} \left[\begin{array}{l} \text{SLEEP} ([\text{Thing } \gamma]) \\ \text{ACT ON}^- ([\alpha]^\gamma, [\beta]) \end{array} \right]] \end{array} \right]$$

The direct object in (78a), *the dust*, is a spatially moving object, so the semantic field of the thematic tier in the main clause in (79a) is spatial. On the other hand, the direct object in (78b), *the pain*, is not actually a spatially movable object but is located somewhere in her body, regardless of whether the pain is mental or physical. Hence, the semantic field is also spatial as shown in (79b). (79a) means that Mary causes the dust to go from a reference point to an unspecified distance by brushing. (79b) means that Mary causes the pain to go from a reference point to an unspecified distance by sleeping. We can infer that the reference point in (79a) is the place where the dust was before and that the reference point in (79b) is somewhere in her body. The problem is that the precise meaning of *away* in (78) cannot be drawn directly from the conceptual structures (79).

Let us consider how the meaning of removal for *away* in (78) is brought about. I claim that the inference rule given in (32) (repeated in (80)) plays a crucial role in drawing the meaning of removal from the conceptual structures in (79) in this case, too.

- (80) At the termination of [Event GO ([Thing X], [Path FROM ([Place Y]) TO ([Place Z]])],
it is the case that [State NOT BE ([X], [Place AT ([Y]])]]. (=32)

The thematic tier of the main clause in (79) partially matches the first conceptual structure in (80). Hence, the following conceptual structures are drawn from the thematic tier in (79) through the inference rule in (80).

- (81) a. [State NOT BE ([DUST], [Place AT ([Place A REFERENCE POINT]])]]
b. [State NOT BE ([PAIN], [Place AT ([Place A REFERENCE POINT]])]]

The above conceptual structures mean ‘the dust/the pain is not in its previous position’. The problem is that the precise meaning of *away* in (78), the meaning of removal, cannot be drawn from the inference rule. In this case, it is necessary to take into account our knowledge of the Theme argument. The Theme arguments, DUST and PAIN, are generally thought of as objects which should be removed. This suggests that when the Theme argument is identified as an object which should be removed, the concept of removal is drawn through the inference rule in (80). It has been shown that not only the inference rule in (80) but also our knowledge of the Theme argument plays a crucial role in drawing out the meaning of removal for *away*.

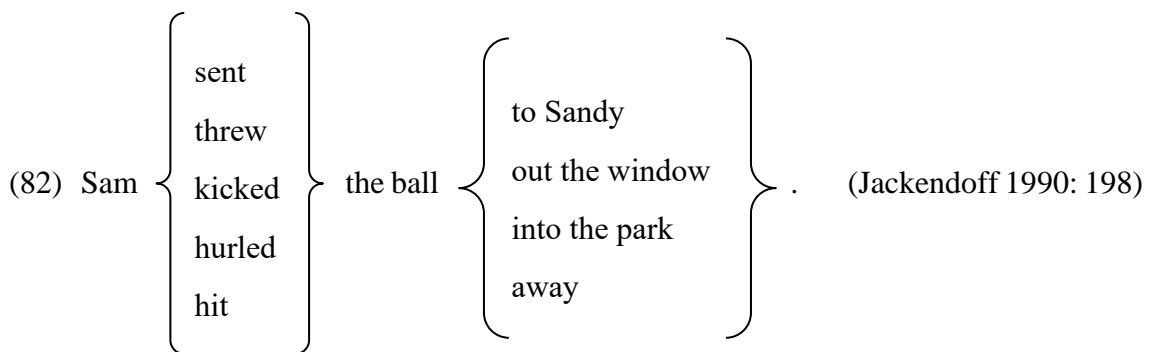
This section has shown that *away* is fused into conceptual structures of sentences by Argument Fusion and the Spatial Resultative Adjunct Rule and demonstrated that *away* shares the same semantic structure at the level of conceptual structure regardless of what meaning it has. In addition, it has been pointed out that there are cases where the inference rule and our knowledge of the Theme argument interact with conceptual structures of sentences in order to obtain more precise meanings of *away*.

3.4 Problems with Jackendoff (1990)'s Analysis

This section presents some problems that arise when analyzing particle *away* constructions based on Jackendoff (1990)'s theory and proposes some solutions to these problems.

3.4.1 When *away* co-occurs with Verbs of putting Something in Motion

Jackendoff (1990: 170) claims that Path expressions in (82) are adjuncts and are interpreted by the PP-Adjunct Rule.



This subsection points out a potential problem with the analysis and proposes a solution to the problem.

First, let us outline Jackendoff (1990)'s analysis of (82). The verbs in (82) express putting something in motion and can co-occur with a wide variety of Path expressions, as shown in (82). Jackendoff (1990: 198) classifies all the verbs in (82) into the same class and generalizes the LCS of *throw* in (83) to the whole class. It follows that the verbs *send*, *kick*, *hurl*, and *hit* have the same lexical entry as *throw*. Let us look at the lexical entry of *throw* proposed by Jackendoff (1990: 171).

$$(83) \left[\begin{array}{l} \text{throw} \\ \text{V} \\ \text{_____ NP}_j \\ [\text{Event CAUSE} ([\quad], \text{GO} ([\text{Thing} \quad], [\text{Path} \quad]))] \end{array} \right]$$

(Jackendoff 1990: 171)

It is clear from the subcategorization frame in (83) that the verb takes a NP argument alone. It suggests that Path expressions in (82) are not the arguments of the verbs. On the other hand, not only Thing arguments but also a Path argument are included in the LCS. Therefore, the VP of *throw the ball* implies the change of position regardless of whether a Path expression occurs after it or not. Why can the verbs in (82) co-occur with Path expressions in (82) although they are not subcategorized?

Jackendoff (1990: 198) states that the following PP-Adjunct Rule allows the Path expressions in (82) to co-occur with the verbs in (82).

(84) The PP-Adjunct Rule

If V corresponds to [. . . GO/BE (. . . , [X]) . . .], with [X] unindexed,

and PP corresponds to [Y],

then [s . . . [VP V . . . PP . . .] . . .] may correspond to

$$[\dots \text{GO/BE} (\dots , \left[\begin{array}{c} \text{X} \\ \text{Y} \end{array} \right]) \dots], \text{ where } \left[\begin{array}{c} \text{X} \\ \text{Y} \end{array} \right] \text{ is distinct from [X].}$$

(Jackendoff 1990: 170)

The adjunct rule applies when BE- and GO-verbs with an unindexed Place- and Path-constituent co-occur with a Place- and Path-PP which has more specified information about the Place and Path than the verbs. For instance, the subject *Mary* and the direct object *the ball* in (85a) are interpreted by Argument Fusion while *away* in (85a) is

interpreted by the PP-Adjunct Rule. (85b) is the conceptual structure for (85a).

(85) a. Sam threw the ball away. (=an example in (82))

b. [_{Event} CAUSE ([SAM], GO ([_{Thing} BALL],

$$\left[\begin{array}{l} \text{FROM}_{\text{Spatial}} ([\text{Place A REFERENCE POINT}]) \\ \text{Path TO}_{\text{Spatial}} ([\text{Place AN UNSPECIFIED DISTANCE}]) \end{array} \right)]]]$$

The adjunct rule allows a Place- or a Path- PP to fuse with an unindexed Place- or Path- constituent in the LCS of a verb of location or motion if the PP has more specified information about the Place- or the Path-constituent than the verb. In addition, the adjunct rule prevents GO- and BE-verbs from subcategorizing an optional PP and contributes to the simplification of the lexical entries. In this respect, the adjunct rule is considered superior.

However, there is a potential problem with the PP-Adjunct Rule. Let us look at the following sentences in (86).

(86) Amy $\left\{ \begin{array}{l} \text{sent} \\ \text{threw} \\ \text{kicked} \\ \text{hurled} \\ \text{hit} \end{array} \right\}$ the ball as far as she could,
 $\left\{ \begin{array}{l} \text{and it finally went quite a distance.} \\ \text{*but it wouldn't budge.} \end{array} \right\}$

The semantic contents of the first sentences in (86) are not negated by the conjunction sentences. It apparently seems that all the verbs imply a change of position. However, if the direct object of *kick* and *hit* is changed from *the ball* to *the door*, the VP shows an

indeterminate outcome as to whether the door is open, as shown in (87).

(87) Amy $\left\{ \begin{array}{l} \text{kicked} \\ \text{hit} \end{array} \right\}$ the door as hard as she could, $\left\{ \begin{array}{l} \text{and it finally opened.} \\ \text{but it wouldn't budge.} \end{array} \right\}$

It follows that the verbs *kick* and *hit* themselves do not always imply a change of position and hence cannot be counted as exactly the same class as *throw*. Rather, the verbs *kick* and *hit* show the same behavior as the verbs *push* and *pull*, as shown in (62) (repeated below as (88)).

(88) Amy pushed/pulled (on) the door as hard as she could, $\left\{ \begin{array}{l} \text{and it finally opened.} \\ \text{but it wouldn't budge.} \end{array} \right\}$

(Jackendoff 1990: 133) (=62)

The verbs *push* and *pull* are unspecified as to whether the door is open. In this respect, the verbs *kick* and *hit* are more similar to the verbs *push* and *pull* than to the verbs *send*, *throw*, and *hurl*. Remember Jackendoff (1990: 133)'s claim that the sentences in (89) should be analyzed by the Spatial Resultative Adjunct Rule.

(89) a. Mary pushed the cart away. (=61a)

b. A tow truck pulled the car away. (=61b)

At least, it seems that the cases of *kick* and *hit* in (82) are better analyzed by the Spatial Resultative Adjunct Rule as with the cases of *push* and *pull* because the verbs themselves do not always imply a change of position. Is it necessary to preserve the PP-Adjunct Rule? It is undesirable to set an additional adjunct rule (the PP-Adjunct Rule) for only the verbs *send*, *throw*, and *hurl*, but rather it is more desirable to include an optional PP in the

lexical entries of *send*, *throw*, and *hurl*. From these considerations it is clear that the PP-Adjunct Rule need not to be preserved solely for the case wherein the verb in a VP of the form [V NP PP] is *send*, *throw*, and *hurl*.¹²

3.4.2 When *away* co-occurs with an Intransitive Form of Verbs which undergoes the Causative Alternation

This subsection deals with sentences like (90), consisting of a subject NP, an intransitive form of a verb participating in the causative alternation, and *away*.

- (90) a. Her anger melted away.
b. Her body fat burned away.

The above two sentences have the same syntactic structure. Under Jackendoff (1990)'s theoretical framework, however, different adjunct rules are applied for them to receive a felicitous interpretation. This subsection points out a problem with the analysis and demonstrates that the sentences like (90) are better interpreted by the same adjunct rule.

First, let us outline how Jackendoff (1990: 239) analyzes the sentence in (91) which has the same syntactic form as (90a) and discuss potential problems arising from the analysis.

- (91) The candy melted into a gooey mess. (Jackendoff 1990: 239)

Jackendoff (1990: 239) considers the verb *melt* as having an unindexed Goal argument encoding the final state of the Theme and analyzes the postverbal PP in (91) as an adjunct

¹² On the other hand, however, it is difficult to abandon the PP-Adjunct Rule, taking this into consideration: Jackendoff (1990: 171) mentions that a Path specified by a verb is augmented with further PP-adjuncts by the PP-Adjunct Rule. It is difficult to account for the mechanism of how PPs following *away* in (a) and (b) are interpreted without an adjunct rule like the PP-Adjunct Rule.

(a) Mary went away from the store/towards her house/to London.

(b) Mary put the toy away from her baby/into the toy box/under the bed.

Hence, in this respect, it seems necessary to preserve the PP-Adjunct Rule.

interpreted by the PP-Adjunct Rule. The following LCS is for the verb *melt* (cf. Jackendoff 1983: 195).

(92) [GO_{Ident} ([], [FROM_{Ident} ([SOLID]) TO_{Ident} ([LIQUID])])]

The lexical information, SOLID and LIQUID, embedded in the arguments of FROM and TO respectively express a property of the Theme argument. Hence, the semantic field in (92) is identificational. The LCS means ‘the state of the subject NP changes from solid to liquid’. The PP in (91), *into a gooey mess*, describes an identificational path and has more specified information than the unindexed Goal argument of the verb *melt* and therefore is allowed to be fused into the Goal argument of *melt* by the PP-Adjunct Rule.

Although there seems to be nothing wrong with this analysis, a problem arises in applying the same analysis to the following sentences.

- (93) a. The glaciers melted into the sea.
b. The snow melted into the river.

The PPs in (93), *into the sea* and *into the river*, do not describe an identificational Path but a spatial Path and do not provide more specified information for the implicit Goal argument of the verb *melt*. Rather they seem to violate the following Unique Path Constraint proposed by Goldberg (1995: 82).

(94) Unique Path (UP) Constraint:

If an argument X refers to a physical object, then no more than one distinct path can be predicated of X within a single clause. The notion of a single path entails two things: (1) X cannot be predicated to move to two distinct locations at any given time t, and (2) the motion must trace a path within a single landscape.

Goldberg (1995: 82)

The unacceptability of the following sentence is attributed to the violation of the Unique

Path Constraint.

(95) *The vegetables went from crunchy into the soup. (Goldberg 1995: 83)

The Path of *from crunchy* is metaphorical while the Path of *into the soup* is literal. The sentence including a PP consisting of two distinct Paths violates the stipulation that the motion must trace a path within a single landscape.

The fact that the sentence violates the Unique Path Constraint figures in the conceptual structure too, as follows:

(96) [GO_{Ident} ([VEGETABLES], [FROM_{Ident} ([CRUNCHY]) TO_{Spatial} ([SOUP])]]]

The conceptual structure shows that two distinct Paths, identificational and spatial, are combined in a single clause. The same holds for (93). When the PP-Adjunct Rule is applied to the PPs in (93), *into the sea* and *into the river*, the following conceptual structures are formed.

(97) a. [GO_{Ident} ([GLACIERS], [FROM_{Ident} ([SOLID])
TO_{Ident} ([LIQUID] TO_{Spatial} ([Place IN ([Thing SEA])])])]]]

b. [GO_{Ident} ([SNOW], [FROM_{Ident} ([SOLID])
TO_{Ident} ([LIQUID] TO_{Spatial} ([Place IN ([Thing RIVER])])])]]]

The above conceptual structures show that two distinct Paths, identificational and spatial, are combined within the single conceptual structure, clearly violating the Unique Path Constraint. Nevertheless, the sentences in (93), unlike (95), are acceptable. It is expected that the conceptual structures in (97) are incorrect as the semantic representations for (93). It is concluded that the PP-Adjunct Rule cannot accommodate the case of (93) and therefore an alternative analysis is required (discussed again in the latter part of this subsection).

Next, let us outline how Jackendoff (1990: 239) analyzes sentences including *burn* as

in (98).

(98) The toast burned black/to a cinder.

(Jackendoff 1990: 239)

Jackendoff (1990: 239) does not decompose the meaning of the verb *burn* into a structure consisting of primitive conceptual elements but merely gives the following semantic representation for the verb: [BURN]. He points out, however, that the verb *burn*, unlike *melt*, has no unindexed Path or Goal argument. It suggests that the postverbal AP *black* in (98) is not interpreted by the PP-Adjunct Rule. Instead, Jackendoff (1990: 239) proposes that the postverbal AP *black* in (98) is interpreted by the following adjunct rule.

(99) Noncausative AP Resultative Adjunct Rule

[_{VP} V_h AP_k] may correspond to

$$\left(\begin{array}{l} \text{INCH } [\text{BE}_{\text{Ident}} ([\alpha], [\text{AT } [\text{Property} \quad]k])] \\ \text{AFF } ([\quad]^{\alpha}_i, \quad) \\ [\text{BY } [\text{AFF}^{-} (\quad , [\alpha])]_h] \end{array} \right)$$

(Jackendoff 1990: 239)

The adjunct rule relates a VP of the form [V AP] to the conceptual structure in (99). The conceptual structure means ‘the subject NP becomes a state expressed by the AP by means of an activity denoted by the verb’. The subordinate clause shows that the verb has a Patient argument alone. The verb is restricted to an intransitive verb which undergoes the causative alternation. It is fixed that the semantic field of the thematic tier of the main clause is identificational.

By the adjunct rule, the following conceptual structure is formed for (98).

$$(100) \left(\begin{array}{l} \text{INCH } [\text{BE}_{\text{Ident}}([\alpha], [\text{AT } [\text{Property } \text{BLACK}]])] \\ \text{AFF } ([\text{TOAST}]^{\alpha}, \quad) \\ [\text{BY } \left(\begin{array}{l} \text{BURN } ([\beta]) \\ \text{AFF}^{-} (\quad , [\alpha]^{\beta}) \end{array} \right)] \end{array} \right) \quad (\text{Jackendoff 1990: 239})$$

The reading of *the toast* is incorporated into the Actor in the main clause, which is bound to the Theme argument of BE in the main clause and the Patient in the subordinate clause by α . The Patient in the subordinate clause is further linked to an argument of *burn* by β . The reading of *black* is incorporated into the property argument of AT. The conceptual structure roughly means ‘the toast got black by burning’.

Jackendoff (1990: 239) proposes the Noncausative AP Resultative Adjunct Rule to interpret identificational AP adjuncts like *black* in (98) but does not propose an adjunct rule required for identificational PP adjuncts like *to a cinder* in (98) for simplicity’s sake. Furthermore, Jackendoff (1990: 241) does not propose an adjunct rule required for spatial PP adjuncts based on the following observation: the verb *burn* cannot be followed by a spatial PP, as shown in (101).

(101) *The rocket burned into the hotel. (Jackendoff 1990: 241)

However, there exist examples where a spatial PP follows the verb *burn*, as shown in (102).

- (102) a. The clothes burned away from her body, [...].
 (Joanne Garde-Hansen, *Media and Memory*, 44)
- b. War tents burned into the sky, [...]
 (M. D. Easterwood, *The Sword of Souls*, 347)

The above sentences serve as evidence that there is an adjunct rule to interpret spatial PP

adjuncts.

In light of this evidence, I propose (103) as the Noncausative PP Resultative Adjunct Rule.

(103) Noncausative PP Resultative Adjunct Rule

$[_{VP} V_h PP_k]$ may correspond to

$$\left(\begin{array}{l} GO ([\alpha], []_k) \\ ACT ON ([]^a_i,) \\ [FROM [ACT ON^- (, [\alpha])]_h] \end{array} \right)$$

The adjunct rule relates a VP of the form $[V PP]$ to the conceptual structure in (103). In the conceptual structure, the ACT (ON)- function is adopted instead of the AFF- function for the same reason as the revised version of the Spatial Resultative Adjunct Rule (=68). It should be noticed that a FROM-function, and not a BY-function, is used in the subordinate clause. The main reason is that in this case the meaning of the main verb serves not as a means modifier but as a cause modifier. It follows that the FROM-function expressing a cause is more appropriate as the subordinate function than the BY-function expressing a means.¹³ Hence, the present study adopts a FROM-function in the subordinate clause. The subordinate clause shows that the verb takes a Patient argument alone and is restricted to an intransitive verb participating in the causative alternation. The PP corresponds to the Path argument of GO in the main clause. The semantic field of the thematic tier in the main clause is unspecified; it is determined by what the Theme (an object traversing a Path) is. The conceptual structure roughly means ‘the subject NP traverses a Path expressed by the PP as a result of an activity denoted by the verb’.

By this adjunct rule, the sentence in (102a) receives the following conceptual structure.

¹³ I am grateful to Professor Yoko Yumoto for the suggestion that the FROM-function should be substituted for the BY-function.

$$(104) \left(\begin{array}{l} \text{GO}_{\text{Spatial}} ([\alpha], \left[\begin{array}{l} \text{FROM}_{\text{Spatial}} ([\text{Place HER BODY}]) \\ \text{Path TO}_{\text{Spatial}} ([\text{Place AN UNSPECIFIED DISTANCE}]) \end{array} \right]) \\ \text{ACT ON} ([\text{CLOTHES}]^{\alpha}, \quad) \\ \text{[FROM} \left[\begin{array}{l} \text{BURN} ([\beta]) \\ \text{ACT ON}^{-} (\quad , [\alpha]^{\beta}) \end{array} \right] \end{array} \right)$$

The reading of *the clothes* is incorporated into the Actor in the main clause, which is bound to the Theme argument of GO in the main clause and the Patient in the subordinate clause by α . The Patient in the subordinate clause is further linked to an argument of *burn* by β . The verb *burn* serves as a cause modifier at the level of conceptual structure. The reading of *away* is incorporated into the Path argument of GO. The reading of *her body* is fused with the Source argument of *away*. The Thing argument of GO, *clothes*, is a spatially moving object, so the semantic field of the thematic tier in the main clause is spatial. The conceptual structure roughly means ‘the clothes went away from her body as a result of its burning’.

The proposal of the Noncausative PP Resultative Adjunct Rule leads to the following two merits: first, the identificational PP adjunct like *to a cinder* in (105) can also be interpreted by the Noncausative PP Resultative Adjunct Rule.

(105) The toast burned to a cinder. (Jackendoff 1990: 239)

The adjunct rule provides the sentence with the following conceptual structure.

$$(106) \left(\begin{array}{l} \text{GO}_{\text{Ident}} ([\alpha], [\text{Path TO } ([\text{Property CINDER}])]) \\ \\ \text{ACT ON } ([\text{TOAST}]^{\alpha}, \quad) \\ \\ [\text{FROM } \left(\begin{array}{l} \text{BURN } ([\beta]) \\ \text{ACT ON}^{-} (\quad , [\alpha]^{\beta}) \end{array} \right)] \end{array} \right)$$

Significant here is that the semantic field is identificational because the PP *to a cinder* expresses a property of the subject *the toast*. The conceptual structure roughly means ‘the toast turned to a cinder as result of its burning’. Thus, the adjunct rule can deal with even the case of identificational PP adjuncts.

Second, the Noncausative PP Resultative Adjunct Rule can provide a correct conceptual structure for the sentences in (93) (repeated below as (107)).

- (107) a. The glaciers melted into the sea. (=93a)
 b. The snow melted into the river. (=93b)

As argued earlier, the PP-Adjunct Rule cannot provide a felicitous conceptual structure for the sentences in (107), as shown in (97) (repeated below as (108)), because the conceptual structures violate the Unique Path Constraint.

- (108) a. $[\text{GO}_{\text{Ident}} ([\text{GLACIERS}], [\text{FROM}_{\text{Ident}} ([\text{SOLID}]$
 $\quad \text{TO}_{\text{Ident}} ([\text{LIQUID}] \text{TO}_{\text{Spatial}} ([\text{Place IN } ([\text{Thing SEA}])])])])]$ (=97a)
 b. $[\text{GO}_{\text{Ident}} ([\text{SNOW}], [\text{FROM}_{\text{Ident}} ([\text{SOLID}]$
 $\quad \text{TO}_{\text{Ident}} ([\text{LIQUID}] \text{TO}_{\text{Spatial}} ([\text{Place IN } ([\text{Thing RIVER}])])])])]$ (=97b)

On the other hand, when the Noncausative PP Resultative Adjunct Rule is applied to (107), the formed conceptual structures do not violate the Unique Path Constraint, as shown in (109).

- (109) a. $\left(\begin{array}{l} \text{GO}_{\text{Spatial}}([\alpha], [\text{Path TO}_{\text{Spatial}}([\text{Place IN}([\text{Thing SEA}])])]) \\ \\ \text{ACT ON}([\text{GLACIERS}]^{\alpha}, \quad) \\ \\ \text{[FROM} \left[\begin{array}{l} \text{[GO}_{\text{Ident}}([\beta], [\text{FROM}_{\text{Ident}}([\text{SOLID}]) \text{TO}_{\text{Ident}}([\text{LIQUID}])])]) \\ \text{ACT ON}^{-}(\quad, [\alpha]^{\beta}) \end{array} \right]] \end{array} \right)$
- b. $\left(\begin{array}{l} \text{GO}_{\text{Spatial}}([\alpha], [\text{Path TO}_{\text{Spatial}}([\text{Place IN}([\text{Thing RIVER}])])]) \\ \\ \text{ACT ON}([\text{SNOW}]^{\alpha}, \quad) \\ \\ \text{[FROM} \left[\begin{array}{l} \text{[GO}_{\text{Ident}}([\beta], [\text{FROM}_{\text{Ident}}([\text{SOLID}]) \text{TO}_{\text{Ident}}([\text{LIQUID}])])]) \\ \text{ACT ON}^{-}(\quad, [\alpha]^{\beta}) \end{array} \right]] \end{array} \right)$

As shown in (109), the LCS of the verb *melt* is incorporated into the subordinate clause. The PP, *into the sea* and *into the river*, is fused into the Path argument of GO in the main clause. In the subordinate clause, the reference objects, SOLID and LIQUID, express properties of the subject NP, *glaciers* and *snow*, and therefore the semantic field is identificational. In the main clause, on the other hand, the Path is identified as the spatial Path the glaciers or the snow moves and hence the semantic field is spatial. The conceptual structures mean ‘the glaciers/the snow go/goes into the sea/the river, as a result of its melting.’ The important point is that the Path is different between the main and subordinate conceptual clauses but the conceptual structures in (109) do not violate the Unique Path Constraint because the conceptual structure consists of two distinct clauses. Thus, the Noncausative PP Resultative Adjunct Rule can prevent conceptual structures of (107) from including distinct paths in a single clause, as shown in (109). This demonstrates that the Noncausative PP Resultative Adjunct Rule, unlike the PP-Adjunct

Rule, can provide a correct conceptual structure for sentences like (107). From this discussion, it is concluded that when the verb in a VP of the form [V PP] is *melt*, the same adjunct rule as the case of *burn*, and not the PP-Adjunct Rule, is best applied to the VP.

Next, let us consider how the meaning of *away* in (90) (repeated below as (110)) is determined in light of the present analysis.

(110) a. Her anger melted away. (=90a)

b. Her body fat burned away. (=90b)

The syntactic forms in the sentences in (110) do not match the argument structure of the verb but match that of the Noncausative PP Resultative Adjunct Rule in (103). Therefore, the adjunct rule is applied to (110). As a result, the following conceptual structures are formed.

(111) a.
$$\left(\begin{array}{l} \text{GO}_{\text{Spatial}}([\alpha], \left[\begin{array}{l} \text{FROM}_{\text{Spatial}}([\text{Place A REFERENCE POINT}]) \\ \text{Path TO}_{\text{Spatial}}([\text{Place AN UNSPECIFIED DISTANCE}]) \end{array} \right]) \\ \text{ACT ON}([\text{HER ANGER}]^{\alpha}, \quad) \\ \left[\text{FROM} \left[\begin{array}{l} \text{GO}_{\text{Ident}}([\beta], [\text{FROM}_{\text{Ident}}([\text{SOLID}]) \text{TO}_{\text{Ident}}([\text{LIQUID}])]) \\ \text{ACT ON}^{-}(\quad, [\alpha]^{\beta}) \end{array} \right] \right] \end{array} \right)$$

b.
$$\left(\begin{array}{l} \text{GO}_{\text{Spatial}}([\alpha], \left[\begin{array}{l} \text{FROM}_{\text{Spatial}}([\text{Place A REFERENCE POINT}]) \\ \text{Path TO}_{\text{Spatial}}([\text{Place AN UNSPECIFIED DISTANCE}]) \end{array} \right]) \\ \text{ACT ON}([\text{HER BODY FAT}]^{\alpha}, \quad) \\ \left[\text{FROM} \left[\begin{array}{l} \text{BURN}([\beta]) \\ \text{ACT ON}^{-}(\quad, [\alpha]^{\beta}) \end{array} \right] \right] \end{array} \right)$$

As shown in (111), the LCSs of the verbs *melt* and *burn* are incorporated into the subordinate clause and serve as a cause modifier. The LCS of *away* is fused with the Path argument of GO in the main clause. The subjects, *her anger* and *her body fat*, are not a spatially movable object and hence the Path of *away* is blocked from being interpreted with a spatial meaning. On the other hand, the thematic tier in the main clause in (111) matches the inference rule in (32) (repeated below as (112)).

(112) At the termination of [Event GO ([Thing X], [Path FROM ([Place Y]) TO ([Place Z]])]),
it is the case that [State NOT BE ([X], [Place AT ([Y]])]]. (=32)

Hence, the meaning of disappearance is brought about from the thematic tier of the main clause in (111) through the inference rule in (112). As a result, *away* in (110) assumes the meaning of disappearance.

Finally, let us look at the following sentences.

- (113) a. The ice cube melted away.
b. The paper burned away.

When the subjects in the sentences in (110), *her anger* and *her body fat*, are replaced by those in (113), *away* can be interpreted either as a disappearance or as a change. It is shown that *away* co-occurring with *melt* and *burn* does not always mean a disappearance. This is confirmed by the following examples.

- (114) a. The ice cube melted away into water.
b. The paper burned away to ashes.

In this case, the existence of the ice cube and the paper remains although the shape changes. The meaning of disappearance of *away* in (113) is obtained by the same mechanism as the sentences in (110). However, it is not clear how the meaning of change of *away* in (113) is obtained. How is the meaning of change of *away* obtained?

I propose that when *away* in (113) is interpreted as a change, our knowledge of the Theme argument makes the Goal argument of *away* more specific. We know that an ice cube can ultimately become water as a result of melting; a piece of paper can become ashes as a result of burning. The knowledge is reflected in the Goal argument in the conceptual structures of (113), as follows:

$$(115) \text{ a. } \left(\begin{array}{l} \text{GO}_{\text{Ident}}([\alpha], \left[\begin{array}{l} \text{FROM}_{\text{Ident}}([\text{Place A REFERENCE POINT}]) \\ \text{Path TO}_{\text{Ident}}([\text{Place IN}([\text{Thing WATER}])]) \end{array} \right]) \\ \text{ACT ON}([\text{ICE CUBE}]^{\alpha}, \quad) \\ \left[\text{FROM} \left[\begin{array}{l} [\text{GO}_{\text{Ident}}([\beta], [\text{FROM}_{\text{Ident}}([\text{SOLID}]) \text{ TO}_{\text{Ident}}([\text{LIQUID}])]) \\ \text{ACT ON}^{-}(\quad, [\alpha]^{\beta}) \end{array} \right] \right] \end{array} \right)$$

$$\text{b. } \left(\begin{array}{l} \text{GO}_{\text{Ident}}([\alpha], \left[\begin{array}{l} \text{FROM}_{\text{Ident}}([\text{Place A REFERENCE POINT}]) \\ \text{Path TO}_{\text{Ident}}([\text{Place IN}([\text{Thing ASHES}])]) \end{array} \right]) \\ \text{ACT ON}([\text{PAPER}]^{\alpha}, \quad) \\ \left[\text{FROM} \left[\begin{array}{l} \text{BURN}([\beta]) \\ \text{ACT ON}^{-}(\quad, [\alpha]^{\beta}) \end{array} \right] \right] \end{array} \right)$$

The above conceptual structures are for the case where *away* in (113) is interpreted as a change. As shown in (115a), the Goal argument of *away* is deleted by our knowledge of ice cube; instead the semantic information WATER is embedded in the Goal argument. As shown in (115b), the Goal argument of *away* is deleted by our knowledge of paper; instead the semantic information ASHES is embedded in the Goal argument. In this case, the Path of *away* serves as an identificational Path to the Goal, WATER or ASHES, and

hence assumes the meaning of change.¹⁴

From the above consideration, it becomes clear that *away* serves as the spatial Path the Theme traverses when *away* in (113) is interpreted as a disappearance, while *away* serves as the identificational Path the Theme changes into the Goal WATER or ASHES when *away* in (113) is interpreted as a change. In addition, it has been shown that what the Theme is plays a crucial role in determining the interpretation of *away* in noncausative resultative constructions. However, the present analysis only provides an ad hoc explanation for this phenomenon and cannot predict what type of the subject NP in noncausative resultative constructions results in which interpretation of *away*, whether a disappearance or a change. Hence, further research is needed to solve this problem.

3.4.3 When *away* co-occurs with manner of motion verbs

The verbs in (116a) and (116b) are generally classified into the class of manner of motion verbs. It is expected that *away* co-occurring with them has the same meaning. However, the meaning of *away* is actually different between (116a) and (116b), as *away* in (116a) is directional while *away* in (116b) is aspectual.

- (116) a. Mary ran/walked/swam/bounced/jumped away.
b. Mary danced/waltzed away.

This subsection shows that the difference in meaning of *away* between (116a) and (116b) cannot be explained under Jackendoff (1990)'s theoretical framework and argues that an alternative approach is needed to solve this problem.

Let us examine what problems arise in analyzing the sentences based on his theory. Jackendoff (1990: 88, 223) points out that manner of motion verbs like *dance*, *bounce*, and *jump*, unlike verbs such as *enter*, *approach*, and *leave*, do not imply traversal of a Path and thus do not fall into the class of GO-verbs. In light of this fact, he proposes the

¹⁴ In this case, the source argument of *away*, the reference point, serves as the original form of the Theme argument, ICE CUBE and PAPER.

following LCS for the class of manner of motion verbs.

(117) [Event MOVE ([Thing])] (Jackendoff 1990: 89)

The MOVE-function, unlike the GO-function, takes a Thing argument alone. It is worth noticing that manner of motion verbs themselves do not take a Path argument but can actually co-occur with Path expression like *into the room*, as shown in (118).

(118) Debbie danced into the room. (Jackendoff 1990: 89)

To provide a theoretical explanation for this phenomenon, Jackendoff (1990: 224) proposes the GO-Adjunct Rule in (119) that enables manner of motion verbs to co-occur with Path expressions.

(119) GO-Adjunct Rule

[_{VP} V_h . . . PP] may correspond to

$$\left(\begin{array}{l} \text{GO} ([\alpha], [\text{Path} \quad \quad]) \\ \text{AFF} ([\quad]^{\alpha}_i, \quad) \\ [\text{WITH/BY} [\text{MOVE} ([\alpha])]_h] \end{array} \right) \quad (\text{Jackendoff 1990: 224})$$

The adjunct rule provides a way of mapping from the syntactic pattern [V PP] to the conceptual structure in (119). The main verb corresponds to the modifying conceptual clause and serves as an accomplishment or means modifier at the level of conceptual structure. The PP corresponds to no conceptual constituent in the conceptual structure but is interpreted independently by the PP-Adjunct Rule. The subject is co-indexed *i* with the Actor of the main clause, which is bound to the Theme in the main clause and the argument of MOVE in the subordinate clause by α . The conceptual structure roughly means ‘the subject traverses a Path denoted by the PP while/by doing an activity denoted by the verb’. The rule is applied to a VP of the form [V PP] if the verb falls into the class

of MOVE-verbs.

Let us examine how the rule works for sentences in (116). All the VPs in (116) are the combination of a manner of motion verb and an intransitive preposition. Hence, they meet the condition under which the rule applies. The adjunct rule can provide a felicitous meaning for *away* in (116a) while it assigns *away* in (116b) with an incorrect meaning. In addition, it must be noted that the GO-Adjunct Rule proposed by Jackendoff (1990) lacks the theoretical consistency with Jackendoff (1997b, 2002a)'s analysis of aspectual *away*. In fact, Jackendoff (1997b: 539, 2002a: 77) takes up the VPs *dance away* and *waltz away* as examples including aspectual *away*.

- (120) a. Bill waltzed away. (Jackendoff 1997b: 539)
b. Lois and Clark danced away for two blissful hours. (Jackendoff 1997b: 540)

Jackendoff (1997b: 539, 2002a: 77) claims that the meanings of sentences including aspectual *away* are fully compositional and the sentences in (121a) have the meaning of (121b). However, he does not provide a specific explanation for how the meanings of the constituent words are combined at the level of conceptual structure.

- (121) a. Bill slept/waltzed/drank/talked/read/sneezed away.
b. Bill kept on V-ing.
(Jackendoff 1997b: 539)

It is clear that Jackendoff (1990)'s GO-Adjunct rule lacks a theoretical consistency with Jackendoff (1997b, 2002a)'s explanation for aspectual *away* and cannot always provide a correct interpretation for *away* co-occurring with manner of motion verbs.

Furthermore, there are two problems regarding Jackendoff (1990)'s proposal of the Event-function of manner of motion verbs. One is that a manner of motion verb *run* is expressed by using a GO-function and not a MOVE-function, as shown in the following lexical entry of *run*.

(122)
$$\left[\begin{array}{l} \text{run} \\ \text{V} \\ \text{---} \langle \text{PP } j \rangle \\ [\text{Event GO} ([\text{Thing } \quad]_i, [\text{Path } \quad]_j)] \end{array} \right] \quad (\text{Jackendoff 1990: 45})$$

The angle brackets mean that the PP is an optional argument. The PP is co-indexed *j* with the Path argument of GO in the LCS. In short, Jackendoff (1990) does not provide a consistent Event-function for manner of motion verbs.

Furthermore, Jackendoff (1990: 90) classifies verbs of bodily action like *laugh* and *sneeze* into the class of MOVE-verbs. However, these verbs cannot co-occur with Path expressions as shown in (123).

(123) *Mary laughed/sneezed into the room.

In general, both verbs of bodily action like *laugh* and *sneeze* and manner of motion verbs like *walk* and *jump* are categorized as activity verbs. However, the former, unlike the latter, cannot co-occur with Path expressions. Therefore, it is not appropriate to represent both the verbs by using the same Event-function MOVE. What allows verbs of manner of motion to co-occur with Path expressions while preventing activity verbs like *laugh* and *sneeze* from co-occurring with Path expressions? It is obvious that manners denoted by verbs of manner of motion are different from those of bodily action in that they serve as a direct driving force of movement. In order to solve this problem, a more elaborate semantic representation at least including such information is necessary for manner of motion verbs. I will take up this problem again in Chapter 5.

3.5 Conclusion

This chapter has examined how the meaning of *away* in particle *away* constructions is determined and what there is in common among the different meanings of *away* in

particle *away* constructions.

Section 2 has proposed the LCS of *away* based on the semantic property.

Section 3 has presented cases where the LCS of *away* is integrated into conceptual structures of sentences by Argument Fusion and the Spatial Resultative Adjunct Rule (revised version). As a result, several things have been revealed. First, it has been demonstrated that *away* shares the same semantic structure at the level of conceptual structure regardless of the meaning it has. Next, it has been revealed that the application of the LCS of *away* to different semantic field makes it possible that *away* has multiple meanings.

Table 3.1 shows the result of analysis. When the semantic field is spatial, *away* has a meaning of related to space. For instance, when the Theme is counted as a spatially moving object such as Mary or ball, *away* has the meaning of spatial movement. When the Theme is counted as a spatially located object such as hotel, money, or nut, *away* has the meaning of location. When the Theme is counted as an object which is spatially directed in a direction such as one's gaze or face, *away* means 'the direction of one's gaze or face'. Next, when the semantic field is extensional, *away* has a meaning related to extension. For instance, when the Theme is counted as an extended object such as hill or cliff, *away* means the direction of slope. Next, when the semantic field is possessional, *away* has a meaning related to possession. For instance, when the Theme is counted as an object which one possesses like one's money, *away* has the meaning of donation. Finally, when the semantic field is temporal, *away* has a meaning related to time. For instance, when the Theme is counted as an Event like birthday, *away* means a future time. However, I have pointed out that there are cases where the semantic field alone is not enough to draw out the precise meaning of *away*. I have argued that not only the conceptual structures of sentences but also an inference rule and our world knowledge must be taken into account in order to draw out meanings of *away* such as storage, removal, disappearance, and loss. In addition, I have pointed out that NPs such as *the pain* and *her anger* are not actually spatially movable objects but are conceptualized as moving objects. Furthermore, I have argued that the Place reading of *away*, unlike the Path sense of *away*, need not necessarily be listed in the lexicon because it is drawn from the core Path sense

by the cognitive operation of focusing.

Meaning of <i>away</i>	Type of the Theme argument	Semantic field of conceptual structure
spatial movement, removal, disappearance	A spatially moving object e.g. Mary, ball, dust, etc. (pain, anger, etc.)	The spatial field
location, storage	A spatially located object e.g. hotel, money, nuts, etc.	The spatial field
the direction of one's gaze or face	An object which is spatially directed in a direction e.g. one's gaze or face, etc.	The spatial field
the direction of slope	An extended object e.g. hill, cliff, etc.	The extensional field
donation, loss	An object which one possesses e.g. one's money, one's baby, etc.	The possessional field
future time	An event e.g. birthday, etc.	The temporal field

Table 3.1. The distribution of the meanings of *away* found in each type of the Theme argument and its semantic field .

In Section 4, I have pointed out that some problems arise when analyzing particle *away* constructions based on Jackendoff (1990)'s theory and proposed some solutions to the problems. First, I have argued that rather than preserving the PP-Adjunct Rule only for the verbs *send*, *throw*, and *hurl*, it is more reasonable to include an optional PP in the lexical entries of the verbs. Next, I have pointed out that the unique path constraint violation occurs when the PP-Adjunct Rule applies to the VP '*melt away into the sea*'. I have proposed the Noncausative PP Resultative Adjunct Rule as a solution to the problem and demonstrated that the VP can be felicitously interpreted by the Noncausative PP

Resultative Adjunct Rule and therefore the PP-Adjunct Rule also need not be preserved in this case. Next, I have pointed out that when the subject in the VP *melt away* is changed from *her anger* to *the ice cube*, *away* can be interpreted either as a disappearance or as a change. I have provided the following explanation for this phenomenon: when *away* is interpreted as a disappearance, *away* serves as the spatial Path the Theme traverses at the level of conceptual structure. In contrast, *away* serves as the identificational Path the Theme changes into the Goal WATER or ASHES when *away* is interpreted as a change. However, I have mentioned that this explanation is ad hoc and therefore further research is needed to predict what type of the subject NP in noncausative resultative constructions results in which interpretation of *away*, whether a disappearance or a change.

Finally, I have pointed out that the GO-Adjunct Rule cannot provide a correct interpretation for *away* co-occurring with the verbs *dance* and *waltz*. In Chapter 5, I will attempt to elucidate the mechanism of how *away* co-occurring with dance verbs receives a felicitous interpretation.

Chapter 4 The analysis of the ‘time’-*away* construction

4.1 Introduction

This chapter deals with the temporal use of *away* as in (1), which Jackendoff (1997b) regards as the ‘time’-*away* construction.

- (1) a. Bill slept the afternoon away.
b. We’re twistin’ the night away.

(Jackendoff 1997b: 534)

The VP of the ‘time’-*away* construction consists of an intransitive verb, a non-subcategorized time phrase, and *away*. Jackendoff (1997b: 550) claims that the ‘time’-*away* construction has its own peculiar semantic properties and therefore must be distinguished from resultative constructions with the same syntactic form. In contrast, Takami (2007, 2015) refutes Jackendoff’s analysis by presenting apparent counterexamples to the peculiar semantic properties observed by Jackendoff, and instead provides an alternative Functional/Semantic Constraint for the ‘time’-*away* construction. However, it is shown in this chapter that Takami’s constraint also remains problematic. Their discussions are both developed under the assumption that the ‘time’-*away* construction is a ‘construction’ with its particular semantic properties. However, both of them give no full explanation on the reason why such peculiar semantic properties exclusively emerge in the ‘time’-*away* construction. Therefore, it is worthwhile to pursue the underlying cause of those peculiar semantic properties. In this chapter, I attempt to elucidate how the ‘time’-*away* construction is understood and created, as well as what causes the peculiar semantic properties. I also attempt to clarify why Takami (2015)’s analysis conflicts with Jackendoff (1997b)’s.

This chapter is organized as follows: after briefly outlining Jackendoff’s and Takami’s analyses of the ‘time’-*away* construction, Section 2 establishes apparent

problems with their analyses. Section 3 discusses how the ‘time’-*away* construction is related to the resultative construction, and attempts to elucidate how the ‘time’-*away* construction is understood and created. It also attempts to clarify what causes the peculiar semantic properties of the ‘time’-*away* construction. Furthermore, this section proposes that there are two types in the ‘time’-*away* construction. Section 4 argues that this proposal provides a cogent explanation for why Jackendoff (1997b)’s analysis of the ‘time’-*away* construction is refuted by Takami (2015). Section 5 is the conclusion.

4.2 Previous Studies

In this section, I briefly outline Jackendoff (1997b)’s and Takami (2015)’s analyses of the ‘time’-*away* construction. It will be shown that Takami (2015)’s analysis is superior in that it provides many counterexamples to Jackendoff (1997b)’s analysis and reveals the flaws. However, I will go on to demonstrate that Takami (2015)’s analysis is also problematic.

4.2.1 Jackendoff’s Analysis

Jackendoff (1997b: 534) argues that the ‘time’-*away* construction is superficially similar to the *way* construction and the resultative construction, but cannot be reduced to either due to the difference in semantics.¹⁵ Let us then outline the semantic properties which are supposed to be particular to the ‘time’-*away* construction and the similarity and difference between the ‘time’-*away* and the resultative constructions pointed out by Jackendoff (1997b).

¹⁵ The VP of the *way* construction consists of an intransitive verb, X’s *way*, and a PP as follows:
(a) Dora drank her way down the street.
(b) Babe Ruth homered his way into the hearts of America.

(Jackendoff 1997b: 545)

The *way* construction has the same syntactic structure as the ‘time’-*away* construction and the resultative construction. According to Jackendoff (1997b: 546-547), the construction roughly means ‘go/get/come/ PP (by) V-ing’. It is also stated that the direct object in the *way* construction is fixed while any PP can occur as long as it expresses a Path.

Jackendoff (1997b: 555) points out that the meaning of the ‘time’-*away* construction is not compositional. In light of this, the ‘time’-*away* construction is analyzed as a pairing of form and meaning, as shown in (2).

(2) a. [_{VP} V NP away]

b. ‘waste [_{Time} NP] V-ing’

(Jackendoff 1997b: 555)

The constructional meaning is considered to be learned and stored in the lexicon just like an ordinary word and idiom. Jackendoff (1997b: 555) claims that the argument structure of the VP is determined not by the main verb but by the constructional meaning. Nonetheless, the constructional meaning varies among Jackendoff (1997b, 2002a, 2002b), and Goldberg and Jackendoff (2004).

(3) a. ‘waste [_{Time} NP] V-ing’

(Jackendoff 1997b: 555)

b. ‘waste [_{Time} NP] heedlessly V-ing’

(Jackendoff 2002a: 84)

c. ‘spend NP V-ing’

(Jackendoff 2002b: 175)

d. ‘subject spends time frivolously doing V’ (Goldberg and Jackendoff 2004: 533)

In fact, Jackendoff (1997b: 539) acknowledges that the constructional meaning is too complex and rich to be captured by any paraphrase.

Next, let us turn to the semantic restrictions on the ‘time’-*away* construction. First, the subject is required to be volitional. Hence, subjects like *the light* and *the wind* in (4) cannot be used in the ‘time’-*away* construction.

(4) a. *The light flashed two hours away.

(Jackendoff 1997b: 537)

b. *The wind blew the night away.

(Jackendoff 1997b: 550)

Next, verbs in the ‘time’-*away* construction, unlike verbs like *spend* and *waste*, cannot take a NP that refers to the subject’s resource except time, as shown in (5).

- (5) a. Pam fished the afternoon/*her energy/*hundreds of dollars away.
b. Bill spent/wasted his energy/hundreds of dollars skiing.

(Jackendoff 1997b: 538)

Next, the verb in the ‘time’-*away* construction is limited to those describing an activity. Hence, the verb describing a state like *sit* cannot be used in the ‘time’-*away* construction, as shown in (6).

- (6) *Celia sat two hours away.

(Jackendoff 1997b: 537)

Next, ‘time’-*away* construction have two insinuations: that an activity denoted by the verb is heedlessly pleasant for the subject and that the subject should have done something else during the time, or either of these. Hence, it is undesirable to use the verb *work*, *toil*, or *labor* in the ‘time’-*away* construction, as shown in (7).

- (7) ?#Ivan worked/toiled/labored three (miserable) hours away.

(Jackendoff 1997b: 537)

The above sentence is interpreted with a slightly ironic nuance.

Next, let us turn to the similarity and difference between the ‘time’-*away* construction and the resultative construction. First, let us begin with the similarity. The direct objects in the two constructions are fully referential and can undergo syntactic operations such as passivization, tough movement, pronominalization, and wh-movement, as shown in (8) and (9).¹⁶

¹⁶ According to Jackendoff (1997b: 546-548), X’s *way* in the *way* construction occurs in direct object position and therefore an adverb like *happily* cannot occur between the verb and X’s *way* as follows:

(a) *Sue sang happily her way down the street.

(Jackendoff 1997b: 546)

On the other hand, the direct object X’s *way* is not referential and hence X’s *way* cannot undergo the syntactic operations like passivization, tough movement, pronominalization, and wh-movement, as follows:

- (8) a. In the course of the summer, many happy evenings were drunk away by the students before they finally realized there was serious work to be done.
 b. A morning like this is hard for even ME to sleep away. (Jackendoff 1997b: 536)
 c. Bill slept Monday afternoon away, while Harry drank it away.
 d. Which morning is Bill most likely to sleep away? (Jackendoff 1997b: 548)
- (9) a. The pot was cooked dry by Cathy.
 b. Tara is real easy to talk into a stupor.
 c. Bill cried his eyes out on Wednesday, and he cried them out again on Sunday.
 d. What did Helen hammer flat? (Jackendoff 1997b: 549)

In this respect, the ‘time’-*away* construction is similar to the resultative construction.

On the other hand, Jackendoff (1997b: 550) points out that there are three reasons for distinguishing the ‘time’-*away* construction from the resultative construction. I will briefly outline two of them here. First of all, the direct object of the ‘time’-*away* construction fails the *do to* test which assesses whether the direct object can be regarded as a Patient role as in (10a), while the one of the resultative construction satisfies the test as in (10b).

- (10) a. *What Bill did to Monday was sleep it away. (Jackendoff 1997b: 550)
 b. What Willie did to the table was wipe it clean. (Jackendoff 1997b: 545)

-
- (b) *Her way was sung down the street by Sue. (Jackendoff 1997b: 546)
 (c) *His/Bill’s way is hard for Bill/him to push into the room.
 (d) *Bill whistled his way into the room, and then he joked it down the hall.
 (e) *Which way/which of his ways did Bill poke into the room? (Jackendoff 1997b: 548)

However, this does not mean that the direct object of the ‘time’-*away* construction does not have the role of Patient. In fact, the direct object of the ‘time’-*away* construction can satisfy the weaker *do with* test and *happen to* test as pointed out by Jackendoff (1997b: 550).

- (11) a. What Bill did with Monday was sleep it away.
b. What happened to Monday was I slept it away.

(Jackendoff 1997b: 550)

It is shown that the direct object of the ‘time’-*away* construction also plays the role of Patient although the Patienthood of the direct object is weaker than that of the resultative construction.

However, Jackendoff (1997b: 550) concludes that the direct object of the ‘time’-*away* construction does not have exactly the same semantic role as that of the resultative construction and hence the two constructions must be distinguished.

Another reason is that the peculiar semantic restrictions on the ‘time’-*away* construction cannot be found in the resultative construction. For instance, an ironic nuance does not arise in the resultative construction even if the verb *labor*, *work*, or *toil* are used. In addition, the subject in the resultative construction may be non-volitional, as shown in (12).

- (12) The wind blew the papers away. (Jackendoff 1997b: 550)

These differences lead Jackendoff (1997b) to the conclusion that the ‘time’-*away* and the resultative constructions must be distinguished.

4.2.2 Takami’s Analysis

Takami (2015) provides many counterexamples to Jackendoff (1997b)’s analysis of the ‘time’-*away* construction and challenges the validity. As an alternative, he proposes a

Functional/Semantic Constraint that can accommodate a wide variety of examples of the ‘time’-*away* construction.

Let us consider Takami (2015)’s counterexamples to Jackendoff (1997b)’s analysis. The verbs in (13) *tremble* and *belch/hiccup* describe involuntary activities. In this case, the subjects in (13) *the victims* and *he* do not act volitionally.

- (13) a. The victims were caught in a freak snow storm on the mountainside and survived by taking cover in a small cave, trembling the night away until help arrived. (Takami 2015: 53)
- b. After eating a big lunch much too fast, he belched/hiccuffed the early afternoon away. (Takami 2015: 54)

It is shown that even a non-volitional subject can be used in the ‘time’-*away* construction. Next, the verbs in (14) *sit*, *lie*, and *stand* denote a state.

- (14) a. The three walked to a lower floor garden and there they sat the night away, waiting for the first light of dawn.
- b. Sort of like lions lying the day away under a shade tree out on the savanna.
- c. Standing the day away at work is an intimidating proposition, particularly for your feet and legs.
- (Takami 2015: 54)

This shows that even verbs denoting a state can be used in the ‘time’-*away* construction.

Next, it is found from the context in (15) that the subjects *the people* and *John* never enjoy the activities denoted by the verbs.

- (15) a. The people who had been in the shipwreck swam the night away, trying to get to the seashore. (Takami 2015: 52)
- b. John came down with a high fever and went to bed early, moaning the night away. (Takami 2015: 53)

This indicates that the ‘time’-*away* construction need not carry the connotation that the activity is pleasant for the subject.

Next, the activities denoted by the verbs *write* and *read* in (16) are productive and useful.

- (16) a. Ann wrote the night away trying to finish her dissertation before the deadline.
b. John read the night away finishing his MIT dissertation.

(Takami 2015: 51)

It is shown that the ‘time’-*away* construction need not carry the connotation that the subject should have been doing something else, nor that the ‘time’-*away* construction necessarily has the meaning of wasting time.

Finally, the following examples show that even the verbs *work*, *toil*, or *labor* can be used in the ‘time’-*away* construction.

- (17) a. The Real Estate Group would like to thank all of Santa’s helpers that worked the night away getting ready for Santa!
b. The yard looks horrible but I actually enjoyed my weekend instead of toiling the entire weekend away.

(Takami 2015: 50)

- c. More than 30 generous volunteers labored the day away building a new home for a local family.

(Takami 2015: 51)

Based on these counterexamples, Takami (2015) claims that Jackendoff (1997b) overgeneralizes the semantic properties of the ‘time’-*away* construction based on limited examples and therefore all cases of the ‘time’-*away* construction cannot be accommodated. He concludes that Jackendoff (1997b)’s analysis is incorrect.

In light of the above consideration, Takami (2015: 60) proposes the following

hypothesis.¹⁷

(18) A Functional/Semantic Constraint on the ‘time’-*away* construction:

The ‘time’-*away* construction is acceptable to the extent that

- i. the subject referent keeps/kept on doing a continuous activity or state described by the verb during the whole period of the specified time;
- ii. the time period is longer than usual,
- iii. at his/her own will or regardless of his/her own will and
- iv. heedless of the passage of time.

Annotation: the time phrase must denote not a particular and definite time period such as *two hours* or *three hours* but rather a rough time period such as *the night*, *the days*, or *one’s life*.

(Takami 2015: 60)

The above constraint can accommodate the counterexamples to Jackendoff (1997b)’s analysis. Let us look at the following examples.

(19) a. *Celia sat two hours away. (Jackendoff 1997b: 537)

b. ?#Ivan worked/toiled/labored three (miserable) hours away.

(Jackendoff 1997b: 538)

It is worth noting that Takami (2015) provides a different explanation for the unacceptability of (19) in Jackendoff (1997b). Jackendoff (1997b: 537, 538) attributes the unacceptability of (19a) and the low acceptability of (19b) to the verbs. On the other hand, Takami (2015: 60) attributes the cause to the time phrases in (19). The time phrases in (19) express a particular and definite time period, which violates the annotation in the constraint.

¹⁷ Takami (2015: 60) presents the Functional/Semantic Constraint in Japanese. (18) is the itemized version which is created based on the present author’s understanding.

Takami (2015)'s analysis seems superior to the extent that the functional/semantic constraint can account for more examples of the 'time'-*away* construction than Jackendoff (1997b)'s semantic restrictions. However, the next subsection shows why Takami's analysis also remains problematic.

4.2.3 Problems of Previous Studies

Takami (2015) provides many counterexamples to Jackendoff (1997b)'s analysis of the 'time'-*away* construction but this subsection demonstrates that there remain counterexamples to Jackendoff (1997b)'s analysis that are not addressed by Takami (2015), as well as there being problems with Takami (2015)'s analysis.

First, let us look at the following examples.

(20) a. *The light flashed two hours away. (Jackendoff 1997b: 537)

b. The light flashed away (despite all our attempts to turn it off).

(Jackendoff 1997b: 540)

Jackendoff (1997b: 540) points out that the subject *the light* in (20a) cannot be used in the 'time'-*away* construction while it can be used in sentences including aspectual *away*, despite being somewhat personified as in (20b). This suggests that a non-human subject cannot be used in the 'time'-*away* construction even if it is personified. Let us look at the following example.

(21) One section of the parkway [...] is closed for repairs after Hurricanes Frances and Ivan blew through the area. Park officials expect this part of the road to reopen by fall or in early 2006 [...]. Photograph above: Milk-and-wine lilies bloom the summer away in Paul and Yverlette Newell's yard in Kosciusko, Mississippi.

(COCA)

The subject NP *milk-and-wine lilies* on the third line of (21) is non-human but appears in

the ‘time’-*away* construction. Thus, even a non-human subject can be used in the ‘time’-*away* construction.

Next, Jackendoff (1997b: 538) points out that NPs that refer to the subject’s resources other than time cannot appear in the postverbal NP position of the ‘time’-*away* construction, as shown in (22).

(22) Pam fished the afternoon/*her energy/*hundreds of dollars away.

(Jackendoff 1997b: 538)

However, his statement is refuted by the following sentences.

(23) a. Don’t talk away your enthusiasm or your ideas. Hoard your energy and use it to write. (COCA)

b. What can we do, but Steve is drinking his father’s fortune away.

(Rudzka-Ostyn 2003: 142)

The postverbal NPs in (23), *your enthusiasm or your ideas* and *his father’s fortune*, refer to the same subject’s resources as the time phrase in the ‘time’-*away* construction. In addition, the sentences in (23) can carry a connotation that the subject wasted her/his resource in the same way as the ‘time’-*away* construction. The sentences in (23) are regarded as the resultative construction but cannot be distinguished from the ‘time’-*away* construction given the above two semantic similarities with the ‘time’-*away* construction. It suggests that the two constructions should be uniformly treated.

Next, let us turn to problems arising from Takami (2015)’s analysis. Takami (2015: 58) attributes the unacceptability of (24) to the time phrases.

(24) a. *We walked four hours away, sweating in the humidity and exploring the street.

b. *She danced three hours away.

c. *Having had the sad news, she wept/cried 15 minutes away.

(Takami 2015: 58)

The time phrases in (24) denote a particular and definite time period and violate the annotation in the Functional/Semantic Constraint in (18). However, the acceptability of sentences is improved if the definite article *the* is put before the time phrase as shown in (25).^{18,19}

- (25) a. We walked the four hours away, sweating in the humidity and exploring the street.
b. She danced the three hours away.
c. Having heard the sad news, she wept/cried the quarter hour away.

This shows that the annotation is incorrect.

Next, let us look at the following sentences.

- (26) a. *Celia sat two hours away. (Jackendoff 1997b: 537)
b. *Celia sat the night away.
c. Celia sat the night away engrossed in the novel.

Takami (2015: 60) attributes the unacceptability of (26a) not to the verb *sit* but to the time phrase *two hours*. Under Takami (2015)'s analysis, the sentence should become acceptable if the time phrase is changed from *two hours* to *the night* as in (26b). However, my informant judges that the sentence in (26b) is unacceptable unless it is used in context like (26c). It suggests that the verb denoting a state like *sit* cannot be used in the 'time'-*away* construction without the help of context: the verb cannot be used in a context where the subject is just sitting unless they are dedicated to doing something while sitting. It is clear from these observations that Takami (2015)'s analysis is also problematic. It is interesting that the examples of the 'time'-*away* construction taken up by Takami (2015)

¹⁸ The judgement about the acceptability of the sentences in (25) is made by my informant.

¹⁹ According to my informant, the definite article *the* cannot come before *15 minutes* in (24c). On the other hand, if *the quarter hour* is used instead of *15 minutes*, the sentence becomes perfectly acceptable as shown in (25c).

have rich context while those of Jackendoff (1997b) are all simple sentences. It is at present unclear which analysis is correct between Jackendoff (1997b) and Takami (2015). Further investigation is needed to determine which analysis is correct. In the following section, I take a different approach from Jackendoff (1997b) and Takami (2015) and attempt to analyze the ‘time’-*away* construction. In light of the analysis, Section 4 attempts to clarify why the view on the ‘time’-*away* construction is different between Jackendoff (1997b) and Takami (2015).

4.3 Analysis

The ‘time’-*away* construction has the same syntactic form as the resultative construction as in (27), but is differentiated from it due to the difference in semantics by Jackendoff (1997b).

- (27) a. The wind blew the papers away.
b. Diet those pounds away!

(Jackendoff 1997b: 550)

However, as pointed out by Takami (2015), the semantic properties which are supposedly peculiar to the ‘time’-*away* construction can be easily refuted by counterexamples. In addition, as pointed out in the previous section, some resultative constructions like (23) (repeated below as (28)) are similar to the ‘time’-*away* construction in terms of the referent of the direct objects and the connotation of the sentences.

- (28) a. Don’t talk away your enthusiasm or your ideas. Hoard your energy and use it
to write. (COCA) (=23a)
b. What can we do, but Steve is drinking his father’s fortune away.

(Rudzka-Ostyn 2003: 142) (=23b)

From these observations, it follows that the ‘time’-*away* and the resultative constructions

should not be distinguished but rather be uniformly treated. In what follows, I discuss the similarities between the ‘time’-*away* and the resultative construction, and attempt to elucidate the mechanism of how the ‘time’-*away* construction is created and understood. I also attempt to provide a definitive answer to the question of what causes the peculiar semantic properties of the ‘time’-*away* construction. Furthermore, I demonstrate that the ‘time’-*away* construction is divided into two types.

4.3.1 The Comparison between the V NP *away* and the ‘time’-*away* Constructions

Let us consider the following sentences.

- (29) a. Mary drank the day away.
b. Mary drank all her money away.
c. Mary drank her pain away.
- (30) a. Mary talked the night away.
b. Mary talked her energy away.
c. Mary talked her troubles away.

The above sentences consist of the same constituent words except for the direct object. (29a) and (30a) are called ‘time’-*away* constructions. On the other hand, (29b), (29c), (30b), and (30c) are called resultative constructions. Hereafter, I refer to the latter construction the V NP *away* construction to avoid confusion. It should be noticed that (29b) and (30b) are similar to (29a) and (30a) in the following two respects: first, the direct objects refer to the subject’s resource. Second, the sentences can have the connotation that the subject wasted her resource by doing the activity denoted by the verb. Moreover, all the sentences in (29) and (30) are similar in that the activity denoted by the verb can be pleasant for the subject. This observation shows that the connotations of waste and pleasure do not exclusively appear in the ‘time’-*away* construction but rather can be found in both the V NP *away* and the ‘time’-*away* constructions. From this observation it is expected that the ‘time’-*away* construction is generated and interpreted through the

same compositional mechanism as the V NP *away* construction.

Next, I demonstrate that the ‘time’-*away* construction is interpreted by the Spatial Resultative Adjunct Rule in the same way as the V NP *away* construction. Let us first examine how (29a) and (30a) are interpreted. Neither the direct object nor *away* are an argument selected by the main verbs, *drink* and *talk*. The VPs do not match the argument structures of the verbs but the syntactic structure of the Spatial Resultative Adjunct Rule in (31).

(31) Spatial Resultative Adjunct Rule (revised version)

[_{VP} V_h NP_j PP_k] may correspond to

$$\left(\begin{array}{l} \text{CAUSE } [\alpha], [\text{GO } ([\beta], [\quad]_k)] \\ \text{ACT ON}^- ([\quad]^{\alpha}_i, [\{\alpha\}]^{\beta}_j) \\ [\text{BY } [\text{ACT ON}^- ([\alpha], \{\{\beta\}\})]_h] \end{array} \right)$$

The syntactic match allows the adjunct rule to apply to (29a) and (30a). Applied to (29a) and (30a), the result are the following semantic representations.

(32) a.

$$\left(\begin{array}{l} \text{CAUSE } [\alpha], [\text{GO}_{\text{Poss}} \\ \quad ([\beta], \left[\begin{array}{l} \text{FROM}_{\text{Poss}} ([\text{Thing A REFERENCE POINT}]) \\ \text{Path TO}_{\text{Poss}} ([\text{Thing AN UNSPECIFIED DISTANCE}]) \end{array} \right])] \\ \text{ACT ON}^- ([\text{MARY}]^{\alpha}, [\text{DAY}]^{\beta}) \\ [\text{BY } \left[\begin{array}{l} \text{DRINK } ([\text{Thing } \gamma]) \\ \text{ACT ON}^- ([\alpha]^{\gamma}, [\beta]) \end{array} \right]] \end{array} \right)$$

$$\text{b. } \left(\begin{array}{l} \text{CAUSE } [\alpha], [\text{GO}_{\text{Poss}} \\ \left([\beta], \left(\begin{array}{l} \text{FROM}_{\text{Poss}} ([\text{Thing A REFERENCE POINT}]) \\ \text{Path TO}_{\text{Poss}} ([\text{Thing AN UNSPECIFIED DISTANCE}]) \end{array} \right) \right)] \\ \text{ACT ON}^- ([\text{MARY}]^\alpha, [\text{NIGHT}]^\beta) \\ \left[\text{BY} \left(\begin{array}{l} \text{TALK } ([\text{Thing } \gamma]) \\ \text{ACT ON}^- ([\alpha]^\gamma, [\beta]) \end{array} \right) \right] \end{array} \right)$$

The verbs *drink* and *talk* are demoted to the subordinate clause and serve as a means modifier. We can infer that the referents of the direct objects, *the day* and *the night*, are Mary's resource or her possessions. Hence, the semantic field of the thematic tier of the main conceptual clause is possessional. The LCS of *away* is embedded into the Path argument of GO in the main clause. In this case, *away* serves as the possessional Path her possessions move. We can infer that the reference point is the possessor, Mary. The conceptual structures roughly mean, 'Mary causes her resource of time to go from a reference point (herself) to an unspecified distance by drinking/talking'.

It should be observed that the thematic tier in the main clause in (32) partially matches the first conceptual structure in the inference rule in (33) proposed in the previous chapter.

(33) At the termination of [Event GO ([Thing X], [Path FROM ([Place Y]) TO ([Place Z]])],
it is the case that [State NOT BE ([X], [Place AT ([Y]])]].

By the above inference rule, therefore, the following conceptual structure is drawn from the thematic tier in the main clause in (32).

(34) a. [State NOT BE ([Thing DAY], [Place AT ([Place A REFERENCE POINT]])]]
b. [State NOT BE ([Thing NIGHT], [Place AT ([Place A REFERENCE POINT]])]]

The Theme arguments in (34), DAY and NIGHT, are Mary's possessions; the Place arguments, A REFERENCE POINT, are the possessor, Mary. Hence, the conceptual structures in (34) roughly means 'she loses her time'. By the application of the inference rule in (33) to the conceptual structures in (32), the sentences in (29a) and (30a) receive the following interpretation: 'Mary lost her time by drinking/talking'. It has been shown that the 'time'-*away* construction is created and understood through the same compositional mechanism as the resultative construction. From this analysis, it is clear that the meaning of the 'time'-*away* construction is fully compositional.

Next, let us consider what causes the peculiar semantic properties of the 'time'-*away* construction. Jackendoff (1997b: 538, 555) points out that the 'time'-*away* construction has its own peculiar constructional meaning of 'waste time V-ing' and also has two connotations: one is that the activity denoted by the verb is heedlessly pleasant for the subject. The other is that the subject should have done something else during the time period. However, neither the constructional meaning nor the connotations are necessarily involved in the 'time'-*away* construction as pointed out by Takami (2015). I claim that the semantic properties which are supposed to be particular to the 'time'-*away* construction are pragmatically inferred, based on context and our world knowledge. It follows that the concept of waste is evoked if the way one spends their time is considered wasteful and undesirable. In this case, furthermore, it is thought that the person should have spent the time doing something else. The concept of pleasure is evoked if an activity one is doing is considered pleasant.

Next, I demonstrate that whether or not the concepts of waste and pleasure are involved in sentences is determined by our world knowledge. First, let us consider (29a) and (30a), repeated below as (35a) and (35b).

- (35) a. Mary drank the day away. (=29a)
b. Mary talked the night away. (=30a)

The above sentences have no context or clues that explain the situation but our world knowledge affects the connotations of the sentences. It is generally thought that

drinking/talking is pleasant. Hence, the sentences are associated with the concept of pleasure. Concerning the concept of waste, if spending the day drinking or the night talking is considered wasteful and undesirable, the concept of waste is involved in the sentences. If not, the concept is not involved.

The same explanation holds for (29b) and (30b) (repeated below as (36a) and (36b)).

- (36) a. Mary drank all her money away. (=29b)
b. Mary talked her energy away. (=30b)

The concept of pleasure is involved in the sentences because it is in general thought that drinking/talking is pleasant. The concept of waste is involved in the sentences if spending all her money drinking or spending her energy talking is considered to be wasteful. If not, the concept is not involved.

Next let us turn to (29c) and (30c) (repeated below as (37a) and (37b)),

- (37) a. Mary drank her pain away. (=29c)
b. Mary talked her troubles away. (=30c)

The sentences are also associated with concept of pleasure because drinking/talking is considered pleasant. On the other hand, the sentences are less likely to be associated with the concept of waste. Why is the likelihood that the concept of waste is evoked low in this case? We wish that we can escape from pain and troubles which make us suffer, regardless of the means used. Drinking and talking are considered as effective methods to distract oneself from problems, rather than being seen as a wasteful activity. Hence, in this case, the likelihood that the concept of waste is evoked is low. From the above observations, it is concluded that the concepts of waste and pleasure are pragmatically derived, based on our world knowledge and can be found in the V NP *away* construction as well as the ‘time’-*away* construction.

Next, let us consider the concept of the passage of time involved in the ‘time’-*away* construction. The direct object in the ‘time’-*away* construction can indicate both the

subject's resource and a particular time period. Hence, 'time'-*away* constructions can mean not only 'the subject loses her/his time by V-ing' but also 'the time passes while the subject is V-ing'. The latter meaning is also inferred from the conceptual structure of the 'time'-*away* construction through the metaphorical conception of the passage of time as the movement of an object, although a detailed explanation has been given here. Hence, both the two meanings are compositionally obtained.

Finally, I point out that the 'time'-*away* construction differs from the V NP *away* construction in that the acceptability of the sentence is not interrelated with the Patienthood of the direct object. It should be recalled that the acceptability of the resultative construction is stated by Jackendoff (1990: 230, 231) to be interrelated with whether or not the direct object has a Patient role. Hence, if the direct object fails the *do to* test, the sentence is unacceptable, as follows:

(38) a.*What Harry did to Betty was like her.

b.*Harry liked Betty to desperation.

(Jackendoff 1990: 231)

On the other hand, the acceptability of the 'time'-*away* construction is not affected by the Patienthood of the direct object, as follows:

(39) a.*What we did to the night was twist it away.

(Jackendoff 1990: 534)

b. We're twistin' the night away.

(Jackendoff 1990: 550)

It is obvious that the acceptability of the 'time'-*away* construction is not interrelated with the Patienthood of the direct object. What factors influence the acceptability of the 'time'-*away* construction? In the next subsection, I address this question again.

4.3.2 Two Types of the 'time'-*away* Construction

In this subsection, I argue that although all the examples of the 'time'-*away*

construction are created and understood by the Spatial Resultative Adjunct Rule, the ‘time’-*away* construction is broadly divided into two types. The first is a type established as a constructional idiom, including fully fixed expressions which are familiar to people in English speaking countries. The other is a type of expressions improvised on the spot. Therefore, they are expressions that have not been heard before. Hereafter, I will refer to the former Type A and the latter Type B.

First of all, let us begin with Type A. Let us look at the following examples.

- (40) a. They danced the night away. (COCA)
b. Diana danced the night away with friends in a disco. (BNC)

The VP *dance the night away* is a fixed expression which everyone knows. In fact, it is the most frequent of all the VPs of the form [V [Time NP] away] in both the BNC and the COCA corpora.²⁰ Interestingly, relatively many verbs that appear in the VPs of the form [VP V the night away] in the corpora describe a type of dance such as *waltz*, *tango*, *twist*, and *cha-cha-cha*, or a manner of dancing such as *swing* and *sway*, as seen below:

- (41) a. The actress and Zac Posen waltz the night away. (COCA)
b. One listen and you will want to tango the night away. (COCA)
(42) a. Attired once more in our black ties, we swung the night away. (BNC)
b. While your immediate goal is to sway the night away to good music. (COCA)

The VPs of the form [VP V the night away] in (41) and (42) are not fixed expressions but are similar to the fixed expression *dance the night away* in that the verbs are related to dance.

Following *dance*, the relatively frequent verbs that appear in the VPs of the form [VP

²⁰ In the BNC and COCA corpora, I examined VPs of the form [V [Time NP] away]. As a result, the following became clear: the VP *dance the night away* is the most frequent expression and occurs in 24 out of 91 occurrences in the BNC, and 80 out of 263 occurrences in the COCA. The time phrases I investigated in the corpora are *hour*, *day*, *time*, *life*, *night*, *afternoon*, *evening*, *morning*, *summer*, *winter*, *autumn*, *fall*, *spring*, *minute*, and *moment*.

V the night away] are *party* and *drink* in the COCA and *drink* and *talk* in the BNC as follows:

- (43) a. Others partied the night away, [...] (COCA)
b. [...] where locals gather to drink the night away. (COCA)
c. We were at Oxford together, Robert and I, and have often talked the night away in former times. (BNC)

These VPs are also similar to the fixed expression *dance the night away* in that the activities denoted by the verbs are characterized as an activity which gives one pleasure.

Next, let us look at the following sentence.

- (44) where they slept the night away peacefully, putting the troubles of the world out of their minds for a short while.

(Robert Blumetti, *The Return of the White Stone*, 401)

The VP *sleep the night away* is an expression well-known to people familiar with literature. In fact, Jackendoff (1990: 542) mentions that the expression might be stored in the lexicon as a relatively frequent fixed expression. The VP *sleep the night away* is also similar to *dance the night away* in that sleeping can give one pleasure, though it is inactive unlike dancing. From the above observations it is clear that a number of verbs that appear in the VPs of the form [VP V the night away] in the corpora are similar to the verb *dance* in the fixed expression *dance the night away*, in that the activities and states denoted by the verbs are characterized as pleasant.

Next, let us look at the following sentence.

- (45) How good it would be to lie in that soft bed of dead leaf and sleep the day away. (COCA)

The VP *sleep the day away* is also considered a fixed expression. It is interesting that

relatively large numbers of verbs that appear in the VPs of the form [VP V the day away] in the corpora are related to sleep as follows:

- (46) a. [...] with some goodies laid out on the table, and us napping the warm day
away. (BNC)
- b. Sergeant dozed the day away, dreaming of chasing ducks along the riverbank.
(BNC)

Next, let us look at the following examples.

- (47) a. on sunny days Papa would let me take Jeebers to the Sacramento River and I'd
fish the day away. (COCA)
- b. We'd hunt the afternoon away, taking turns with the small .22 bolt-action rifle.
(COCA)
- c. I've arranged for all of you to go to Shug's Lanes and bowl the afternoon away.
(COCA)
- d. After we had sold the day's harvest, we [...] swam away the late afternoon.
(COCA)

The activities described by the verbs *fish*, *hunt*, *bowl*, and *swim* in (47) are characterized as activities that can give one pleasure. The VPs in (47) are not fixed expressions but are similar to fixed expressions *dance the night away* and *sleep the day away* in that the subject has a pleasant time.

From the above observations it is clear that Type A includes not only fixed expressions like *dance the night away* and *sleep the day away*, but also expressions which are semantically related to them. This type is highly productive and can be understood without the help of context. It is expected that Type A is established as a constructional idiom like (48).

- (48) a. [VP V NP away]

b. ‘pleasantly spend [_{Time} NP] V-ing’

The verb in (48a) is limited to intransitive activity verbs and also semantically limited to those that meet the following condition: the activity or state denoted by the verb is generally considered to be pleasant. The direct object in (48a) is limited to NPs that express a period of time, as pointed out by Jackendoff (2002b: 175). It also must be referential so that it can be identified as the subject’s resource, her/his possessions, otherwise the ‘time’-*away* construction cannot receive a correct interpretation. The constructional meaning in (48) is similar to that provided by Jackendoff (1997b, 2002a, 2002b, 2004) but is slightly different in that the adverb *pleasantly* is included. The constructional meaning in (48) does not semantically contradict any expressions of Type A.

How was the constructional idiom in (48) established? It is assumed that VPs like *dance the night away* and *sleep the day away* were originally used in literature for artistic effect and were understood by people through the Spatial Resultative Adjunct Rule, but were entrenched through frequent use in songs, books, movies, ads, etc., and as a result the constructional idiom in (48) was established. Essential here is that the constructional meaning in (48) originates from the Spatial Resultative Adjunct Rule. Hence, even if the constructional idiom in (48) is not yet stored in the lexicon, Type A is understood by the Spatial Resultative Adjunct Rule.

Next, let us turn to Type B. The crucial difference between Type A and Type B lies in the verb. The verb in Type B differs from that of Type A in that the activity or state denoted by the verb is not generally considered to be pleasant. Let us consider the following examples.

- (49) a. Shivering the night away in the reeking darkness of the tunnels, he had asked himself this question more than once. “I was scared. I wanted to get far away from him as I could. [...] (BNC)
- b. The girls said they’d gotten so caught up in the work they’d worked the night away. (Holly Jacobs, *Miracles for Nick*)

- c. She sat the night away, looking hopefully up at the sky and imagining she could see patches of stars through the milk-colored clouds.

(Kathy Ice, *Tapestries*)

The activity or state denoted by the verbs in (49) *shiver*, *work*, and *sit* is not likely considered to be pleasant for the following reasons: shivering usually occurs when one feels fear and cold, working is often considered to be exhausting and stressful, and sitting for extended periods of time is considered to be uncomfortable and boring. It is worth noticing that these sentences are unacceptable without context as follows:

- (50) a. *He shivered the night away.
b. *They worked the night away.
c. *She sat the night away.

On the other hand, Type A is used in a simple sentence as follows:

- (51) a. She danced the night away.
b. They fished the afternoon away.
c. He slept the day away.

Why are Type B, in contrast to Type A, unable to be accepted without context? In order to answer this question, let us first consider why the activity or state denoted by the verb of Type A is limited to those generally considered to be pleasant. I argue that the semantic restriction on the verb of Type A is imposed due to the following world knowledge: time passes quickly when we are having fun. It should be noticed that the knowledge corresponds perfectly to the compositional meaning of the ‘time’-*away* construction, ‘the time passes while the subject is V-ing’. On the other hand, the activity or state denoted by the verb of Type B is not generally considered to be pleasant and is not consistent with the above knowledge but rather is consistent with the following world knowledge: we feel as if time stands still when we are not having fun. The latter knowledge is clearly

inconsistent with the compositional meaning of the ‘time’-*away* construction, ‘the time passes while the subject is V-ing’. From this consideration, it becomes clear that the semantic restriction on the verb of Type A is imposed due to our world knowledge.

In light of the above consideration, let us contemplate why the acceptability of the sentences is different between (50) and (51). In (51), the activities described by the verbs *dance* and *fish* and the state described by the verb *sleep* are considered to be pleasant. Hence, the sentences in (51) are acceptable. Concerning (50), however, the activities denoted by the verbs *shiver* and *work* and the state denoted by the verb *sit* are not likely considered to be pleasant. Hence, the sentences in (50) are not acceptable.

Next, let us consider why the sentences in (50) become acceptable when they are put in contexts of (49). In order to answer this question, let us first consider why Type B require context. It is expected that context is needed so that Type B can correspond to the compositional meaning of the ‘time’-*away* construction, ‘the time passes while the subject is V-ing’. Next, let us consider what context is needed for Type B. I claim that the context in which Type B is framed is limited due to the following world knowledge: we do not notice the passage of time when we are engrossed in something, or time passes more quickly when we do not pay attention to the passage of time. Due to this knowledge, Type B must be put in the context where the subject is too engrossed in something to notice the passage of time or the subject is in a situation where her/his attention is not directed to the passage of time. This context makes it possible that Type B corresponds to the compositional meaning of the ‘time’-*away* construction, ‘the time passes while the subject is V-ing’.

In light of the above, let us reexamine (49). The subject in (49a) does not enjoy the situation at all but he is too confused to notice the passage of time. The subject in (49b) is too engrossed in the work to notice the passage of time. The subject in (49c) has an adequately hopeful and joyful diversion to be unaware of the passage of time. Thus, the rich contexts of (49) make it possible that the subjects in (49) are placed in situations where they do not notice the passage of time. From this consideration it is concluded that Type B becomes acceptable if context enables correspondence to the compositional meaning of the ‘time’-*away* construction, ‘the time passes while the subject is V-ing’.

Next, let us look at the following examples.

- (52) a. That evening, coyote pups ran playful rings around our tent, and two elks stood on hills to our north and south, bugling the star-spangled night away. (COCA)
- b. When summer came, Else took the cows up into the mountains to what Norwegians call the Seter, or dairy farm, where the cows graze the summer away. (COCA)
- c. One section of the parkway [...] is closed for repairs after Hurricanes Frances and Ivan blew through the area. Park officials expect this part of the road to reopen by fall or in early 2006 [...] Photograph above: Milk-and-wine lilies bloom the summer away in Paul and Yverlette Newell's yard in Kosciusko, Mississippi. (COCA)

The subjects in (52) are non-human. The sentences are unacceptable without context, as shown below:

- (53) a. *Two elks bugled the night away.
- b. *The cows graze the summer away.
- c. *Milk-and-wine lilies bloom the summer away.

The activities or state denoted by the verbs *bugle*, *graze*, and *bloom* is not generally considered to be pleasant because they are not the behaviors of humans. Let us consider why the sentences in (53) become acceptable if they are put in the contexts of (52). From the contexts given in (52), it is understood that the subjects spend a peaceful time and their attention are not directed to the passage of time. It is concluded that the subject may be non-human, if context enables the sentence in question to correspond to the compositional meaning of the 'time'-*away* construction, 'the time passes while the subject is V-ing' by virtue of context.

This subsection has argued that the 'time'-*away* construction is divided into two types: one is a type established as constructional idiom, and the other is a type of

expressions improvised on the spot.²¹ In addition, it has been shown that Type A is generated and interpreted by either the Spatial Resultative Adjunct Rule or the constructional meaning while Type B is generated and interpreted by the Spatial Resultative Adjunct Rule.

4.4 A Review of the Previous Studies based on the Present Analysis

Section 2 has shown that Takami (2015)'s discussion on the 'time'-*away* construction is developed in direct opposition to Jackendoff (1997b)'s analysis but it is unclear why Takami (2015)'s analysis conflicts with Jackendoff (1997b)'s. This section attempts to clarify the cause based on the present analysis developed in the previous section.

First, I argue that the peculiar semantic properties of the 'time'-*away* construction proposed by Jackendoff (1997b) are based on Type A sentences. Let us begin with semantic restrictions on the verb in the 'time'-*away* construction. Jackendoff (1997b: 538, 550) points out that the verbs in (54) *work*, *toil*, and *labor* are inappropriate in the 'time'-*away* construction, but does not give a reason.

(54) #Ivan worked/toiled/labored three (miserable) hours away.

(Jackendoff 1997b: 538)

The activities denoted by the above verbs are generally considered exhausting and stressful. The verbs are clearly different from the one of Type A in that the activities are not characterized as pleasant. The same holds for the following verb.

(55) *Celia sat two hours away.

(Jackendoff 1997b: 537)

Jackendoff (1997b: 537) considers the verb *sit* to be inappropriate as the verb in the

²¹ Boas (2003: 10, 215) considers contextually accepted examples as a type of the resultative construction. This fact enhances the validity that contextually accepted examples are established as a type of the 'time'-*away* construction in the present study.

‘time’-*away* construction but does not account for the reason. In general, it is considered that sitting for extended periods of time is uncomfortable and boring. In this respect, the verb *sit* is different from those of Type A. From these observations, it is obvious that Jackendoff (1997b)’s semantic restriction on the verb is based on Type A sentences.

Next, let us consider the semantic restriction on the subject. Jackendoff (1997b: 537) implies that a non-human subject, even if it is personified, cannot be used in the ‘time’-*away* construction.

(56) *The light flashed two hours away. (Jackendoff 1997b: 537)

However, he provides no explanation for the reason. The previous section has argued that if the ‘time’-*away* construction is placed in an appropriate context, even a non-human subject can be used. This suggests that Jackendoff (1997b) has imposed a semantic restriction on the subject without taking into consideration Type B.

Next, let us consider the concepts of waste and pleasure that accompany the ‘time’-*away* construction. Jackendoff (1997b) assumes that the ‘time’-*away* construction includes the meaning of waste as part of the constructional meaning and has the connotation of pleasure. However, he does not account for the reason why this meaning and connotation are required in the ‘time’-*away* construction. As I have argued in the previous section, the meanings assumed to be particular to the ‘time’-*away* construction are pragmatically inferred, based on context and our world knowledge. The concepts of waste and pleasure can arise in both Type A and B but the concept of pleasure is always involved in Type A.

Next, let us consider the meaning of the ‘time’-*away* construction proposed by Jackendoff (1997, 2002a, 2002b) and Goldberg and Jackendoff (2004).

- (57) a. ‘waste [Time NP] V-ing’ (Jackendoff 1997b: 555)
 b. ‘waste [Time NP] heedlessly V-ing’ (Jackendoff 2002a: 84)
 c. ‘spend NP V-ing’ (Jackendoff 2002b: 175)
 d. ‘subject spends time frivolously doing V’ (Goldberg and Jackendoff 2004: 533)

Jackendoff (1997b: 539) states that the constructional meaning is too complex and rich to be captured by any paraphrase, but the cause is not ascertained. Again, the previous section has pointed out that the meanings which are supposed to be particular to the ‘time’-*away* construction are pragmatically inferred, based on context and our world knowledge. It follows that the constructional meanings in (57) are randomly extracted from meanings that are pragmatically inferred, based on context and our world knowledge. From these observations, it is concluded that Jackendoff (1997b)’s analysis is based on Type A sentences.

Next let us turn to Takami (2015)’s analysis. I argue that Takami (2015)’s analysis is based on Type B sentences. All of the examples Takami (2015) treats are counterexamples to Jackendoff (1997b)’s analysis. Let us examine some examples.

- (58) a. The victims were caught in a freak snow storm on the mountainside and survived by taking cover in a small cave, trembling the night away until help arrived. (Takami 2015: 53)
- b. The Real Estate Group would like to thank all of Santa’s helpers that worked the night away getting ready for Santa! (Takami 2015: 50)
- c. The three walked to a lower floor garden and there they sat the night away, waiting for the first light of dawn. (Takami 2015: 54)

The activities denoted by the verbs *tremble* and *work* and the state denoted by *sit* are not characterized as pleasant. In addition, the sentences are unacceptable without context, as follows:

- (59) a. *They trembled the night away.
b. *They sat the night away.
c. *They worked the night away.

It is clear that the examples are not Type A but Type B.

Next, let us reconsider the problems arising from Takami (2015)'s analysis based on the present analysis. Takami (2015: 58)'s Functional/Semantic Constraint on the 'time'-*away* construction stipulates that the time phrase on the annotation must not denote a particular and definite time period like *three hours* but instead a rough time period like *the night*. Hence, the unacceptability of the following examples is attributed to the time phrases.

- (60) a. *We walked four hours away, sweating in the humidity and exploring the street.
b. *She danced three hours away.
c. *Having had the sad news, she wept/cried 15 minutes away.

(Takami 2015: 58)

As I have shown in Section 2, however, the acceptability is improved if the definite article *the* is put before the time phrases as follows:

- (61) a. We walked the four hours away, sweating in the humidity and exploring the street.
b. She danced the three hours away.
c. Having heard the sad news, she wept/cried the quarter hour away.

Why are the sentences in (60) unacceptable? Under the present analysis, the direct object of the 'time'-*away* construction must be referential so that it can be identified as the subject's resource, her/his possessions, otherwise the 'time'-*away* construction cannot receive a correct interpretation. The time phrases in (60) are non-referential. The acceptability of (60) is attributed to the lack of referentiality.

Next, under Takami (2015: 60)'s analysis, the unacceptability of (62a) is attributed to the time phrase.

- (62) a. *Celia sat two hours away. (Jackendoff 1997b: 537)
b. *Celia sat the night away.

c. Celia sat the night away engrossed in the novel.

Under Takami (2015: 60)'s Functional/Semantic Constraint, the acceptability of the sentence should be improved if the time phrase in (62a) is changed from *two hours* to *the night*. Against the expectation, however, the sentence is unacceptable as shown in (62b). Why does the sentence in (62b) continue to be unacceptable? Again, it is generally thought that prolonged sitting is uncomfortable and boring. Hence, the state denoted by the verb *sit* is not characterized as pleasant. It is clear that the sentence in (62b) is not Type A but Type B. Under the present analysis, Type B cannot be accepted unless it is placed in a context that describes a scene where the subject is too engrossed in something to notice the passage of time or the subject is in a situation where her/his attention is not directed to the passage of time. Hence, the sentence in (62b) must be put in a context like (62c) to be accepted. Takami (2015)'s analysis cannot provide a precise account for why the sentence in (62b) are unacceptable. Under the present analysis, on the other hand, the unacceptability of (62b) is attributed to the lack of appropriate context.

In this section, it is demonstrated that Jackendoff (1997b)'s analysis conflicts with Takami (2015)'s because they observe different types of the 'time'-*away* construction: Jackendoff (1997b)'s analysis is based on Type A sentences while Takami (2015: 60)'s is based on Type B sentences.

The following table is a brief summary of different views on the 'time'-*away* construction among Jackendoff (1997b), Takami (2015), and the present analysis.

	Jackendoff (1997b)	Takami (2015)	The present analysis
What enables the ‘time’- <i>away</i> construction to be created and understood?	The constructional meaning	Not mentioned but the constructional meaning	Type A: either the constructional meaning or the Spatial Resultative Adjunct Rule Type B: the Spatial Resultative Adjunct Rule
Meaning of the ‘time’- <i>away</i> construction	Constructional	Constructional	Type A: either constructional or compositional Type B: compositional
Semantic restrictions are imposed on the verb?	Yes Stative verbs cannot be used. Verbs such as <i>work, toil, and labor</i> are inappropriate.	No	Type A: Yes The verb must describe a pleasant activity or state. Type B: No
Semantic restrictions are imposed on the subject?	Yes An non-volitional subject cannot be used.	Yes An inanimate subject cannot be used.	Type A: Yes The subject must be human. Type B: No
Semantic restrictions are imposed on the direct object?	Yes NPs that expresses a period of time	Yes It must denote not a particular and definite time period but a rough time period.	Yes NPs that expresses a period of time
Function of the direct object	referential function	not mentioned	referential function

Table 4.1. Different views on the ‘time’-*away* construction

4.5 Conclusion

In this chapter I have argued that the ‘time’-*away* and the resultative constructions should not be differentiated, but instead treated uniformly. It has been shown that the ‘time’-*away* construction is generated through the same compositional mechanism as the resultative construction. In addition, I have demonstrated that the meanings supposed to be peculiar to the ‘time’-*away* construction are pragmatically inferred, based on context and our world knowledge. I have also posited that the ‘time’-*away* construction can be divided into two types: one established as constructional idiom, and the other improvised on the spot. In addition, I have shown that Type A is created and understood by either the Spatial Resultative Adjunct Rule or the constructional meaning ‘pleasantly spend [Time NP] V-ing’ while Type B is created and understood by the Spatial Resultative Adjunct Rule.

Furthermore, I have discussed why Takami (2015)’s view stands in direct opposition to Jackendoff (1997b)’s analysis, based on the present analysis. Their views are contrary because they examine different types of the ‘time’-*away* construction: Jackendoff (1997b)’s analysis is based on Type A sentences while Takami (2015)’s analysis is based on Type B sentences. In addition, this chapter has shown that *away* in the ‘time’-*away* construction is also represented by the same LCS as *away* with other meanings.

Chapter 5

away: Continual Aspect

5.1 Introduction

This chapter deals with sentences like (1) in which *away* has the meaning of continual aspect.

- (1) a. Mary sang away.
b. Mary tapped away on the phone.

Chapter 3 pointed out that there is no theoretical consistency between the explanation of aspectual *away* provided by Jackendoff (1997b, 2002a) and the GO-Adjunct Rule proposed by Jackendoff (1990: 224) and therefore there is a case where aspectual *away* is wrongly interpreted as a spatial Path by the adjunct rule. This chapter points out further that the Jackendoff framework cannot account for cases where the interpretation of *away* can change depending on context or the subject NP. I assert that Pustejovsky's generative lexicon theory provides a solution to these problems. Specifically, I propose semantic representations which incorporate conceptual functions and conceptual structures proposed by Jackendoff (1990) into the semantic representation proposed by Pustejovsky (1995) and demonstrate that the richer semantic representations and the operation of co-composition enables the meanings of the sentences in question to be derived compositionally from the meanings of the constituent words.

This chapter is organized as follows: in Section 2, I outline Jackendoff (1997b)'s explanation of aspectual *away* and point out that there are cases where *away* cannot be correctly interpreted under his analysis. In Section 3, I briefly outline Pustejovsky (1995)'s Generative Lexicon Theory, focusing on the lexical semantic representation and the operation of co-composition. Based on this theory, Section 4 proposes the lexical representations of *away* and activity verbs and demonstrates how the meanings of *away* and activity verbs are combined. In Section 5, I argue that the present analysis can provide

a consistent theoretical explanation even for cases where the semantic interpretation of *away* is affected by context and the subject NPs. Section 6 is the conclusion of this chapter.

5.2 Previous Study

This section provides a brief overview of Jackendoff (1997b, 2002a)'s analysis of aspectual *away* and points out that the analysis is not theoretically consistent with Jackendoff (1990)'s GO-Adjunct Rule, and follows with a discussion on the problems that arise when sentences including aspectual *away* are analyzed based on Jackendoff (1990)'s theory of Conceptual Semantics.

First, let us begin with Jackendoff (1997b, 2002a)'s explanation of aspectual *away*. Aspectual *away* is syntactically an omissible constituent and is regarded as a distinct sense from directional *away*. It is stated that aspectual *away* can co-occur with any verb of a large semantic class. Therefore, the meanings of sentences including aspectual *away* are considered to be fully compositional. However, Jackendoff (1997b, 2002a) does not adopt the conceptual structure analysis developed by Jackendoff (1990) in dealing with sentences including aspectual *away* and instead merely provides the meaning of (2b) for sentences such as (2a).

(2) a. Bill slept/waltzed/drank/talked/read/sneezed away.

b. 'Bill kept on V-ing'

(Jackendoff 1997b: 539)

Jackendoff (1997b: 540) points out that aspectual *away* carries the connotative meaning of heedless activity that is also found in the 'time'-*away* construction. In addition, it is pointed out that aspectual *away* cannot co-occur with verbs describing a state such as *sit*, as follows:²²

²² Jackendoff (1990: 91)'s theoretical approach can provide a satisfactory explanation for the question of why aspectual *away* cannot co-occur with the verb *sit*. The verb *sit* is counted as a BE-verb which takes a Thing and a Place argument. It follows that *away* co-occurring with the verb *sit* is regarded as a locative expression and hence *away* is interpreted as locational.

(3) *Celia sat away. (Jackendoff 1997b: 540)

Next, it is pointed out that aspectual *away*, unlike aspectual *up*, prevents the direct object from occurring after the verb, as shown in (4) and (5).

- (4) a. *Dave drank scotch away.
b. *Dave danced waltzes away.
- (5) a. Elena drank the milk up.
b. Aaron rolled the rug up.

(Jackendoff 1997b: 539)

On the other hand, in some cases where the direct objects are changed to PPs as in (6), the verbs are allowed to co-occur with them.

- (6) a. Billy bashed away at the piano.
b. Simmy was carving *(away) at the roast.

(Jackendoff 1997b: 540)

Jackendoff (1997b, 2002b) provides a brief explanation of the semantic properties of aspectual *away* but some serious problems arise when some examples are analyzed based on his explanation. First, let us look at the following examples.

- (7) a. Lois and Clark danced away for two blissful hours. (Jackendoff 1997b: 540)
b. Bill waltzed away. (Jackendoff 1997b: 539)

Away has the aspectual meaning of continuation when it co-occurs with dance verbs, as shown in (7). The sentences are provided as an example including aspectual *away* by Jackendoff (1997b). However, the VPs in (7) consist of the combination of a manner of motion verb and an intransitive preposition and meet the condition under which the GO-

Adjunct Rule proposed by Jackendoff (1990: 224) applies. As a result, *away* in (7) is wrongly interpreted as directional. It has been demonstrated in Chapter 3 that there is no theoretical consistency between the GO-Adjunct Rule proposed by Jackendoff (1990: 224) and the explanation of aspectual *away* developed by Jackendoff (1997b, 2002a). The same goes for the following examples, too.

(8) Mary laughed/sneezed away.

Away in (8) has the aspectual meaning of continuation. Under Jackendoff (1990)'s analysis, however, it cannot receive the correct interpretation. Jackendoff (1990: 90) classifies the verbs in (8) *laugh* and *sneeze* into the class of MOVE-verbs. This suggests that the combination of the verbs and *away* in (8) meets the condition under which the GO-Adjunct Rule applies, and consequently *away* is wrongly interpreted as directional. From these observations, it is clear that it is not appropriate to represent dance verbs like *dance* and *waltz* and verbs of bodily action like *laugh* and *sneeze* by using the same Event-function MOVE as manner of motion verbs like *walk* and *jump*.

Next, let us look at the following examples.

(9) a. Mary danced away.

b. Mary danced away to her bedroom.

(10)a. Mary jumped away.

b. Mary jumped away on the trampoline.

Away in (9a) has the aspectual meaning of continuation while *away* in (9b) has the meaning of spatial movement. *Away* in (10a) has the meaning of spatial movement while *away* in (10b) has the aspectual meaning of continuation. It is obvious that the interpretation of *away* co-occurring with *dance* or *jump* can be easily changed due to context. In addition, it should be noticed that although the verbs in (9), *dance* and *jump*, are classified into the same semantic classes of activity verbs and manner of motion verbs, the default meaning of *away* co-occurring with *dance* is different from the default

meaning of *away* co-occurring with *jump*: the former is aspectual while latter is directional. Jackendoff (1997b, 2002a)'s analysis can neither explain how context influences the meaning of *away* co-occurring with *dance* or *jump* nor account for why the default meaning of *away* co-occurring with *dance* is different from that of *away* co-occurring with *jump*.

Next, let us consider the following examples.

- (11) a. The kettle whistled away.
b. The bullet whistled away.
- (12) a. The sewing machine rattled away.
b. The truck rattled away.

Away in (11a) and (12a) has the aspectual meaning of continuation while *away* in (11b) and (12b) has the meaning of spatial movement. This suggests that the meaning of *away* co-occurring with sound emission verbs can be easily changed depending on what the subject NP is. Jackendoff (1997b, 2002a)'s analysis cannot provide a theoretical explanation for how the subject NP influences the meaning of *away*.

Finally, let us consider what problems arise when sentences including aspectual *away* are analyzed based on Jackendoff (1990)'s theory of Conceptual Semantics. Firstly, let us examine verbs co-occurring with aspectual *away*. Aspectual *away* cannot occur with every class of verbs, namely verbs denoting state, accomplishment, and achievement, as shown in (13). The range of verbs which can co-occur with aspectual *away* is restricted to verbs like those in (14).

- (13) a. *Celia sat away. (Jackendoff 1997b: 540) (=3)
b. *The window broke away.
c. *Many earthquakes occurred away.
- (14) a. Mary talked/sang/drank away.
b. Mary blinked/coughed/sneezed away.

The verbs in (14a) express a continuous activity while the verbs in (14b) express a punctual but repeatable event.²³ The verbs in (14a) and (14b) are not strictly the same but are classified into the same class of activity verbs because they do not imply a resulting state whose activities can last for an indefinite length of time. It follows that the class of verbs co-occurring with aspectual *away* are activity verbs. Jackendoff (1990: 215) represents activity verbs by using an AFF-function, which takes an Actor and a Patient argument. *Away* denoting a Path is regarded not as an argument of AFF but as an omissible adjunct. It is expected then that sentences including aspectual *away* should be interpreted by some sort of rule, like the GO-Adjunct Rule. However, the problem is not as simple as it might seem. The GO-Adjunct Rule can deal with combinations of manner of motion verbs and a wide variety of Path PPs. In contrast, an adjunct rule to interpret only sentences that include aspectual *away* cannot be generalized to deal with sentences including other aspectual PPs. Hence it is undesirable to propose a new adjunct rule that can only interpret sentences including aspectual *away*. In addition, it must be remembered that the factor that determines whether or not adjunct rules apply lies in semantic classes of verbs. Even if a new adjunct rule is proposed in order to interpret sentences including aspectual *away*, it cannot take into consideration the effects of context or the NPs that occur as a subject on the interpretations of the sentences. Consequently, it would be unable to deal with the cases where the interpretation of *away* can be changed depending on the subject NPs or context.

To sum up, Jackendoff's theory of Conceptual Semantics has been developed by focusing on the semantic classes of verbs or the syntactic structures of VPs and pays little attention to the effect of NPs or context on the meanings of sentences. Therefore, the difference in the meaning of *away* brought about by context or the subject NP cannot be explained under the theory of Conceptual Semantics. In order to solve these problems, more fine-grained semantic representations are required not only for verbs but also all the other constituent words of sentences. In the following sections, I argue the necessity of introducing Pustejovsky (1990)'s generative lexicon approach to the present analysis in

²³ The verbs like *blink*, *cough*, and *sneeze* in (14b) are generally called semelfactive verbs.

order to solve them.

5.3 A Brief Overview of Pustejovsky (1995)'s Generative Lexicon Theory

This section briefly outlines how the semantics of words is represented and what explanation is provided for the polysemy of words under Pustejovsky (1995)'s Generative Lexicon (GL) theory.

First let us begin with how word meanings are represented by Pustejovsky (1995). Under the GL theory, the rich lexical information derived from words is systematically organized into three levels of representation: argument structure, event structure, and qualia structure. According to Pustejovsky (1995: 61), argument structure provides information about the number of logical arguments, what type they fall into, and how they are syntactically realized. Syntactically realized arguments, optional arguments and modifiers are represented in argument structure. Event structure provides information about the event type of a word or a phrase. Events are divided into three types: state, process, and transition. If an event in question consists of subevents, event structure provides information about the temporal relation between subevents as well as which of the subevents is the head. Pustejovsky (1995: 72) defines the head of the event as the most prominent subevent in the event structure of a predicate. Furthermore, Pustejovsky (1995: 101) suggests that the head of the event in the lexical representation of a verb has the function of foregrounding or focusing a single qualia corresponding to the head. In this case, the focused single qualia functions as the focus of the interpretation. He also suggests that the focused single qualia plays a crucial role in determining how logical arguments are realized syntactically. Qualia structure provides information about properties and activities which are associated with a word, and is composed of four roles: CONSTITUTIVE, FORMAL, TELIC, and AGENTIVE roles. Every category has a qualia structure but does not necessarily carry all four roles. According to Pustejovsky (1995: 85, 86, 95-101), the CONSTITUTIVE role provides information about the parts or the material of an object, or what an object is part of. The FORMAL role provides information which distinguishes an object from a larger set. To be more specific, it defines

what type an object is categorized into. It also provides information of how the two senses are related to each other if a word has two senses. The TELIC role provides information about the purpose and function of an object, and the AGENTIVE role provides information about the origin of an object or how an object is brought about.

Next, let us examine how the semantics of the noun *cake* is represented by Pustejovsky (1995). (15) is the lexical representation of *cake*.

$$(15) \left(\begin{array}{l} \text{cake} \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = x: \text{food_ind} \\ \text{D-ARG1} = y: \text{mass} \end{array} \right) \\ \text{QUALIA} = \left(\begin{array}{l} \text{CONST} = y \\ \text{FORMAL} = x \\ \text{TELIC} = \text{eat}(e_2, z, x) \\ \text{AGENTIVE} = \text{bake_act}(e_1, w, y) \end{array} \right) \end{array} \right)$$

(Pustejovsky 1995: 123)

The argument structure of *cake* consists of a true argument, *x*, and a default argument, *y*. The two arguments are semantic participants involved in the qualia structure. The CONSTITUTIVE role corresponds to the D-ARG1, *y*, and defines the relation between a cake and its constituents. It provides the information that the material of cake is a mass (*y*).²⁴ The FORMAL role corresponds to the ARG1, *x*, and defines how cake is distinguished within a larger set. It provides the information that cake is categorized as a food (*x*). The TELIC role defines the purpose of the cake, conveying the information that an eater (*z*) eats the food (*x*). The AGENTIVE role defines the origin, how cake is brought into existence. It conveys the information that a baker (*w*) bakes the mass (*y*).

Next, let us look at how the meanings of verbs are represented by Pustejovsky (1995). (16) is assumed as the partial lexical representations of *break*.

²⁴ In this case, the mass refers to cake dough, what various ingredients are mixed.

$$(16) \left[\begin{array}{l} \text{break} \\ \text{EVENTSTR} = \left[\begin{array}{l} E_1 = e_1 : \text{process} \\ E_2 = e_2 : \text{state} \\ \text{RESTR} = <_{\infty} \end{array} \right] \\ \text{QUALIA} = \left[\begin{array}{l} \text{FORMAL} = \text{broken}(e_2, y) \\ \text{AGENTIVE} = \text{break_act}(e_1, x, y) \\ \dots \end{array} \right] \end{array} \right]$$

(Pustejovsky 1995: 80)

The event structure consists of two subevents, the process and the state. This shows that the event type is transition. The symbol, $<_{\infty}$, expresses the temporal relation between the subevents and means that the second event occurs after the initial event. Before turning to the qualia structure of *break*, let us explain how Pustejovsky (1995: 79) defines the qualia structures of verbs. The qualia structure of verbs is assumed to be the level of representation mainly providing information of action or state denoted by verbs. According to Pustejovsky (1995: 79, 80, 185, 186), the causing event of causative predicates corresponds to the AGENTIVE role while the resulting event corresponds to the FORMAL role. The temporal relation between the two events is represented in the event structure. In addition, stative predicates and predicates denoting a passive process correspond to the FORMAL role while predicates denoting an active process correspond to the AGENTIVE role. In light of the above, let us look at the qualia structure of *break* in (16). The AGENTIVE role corresponds to e_1 in the event structure and conveys the information that x acts on y by the action of breaking. The FORMAL role corresponds to e_2 and expresses the resulting state of the action, providing the information that y is broken.

The following partial lexical representations are assumed for the verbs *run* and *sleep*.

$$(17) \text{ a. } \left(\begin{array}{l} \text{run} \\ \text{EVENTSTR} = \left[\begin{array}{l} E_1 = e_1 : \text{process} \end{array} \right] \\ \text{QUALIA} = \left[\begin{array}{l} \text{AGENTIVE} = \text{run_act}(e_1, x) \\ \dots \end{array} \right] \end{array} \right)$$

$$\text{b. } \left(\begin{array}{l} \text{sleep} \\ \text{EVENTSTR} = \left[\begin{array}{l} E_1 = e_1 : \text{process} \end{array} \right] \\ \text{QUALIA} = \left[\begin{array}{l} \text{FORMAL} = \text{sleep}(e_1, x) \\ \dots \end{array} \right] \end{array} \right)$$

(Pustejovsky 1995: 80)

The verbs *run* and *sleep* express a process but are further divided into two classes: the former is subclassified into the active class of processes and the latter into the passive class. The difference between the two classes is reflected in the qualia structures. An active process verb *run* has the semantic information in the AGENTIVE role while a passive process verb *sleep* has the semantic information in the FORMAL role. The active event of *run* is encoded in the AGENTIVE role while the stative event of *sleep* is encoded in the FORMAL role. Pustejovsky (1995: 81) suggests that active process verbs themselves have no FORMAL role but when the verbs co-occur with a Path expression like *home* and *to the store*, the FORMAL role of the Path expression is inherited to the FORMAL role of the semantic representation of the VP by the operation of co-composition.

Next, let us examine how the phenomenon of polysemy is accounted for by Pustejovsky (1995). Pustejovsky (1995: 2, 104) states that if a word has multiple senses, the wide variety of senses are not listed in the lexicon but rather are generated through combination with other words. The creation of non-lexicalized meanings for a word is achieved by generative operations including the following processes: type coercion,

selective binding, and co-composition. Of these three, I will introduce the operation of co-composition, which is utilized in the present analysis. In short, co-composition holds that even if a verb has multiple meanings, the verb itself has only one sense, merely appearing polysemous due to the conflation of verbal meaning and the semantic information of other words through co-composition.

Let us examine how two meanings of the verb *float* are accounted for by Pustejovsky (1995:125). The verb *float* commonly expresses a state as shown in (18a), but the verbal meaning is shifted to a transitional reading when co-occurring with directional PPs like *under the bridge* in (18b).

- (18) a. The bottle is floating in the river.
 b. The bottle floated under the bridge.

(Pustejovsky 1995: 125)

Pustejovsky (1995: 125-127) maintains that the verb *float* is not polysemous; however when it co-occurs with a directional PP, the semantic information of a directional PP *under the bridge* is conflated into the verbal meaning by the operation of co-composition, resulting in the polysemous appearance of the verb. Let us examine the following lexical representation for the verb *float*.

$$(19) \left(\begin{array}{l} \text{float} \\ \text{ARGSTR} = \left[\text{ARG1} = \boxed{1} \text{ [physobj]} \right] \\ \text{EVENTSTR} = \left[\text{E}_1 = e_1 : \text{state} \right] \\ \text{QUALIA} = \left[\text{AGENTIVE} = \text{float} (e_1, \boxed{1}) \right] \end{array} \right)$$

(Pustejovsky 1995: 125)

The argument structure shows that the verb takes a true argument, a physical object. The

event structure shows that the verb expresses a state. The AGENTIVE role carries the information that the concept of floating comes into being by a physical object's floating. From the qualia structure, it is obvious that the verb itself does not have a change of position sense.

Next, let us look at the semantic representation of the PP, *into the cave*.

$$(20) \left[\begin{array}{l} \text{into the cave} \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1} \text{ [physobj]} \\ \text{ARG2} = \boxed{2} \text{ [the_cave]} \end{array} \right) \\ \text{EVENTSTR} = \left(\begin{array}{l} \text{E}_1 = e_1 : \text{process} \\ \text{E}_2 = e_2 : \text{state} \\ \text{RESTR} = <_{\infty} \\ \text{HEAD} = e_2 \end{array} \right) \\ \text{QUALIA} = \left(\begin{array}{l} \text{FORMAL} = \text{at} (e_2, \boxed{1}, \boxed{2}) \\ \text{AGENTIVE} = \text{move} (e_1, \boxed{1}) \end{array} \right) \end{array} \right]$$

(Pustejovsky 1995: 126)

The argument structure shows that the PP selects *a physical object* as the Theme argument, and *the cave* as the Place argument. The event structure shows that the PP consists of two subevents, a process (e_1) and a resulting state (e_2). The symbol $<_{\infty}$ shows that e_1 temporally precedes e_2 . In this case, e_2 is the head of the event. The AGENTIVE role corresponds to e_1 in the event structure and conveys that the concept of the PP comes into being by a physical object's moving. The FORMAL role corresponds to e_2 and conveys that a physical object is at the cave. From the AGENTIVE role, it is clear that the PP presupposes a change of position. Under Pustejovsky (1995)'s analysis, the change of position sense of the PP is allowed to be inherited to the semantic representation of the VP by the operation of co-composition.

The following semantic representation is assumed for the VP *float into the cave*.

$$(21) \left[\begin{array}{l} \text{float into the cave} \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1} \text{ [physobj]} \\ \text{ARG2} = \boxed{2} \text{ [the_cave]} \end{array} \right) \\ \text{EVENTSTR} = \left(\begin{array}{l} \text{E}_1 = e_1 : \text{state} \\ \text{E}_2 = e_2 : \text{process} \\ \text{E}_3 = e_3 : \text{state} \\ \text{RESTR} = <_{\infty} (e_2, e_3), o_{\infty} (e_1, e_2) \\ \text{HEAD} = e_3 \end{array} \right) \\ \text{QUALIA} = \left(\begin{array}{l} \text{FORMAL} = \text{at} (e_3, \boxed{1}, \boxed{2}) \\ \text{AGENTIVE} = \text{move} (e_2, \boxed{1}), \text{float} (e_1, \boxed{1}) \end{array} \right) \end{array} \right]$$

(Pustejovsky 1995: 126)

The argument structure consists of two true arguments, *a physical object* and *the cave*. The event structure consists of three subevents: e_1 is inherited from the verb *float* while e_2 and e_3 are inherited from the process (e_1) and the state (e_2) in the semantic representation of the PP *into the cave*, respectively. The event structure shows that e_2 temporally precedes e_3 , and e_1 temporally overlaps e_2 . The head of the event structure is e_3 . The FORMAL role is inherited from the FORMAL role of the PP and carries the information that a physical object is at the cave. The AGENTIVE role is inherited from both the AGENTIVE roles of the PP and the verb and carries the information that a physical object moves while floating. It is worth noting that the meaning of the PP functions as the semantic head of the whole VP while the verbal semantic information is demoted to a manner modifier. Thus, the verb itself does not provide the change of position sense but is interpreted as a change of position by the operation of co-

composition.

To sum up, the three representational levels of argument, event, and qualia structures enable various dimensions of lexical information to be systematically organized. In addition, the structured semantic representations and the operation of co-composition make it possible to predict how the multiple meanings of words are derived. Therefore, Pustejovsky (1995)'s GL theory can provide a theoretically superior analysis for the phenomenon of polysemy. In the following sections, I incorporate the essence of Pustejovsky (1995)'s GL theory into the present study and attempt to analyze sentences including aspectual *away* and the cases where the interpretation of *away* can be easily changed depending on a subject NP and context.

5.4 The Analysis based on Pustejovsky (1995)'s Generative Lexicon Approach

Under the GL theory, the core meaning of a word (or a phrase) is defined by the qualia structure, which is further fleshed out by the argument structure and the event structure, with respect to the participating arguments and the event type. In this section, I propose modified lexical semantic representations of *away* and activity verbs based on the GL theory and then demonstrate how activity verbs combine with *away* through the operation of co-composition.

5.4.1 The Lexical Semantic Representation of *away*

Following Pustejovsky (1995)'s GL theory, I propose the following lexical semantic representation for *away*.

$$(22) \left[\begin{array}{l} \text{away} \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1}: [\text{THING}] \\ \text{D-ARG1} = \boxed{2}: [\text{A REFERENCE POINT}] \\ \text{D-ARG2} = \boxed{3}: [\text{AN UNSPECIFIED DISTANCE}] \end{array} \right) \\ \text{EVENTSTR} = \left(\begin{array}{l} \text{E}_1 = \text{e}_1 : \text{process} \\ \text{E}_2 = \text{e}_2 : \text{state} \\ \text{RESTR} = <_{\infty} (\text{e}_1, \text{e}_2) \\ \text{HEAD} = \text{e}_2 \end{array} \right) \\ \text{QUALIA} = \left(\begin{array}{l} \text{FORMAL} = [\text{State BE } ([\boxed{1}], [\text{Place AT } \boxed{3}])] (\text{e}_2) \\ \text{AGENTIVE} = [\text{Event GO } ([\boxed{1}], [\text{Path FROM } \boxed{2} \text{ TO } \boxed{3}])] (\text{e}_1) \end{array} \right) \end{array} \right]$$

From the argument and qualia structures of *away*, it is clear that the lexical representation of *away* proposed here does not adhere strictly to the original semantic representation proposed by Pustejovsky (1995). The main reason is to ensure consistency with the method of semantic analysis developed in the previous chapters. Therefore, conceptual functions and conceptual structures proposed by Jackendoff (1990) are used in the argument structure and the qualia structure of *away* as shown in (22). The argument structure of *away* consists of a true argument and two default arguments. Default arguments do not necessarily have to be syntactically realized but necessarily exist in qualia structure. The event structure consists of two subevents, a process (e_1) and a resulting state (e_2). In this case, e_1 temporally precedes e_2 . The AGENTIVE role corresponds to e_1 in the event structure and carries the information that the concept of *away* comes into being by a Thing's going from a reference point to an unspecified distance. From the AGENTIVE role, it is clear that *away* presupposes a change of position. The FORMAL role corresponds to e_2 and carries the information that a Thing is at an unspecified distance. It should be noticed here that the head in the event structure is the

state (e_2). Hence, the FORMAL role corresponding to the head (e_2) serves as the focus of the interpretation of *away*. It follows that *away* itself denotes a state.

Next let us consider how the lexical representation of *away* in (22) is related to the LCS of *away* proposed in Chapter 3 (repeated below as (23)).

$$(23) \text{ The LCS of } away: \left(\begin{array}{l} \text{FROM } ([Place \text{ A REFERENCE POINT}]) \\ \text{Path TO } ([Place \text{ AN UNSPECIFIED DISTANCE}]) \end{array} \right)$$

The LCS of *away* express a Path. On the other hand, *away* in (22) denotes a state. Hence, the LCS of *away* seems to be distinct from (22). However, I propose that the LCS of *away* is an extract from both the AGENTIVE and FORMAL roles in (22). As discussed in Chapter 3, the Place meaning of *away* is drawn from (23) by focusing on the final point of the Path. This entails that (23) implies the Place meaning, too. It should be noticed that the semantic representation in (22) includes the Path and the Place meanings in the AGENTIVE and FORMAL roles, respectively. The two meanings of (23) correspond to the two qualia roles in (22). Hence, it can be concluded that the LCS of *away* in (23) is lexical information extracted from both the AGENTIVE and the FORMAL roles in (22).

The same holds true for the following LCS.

(24) The Place meaning of *away*:

$$[Place \text{ AT-END-OF}] \left(\begin{array}{l} \text{FROM } ([Place \text{ A REFERENCE POINT}]) \\ \text{Path TO } ([Place \text{ AN UNSPECIFIED DISTANCE}]) \end{array} \right) 1$$

The above LCS is assumed for the Place meaning of *away* in Chapter 3. (24) seems to be superficially different from the FORMAL role. However, the FORMAL role of *away* in (22) presupposes the information encoded in the AGENTIVE role and expresses the resulting state of a Thing. Hence, the meaning of (24) corresponds to that which is encoded in the FORMAL role. This shows that (24) is also derived from the FORMAL

role.

From the above observation, it is concluded that the lexical representation of *away* in (22) is not distinct from the LCS of *away* in (23), but rather is a finer-grained lexical representation of *away*. In the following sections, I examine how the rich lexical information of *away* in (22) is used when combining with the meanings of other words.

5.4.2 The Co-composition of Activity Verbs and *away*

In this section, I propose the lexical representation of activity verbs and demonstrate how activity verbs combine with *away* through the operation of co-composition.

As pointed out in Section 2, the class of verbs co-occurring with aspectual *away* are activity verbs. Activity verbs are classified into active process verbs under Pustejovsky (1995:80)'s classification of verbs. Let us examine one partial lexical representation of active process verbs proposed by Pustejovsky (1995: 80).

$$(25) \left(\begin{array}{l} \text{run} \\ \text{EVENTSTR} = \left[\begin{array}{l} E_1 = e_1 : \text{process} \end{array} \right] \\ \text{QUALIA} = \left[\begin{array}{l} \text{AGENTIVE} = \text{run_act}(e_1, x) \\ \dots \end{array} \right] \end{array} \right)$$

(Pustejovsky 1995: 80) (=17a)

The event structure shows that the event type is process. The AGENTIVE role corresponds to e_1 in the event structure and carries the information that x acts in a running manner. The present analysis adopts (25) as the semantic representation of activity verbs but modifies it with respect to the argument and qualia structures for consistency with the method of semantic analysis developed in the previous chapters.

The following modified lexical representations are proposed for activity verbs.²⁵

- (26) a. $\left[\begin{array}{l} \text{Intransitive activity verbs} \\ \text{ARGSTR} = [\text{ARG1} = \boxed{1} : [\text{THING}]] \\ \text{EVENTSTR} = [\text{E}_1 = e_1 : \text{process}] \\ \text{QUALIA} = [\text{AGENTIVE} = [\text{Event ACT} ([\boxed{1}]) \text{ IN MANNER } \alpha] (e_1)] \end{array} \right]$
- b. $\left[\begin{array}{l} \text{Transitive activity verbs} \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1} : [\text{THING}] \\ \text{ARG1} = \boxed{2} : [\text{THING}] \end{array} \right) \\ \text{EVENTSTR} = [\text{E}_1 = e_1 : \text{process}] \\ \text{QUALIA} = [\text{AGENTIVE} = [\text{Event ACT ON} ([\boxed{1}], [\boxed{2}]) \\ \text{IN MANNER } \alpha] (e_1)] \end{array} \right]$

(26a) is a semantic representation for intransitive activity verbs like *sing*, *talk*, and *play*. (26b) is for transitive activity verbs like *hit*, *kick*, and *push*. The argument structure in (26a) shows that intransitive activity verbs take a true argument, a Thing. In contrast, the argument structure in (26b) shows that transitive activity verbs take two true arguments, two Things. The event structures in (26a) and (26b) show that both intransitive and transitive activity verbs express a process. The AGENTIVE role of intransitive activity verbs corresponds to e_1 in the event structure and carries the information that a Thing acts in a manner denoted by the verbs. The AGENTIVE role of transitive activity verbs also corresponds to e_1 in the event structure and carries the information that a Thing acts on another Thing in a manner denoted by the verbs.²⁶

²⁵ The present analysis distinguishes the lexical representations of intransitive activity verbs from those of transitive activity verbs for the convenience of explanation.

²⁶ As the semantic information encoded in the AGENTIVE role in (26a) and (26b), the present analysis adopts the LCS representations of intransitive and transitive activities proposed by

Next, let us explore how *activity verbs* combine with *away* within the framework of GL theory. Activity verbs do not take a Path argument, and therefore it is theoretically expected that a semantic conflict occurs when an activity verb co-occurs with a Path expression, *away*. However, *away* can actually co-occur with activity verbs, as shown in (1) (repeated in (27)).

- (27) a. Mary sang away. (=1a)
b. Mary tapped away on the phone. (=1b)

I claim that the operation of co-composition proposed by Pustejovsky (1995) contributes to the avoidance of the semantic conflict between an activity verb and *away* and allows an activity verb to co-occur with *away*. Pustejovsky (1995: 124) suggests that the operation of co-composition occurs when the same semantic information is shared between qualia roles of words.

Let us examine what semantic information is shared between the qualia roles of *away* and activity verbs. The following lexical representations are assumed for an intransitive activity verb *sing* and a transitive activity verb *tap*.²⁷

Yumoto (2016: 316), [x ACT IN MANNER α] and [x ACT (ON y) IN MANNER α]. The ACT (ON)-function, unlike the AFF-function, does not conceptually contradict the meaning of intransitive verbs. The present analysis modifies the LCS representations in the following two respects: first, the symbols, x and y, are replaced with $\boxed{1}$ and $\boxed{2}$ for consistency with the method of semantic analysis in this chapter. Second, regarding the positions of the subject and the direct object, the present analysis follows Jackendoff (1990) and places the subject and the direct object after the ACT (ON)-function for consistency with the method of semantic analysis in the previous chapters.

²⁷ The present analysis does not distinguish the semantic representation of activity verbs like *talk*, *drink*, and *sing* from that of semelfactive verbs like *tap*, *flash*, and *cough*. There are two reasons for this. One is that a more detailed analysis is required to determine how the semantic properties of semelfactive verbs are represented in the semantic representation, and the other is that *away* co-occurring with semelfactive verbs is always aspectual and the meaning of *away* is not affected by the semantic property, hence the distinction is not necessary for the present analysis.

$$(28) \text{ a. } \left[\begin{array}{l} \text{sing} \\ \text{ARGSTR} = [\text{ARG1} = \boxed{1} : [\text{THING}]] \\ \text{EVENTSTR} = [E_1 = e_1 : \text{process}] \\ \text{QUALIA} = [\text{AGENTIVE} = [\text{Event ACT} ([\boxed{1}])] \\ \text{IN A SINGING MANNER}] (e_1)] \end{array} \right.$$

$$\text{b. } \left[\begin{array}{l} \text{tap} \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1} : [\text{THING}] \\ \text{ARG1} = \boxed{2} : [\text{THING}] \end{array} \right) \\ \text{EVENTSTR} = [E_1 = e_1 : \text{process}] \\ \text{QUALIA} = [\text{AGENTIVE} = [\text{Event ACT ON} ([\boxed{1}], [\boxed{2}])] \\ \text{IN A TAPPING MANNER}] (e_1)] \end{array} \right.$$

As shown above, the verbs *sing* and *tap* have only the AGENTIVE role in the qualia structure. On the other hand, *away* has both the FORMAL and AGENTIVE roles, as shown in (22). The problem is determining which of the two qualia roles of *away* combines with the AGENTIVE role of activity verbs. Pustejovsky (1995: 72, 101) suggests that the head in the event structure of a predicate foregrounds or focuses a single qualia, which works as the focus of the interpretation. According to the suggestion, it is expected that the qualia role corresponding to the head of *away* combines with the AGENTIVE role of activity verbs. The head in the event structure of *away* is e_2 . Consequently the FORMAL role corresponding to the e_2 would combine with the AGENTIVE role of activity verbs. However, the FORMAL role of *away* conflicts conceptually with the AGENTIVE role of activity verbs because the FORMAL role of *away* expresses a state while the AGENTIVE role of activity verbs expresses a process event. Therefore, the FORMAL role of *away* is blocked from combining with the AGENTIVE role of activity verbs. As an alternative candidate, the AGENTIVE role of

away emerges. The AGENTIVE role of *away* matches the AGENTIVE role of activity verbs in that it expresses a process event. Hence, the AGENTIVE role of *away* is allowed to combine with the AGENTIVE role of activity verbs.

The following semantic representations are proposed for the sentences in (27).²⁸

(29)a.
$$\left(\begin{array}{l} \text{Mary sang away} \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1} : [\text{MARY}] \\ \text{D-ARG1} = \boxed{2} : [\text{A REFERENCE POINT}] \\ \text{D-ARG2} = \boxed{3} : [\text{AN UNSPECIFIED DISTANCE}] \end{array} \right) \\ \text{EVENTSTR} = \left(\begin{array}{l} \text{E}_1 = e_1 : \text{process} \\ \text{E}_2 = e_2 : \text{process} \\ \text{RESTR} = \circ_{\infty} (e_1, e_2) \\ \text{HEAD} = e_1 \end{array} \right) \\ \text{QUALIA} = [\text{AGENTIVE} = [\text{Event GO}_{\text{Temp}} ([\text{Event ACT} ([\boxed{1}]) \\ \text{IN A SINGING MANNER}] (e_2), \\ [\text{Path FROM } \boxed{2} \text{ TO } \boxed{3}])] (e_1)] \end{array} \right)$$

²⁸ The AGENTIVE role of *away* is inherited to the AGENTIVE role in the semantic representations in (29) while the FORMAL role of *away* is not inherited. The reason is that the FORMAL role of *away* expresses a bounded event and therefore conflict with the unbounded event expressed by the AGENTIVE role in the semantic representations in (29). Hence, the FORMAL role of *away* is prevented from being inherited to the FORMAL role in the semantic representation in (29).

b.
$$\left(\begin{array}{l} \text{Mary tapped away on the phone} \\ \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1} : [\text{MARY}] \\ \text{D-ARG1} = \boxed{2} : [\text{A REFERENCE POINT}] \\ \text{D-ARG2} = \boxed{3} : [\text{AN UNSPECIFIED DISTANCE}] \\ \text{D-ARG3} = \boxed{4} : [\text{PHONE}] \end{array} \right) \\ \\ \text{EVENTSTR} = \left(\begin{array}{l} \text{E}_1 = e_1 : \text{process} \\ \text{E}_2 = e_2 : \text{process} \\ \text{RESTR} = \circ_{\infty} (e_1, e_2) \\ \text{HEAD} = e_1 \end{array} \right) \\ \\ \text{QUALIA} = [\text{AGENTIVE} = [\text{Event GO}_{\text{Temp}} ([\text{Event ACT ON} ([\boxed{1}], \\ [\boxed{4}]) \text{ IN A TAPPING MANNER}] (e_2), \\ [\text{Path FROM } \boxed{2} \text{ TO } \boxed{3}])] (e_1)] \end{array} \right)$$

In (29a), the argument structure consists of a true argument and two default arguments. The true argument is inherited from the argument structures of the verb and *away*. The two default arguments are inherited from the argument structure of *away*. In (29b), the argument structure consists of a true argument and three default arguments. The true argument is inherited from the argument structures of the verb and *away*. The first and second default arguments are inherited from the argument structure of *away*. The third default argument is inherited from the argument structure of the verb. The event structures in (29a) and (29b) show that the event consists of two subevents. The first subevent (e_1) corresponds to the whole event encoded in the AGENTIVE role. The second subevent (e_2) corresponds to the Theme argument of GO in the AGENTIVE role. The symbol \circ_{∞} shows that e_1 temporally overlaps e_2 . In this case, e_1 is the head of the event.

Before turning to the qualia structures in (29), let us examine how the AGENTIVE roles of activity verbs and *away* are conflated. As shown in the argument structures in

(26), activity verbs do not take a Path argument and hence cannot take *away* as their argument. On the other hand, as mentioned above, the AGENTIVE role of activity verbs matches the AGENTIVE role of *away* in that it expresses a process event. Instead of activity verbs, *away* therefore serves as the semantic head and takes the event denoted by the activity verb as the Theme argument. Let us look at the qualia structure in (29). The reference point in the AGENTIVE role indicates the point in time at which the event denoted by the VP is referred to by the speaker (or the conceptualizer). The Theme argument of GO is an event and hence the semantic field is temporal. The AGENTIVE role means ‘the event denoted by the verb *sing* or *tap* continuously flows from a reference point to an unspecified distance’. The reason why the flow of the event is unbounded is because the activity denoted by the verbs is unbounded. The Path of *away* serves as the temporal Path which the event denoted by the verb continuously flows along and hence *away* assumes the aspectual meaning of continuation. This assumption seems to be rather peculiar but the validity is enhanced as evidenced by the following sentences.

- (30) a. Mary talked/danced/worked away from 1 o’clock to 3 o’clock.
 b. Mary talked/danced/worked away from morning to night.
 c. Mary talked/danced/worked away until 5 o’clock.

As shown above, aspectual *away* can be followed by time phrases like *from 1 o’clock to 3 o’clock*, *from morning to night*, and *until 5 o’clock*. This demonstrates that *away* with the time phrases serves as a temporal Path at the level of semantic structure.

In summary, this subsection has argued that when *away* has the aspectual meaning of continuation, *away* serves as the semantic head and takes co-occurring verbs as its argument at the conceptual structure level. In addition, it has been shown that even when *away* denotes a continual aspect it maintains the same semantic structure.

5.5 The Cases where Context or the Subject NP influences the Semantic Interpretation of *away*

As pointed out in Section 2, when *away* co-occurs with manner of motion verbs and sound emission verbs, the semantic interpretation of *away* can change depending on context and the subject NP. In this section, I attempt to elucidate the mechanism of how context and the subject NP affect the semantic interpretation of *away* within the framework of Pustejovsky (1995)'s GL theory.

5.5.1 The Co-occurrence of Manner of Motion Verbs and *away*

Path expressions can occur after dance verbs, as follows:

- (31) a. Debbie danced into the room. (Jackendoff 1990: 89)
b. They waltzed across/into/through the room. (Levin 1993: 269)

Jackendoff (1990: 88) argues that the verb *dance* is a manner of motion verb and does not take a Path as its argument, but is allowed to co-occur with PPs denoting a Path by the GO-Adjunct Rule. Levin (1993: 106, 269) also points out that verbs which are zero-related to names of dances denote only motion and imply the direction of the motion by co-occurring with directional phrases. According to their views, it is expected that *away* is also a Path expression and therefore *away* in (32) is interpreted as the meaning of spatial movement as is the case with (33).

- (32) a. Lois and Clark danced away for two blissful hours. (Jackendoff 1997b: 540) (=7a)
b. Bill waltzed away. (Jackendoff 1997b: 539) (=7b)
(33) Mary ran/walked/jumped away.

Against expectation, however, *away* in (32), contrary to (33), has the aspectual meaning of continuation. Why is the semantic interpretation of *away* different between (32) and (33), though all of the verbs in (32) and (33) are classified into the same class of manner of motion verbs by Jackendoff (1990: 88)?

I assert that dance verbs like *dance*, *waltz*, and *tango* have a different lexical

representation from manner of motion verbs like *run*, *walk*, and *jump*, and will demonstrate here that the difference in the semantic interpretations of *away* between (32) and (33) results from the difference in the lexical representations between dance verbs and manner of motion verbs. I exclude dance verbs from the class of manner of motion verbs and propose distinct lexical representations for dance verbs and manner of motion verbs.

The following lexical representation is assumed for dance verbs.

$$(34) \left(\begin{array}{l} \text{Dance verbs} \\ \\ \text{ARGSTR} = [\text{ARG1} = \boxed{1} : [\text{THING}]] \\ \\ \text{EVENTSTR} = \left(\begin{array}{l} E_1 = e_1 : \text{process} \\ E_2 = e_2 : \text{process} \\ E_3 = e_3 : \text{process} \\ \text{RESTR} = \langle \circ \infty (e_1, e_2), e_3 \rangle \\ \text{HEAD} = e_1 \end{array} \right) \\ \\ \text{QUALIA} = \left(\begin{array}{l} \text{TELIC} = \boxed{\text{PURPOSE}} \\ \quad [\text{Event GO}_{\text{Poss}} ([\text{PLEASURE}], [\text{TO}[\boxed{1}]])](e_3) \\ \quad \boxed{\text{ITS CHARACTERISTIC ACTION}} \\ \quad [\text{Event GO}_{\text{Spatial}} ([\boxed{1}], [\text{PATH}])](e_2) \\ \text{AGENTIVE} = [\text{Event ACT} ([\boxed{1}]) \text{ IN MANNER } \alpha](e_1) \end{array} \right) \end{array} \right)$$

The argument structure of dance verbs consists of a true argument, and shows that a dance verb selects a Thing as its argument. Let us look at the qualia structure. The AGENTIVE role provides the information that a Thing acts in a manner denoted by dance verbs. The TELIC role provides the following two pieces of information: 1) the typical purpose for

dancing is to get pleasure. 2) one often moves from a place to another while dancing.²⁹ The purpose or the action is only typical and therefore is not always true. Hence, the information about the typical purpose is deleted from the TELIC role when one dances for some other purpose, or without any purpose. In addition, the information about its characteristic action is deleted from the TELIC role when one dances without changing their position. On the other hand, the event encoded in the AGENTIVE role must always be present because the concept of dance verbs themselves do not exist without the event. The event structure in (34) shows that the event consists of three subevents. The symbol $\langle 0 \infty$ expresses that e_2 temporally overlaps e_1 although e_2 is brought about by e_1 . The first subevent (e_1) is the head and corresponds to the AGENTIVE role. The second subevent (e_2) and the third subevent (e_3) correspond to the information of its characteristic action and the purpose encoded in the TELIC role, respectively.

The following lexical representation is assumed for manner of motion verbs.

²⁹ Pustejovsky (1995: 76) views the TELIC role as encoding the information of the purpose and the function of an object. In contrast, Jackendoff (2002b: 370) considers the TELIC role as not only the place to encode the purpose and the function of an entity but also the place to localize our world knowledge of its characteristic actions. The present analysis follows Jackendoff's suggestion.

$$(35) \left[\begin{array}{l} \text{Manner of motion verbs} \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1} : [\text{THING}] \\ \text{D-ARG1} = \boxed{2} : [\text{PATH}] \end{array} \right) \\ \text{EVENTSTR} = \left(\begin{array}{l} E_1 = e_1 : \text{process} \\ E_2 = e_2 : \text{process} \\ E_3 = e_3 : \text{state} \\ \text{RESTR} = \langle \circ_\infty (e_1, e_2), \langle_\infty (e_2, e_3) \\ \text{HEAD} = e_2 \end{array} \right) \\ \text{QUALIA} = \left(\begin{array}{l} \text{TELIC} = \boxed{\text{PURPOSE}} \\ \quad [\text{State BE}_{\text{Spatial}} ([\boxed{1}], \\ \quad \quad \quad [\text{Place AT-END-OF} ([\boxed{2}])])]) (e_3) \\ \text{AGENTIVE} = [\text{Event GO}_{\text{Spatial}} ([\boxed{1}], [\boxed{2}])] (e_2), \\ \quad [\text{Event ACT} ([\boxed{1}]) \text{ IN MANNER } \alpha] (e_1) \end{array} \right) \end{array} \right]$$

The argument structure shows that a manner of motion verb takes a Thing as its argument and a Path as its adjunct. The event structure shows that the event consists of three subevents. The symbol $\langle \circ_\infty$ expresses that e_2 temporally overlaps e_1 although e_2 is brought about by e_1 . The symbol \langle_∞ expresses that e_2 temporally precedes e_3 . The head of the event is e_2 . Let us look at the qualia structure. The AGENTIVE role consists of the following two events: 1) one expresses that a Thing acts in a manner denoted by the verbs, and 2) the other expresses that a Thing traverses a Path.³⁰ The former event corresponds to e_1 in the event structure, and the latter event corresponds to e_2 . The TELIC role

³⁰ Jackendoff (1990: 89) represents manner of motion verbs by using the MOVE-function. On the other hand, the present analysis represents them by using the GO-function. The reason is because the present analysis assumes that manner of motion verbs such as *run*, *walk*, and *jump*, unlike activity verbs such as *sing*, *talk*, and *laugh*, can co-occur with Path expressions due to include the concept of locomotion as part of the lexical meaning.

corresponds to e_3 in the event structure and provides the information that the purpose is for one to go to a place. It must be noted that the purpose is also just typical and therefore not always true. Hence, the event is deleted from the TELIC role when one is doing the activity denoted by a manner of motion verb for some other purpose or without any purpose.

Incidentally, why is the head in the event structure in (35) not e_1 but e_2 ? The factor that determines the head between subevents lies in the information of purpose encoded in the TELIC role. The TELIC role in (35) provides the information that the purpose is to go to a place. The e_2 encoded in the AGENTIVE role in (35), unlike the e_1 encoded in the AGENTIVE role, expresses the movement to a place, which matches the purpose. Hence, the event of e_2 is salient and is regarded as the head of the event.

Next, let us examine how the following sentences are interpreted within the framework of GL theory.

- (36) a. Mary danced away. (=9a)
b. Mary jumped away. (=10a)

Away in (36a) has the aspectual meaning of continuation while *away* in (36b) has the meaning of spatial movement.

Let us begin with (36a). Again, Pustejovsky (1995: 124) suggests that the operation of co-composition occurs when the same semantic information is shared between qualia roles of words. First let us examine what semantic information is shared between the qualia roles of *dance* and *away* in (36a). The following lexical representation is assumed for *dance*.

$$(37) \left[\begin{array}{l} \text{dance} \\ \\ \text{ARGSTR} = [\text{ARG1} = \boxed{1} : [\text{THING}]] \\ \\ \text{EVENTSTR} = \left[\begin{array}{l} E_1 = e_1 : \text{process} \\ E_2 = e_2 : \text{process} \\ E_3 = e_3 : \text{process} \\ \text{RESTR} = \langle \circ_\infty (e_1, e_2), e_3 \rangle \\ \text{HEAD} = e_1 \end{array} \right. \\ \\ \text{QUALIA} = \left[\begin{array}{l} \text{TELIC} = \boxed{\text{PURPOSE}} \\ \quad [\text{Event GO}_{\text{Poss}} ([\text{PLEASURE}], [\text{TO}[\boxed{1}]])](e_3) \\ \quad \boxed{\text{ITS CHARACTERISTIC ACTION}} \\ \quad [\text{Event GO}_{\text{Spatial}} ([\boxed{1}], [\text{PATH}])](e_2) \\ \text{AGENTIVE} = [\text{Event ACT} ([\boxed{1}]) \\ \quad \quad \quad \text{IN A DANCING MANNER}](e_1) \end{array} \right. \end{array} \right.$$

The head of the event structure of *dance* is e_1 . The event in the AGENTIVE role corresponding to e_1 expresses a process event. On the other hand, the head in the event structure of *away* is e_2 , as shown in (22). the FORMAL role of *away* corresponding to the e_2 expresses a state and does not match the AGENTIVE role of *dance*. In contrast, the AGENTIVE role of *away* expresses a process event and matches the AGENTIVE role of *dance*. Hence, the AGENTIVE roles of *away* and *dance* are allowed to be conflated. It should be noticed that the AGENTIVE role of *dance* is exactly the same as the AGENTIVE role of activity verbs previously outlined in (26). Hence, the same operation which applies to the combination of activity verbs and *away* applies to the combination of *dance* and *away*. The verb *dance* does not take a Path argument as shown in the argument structure in (37) and hence cannot take *away* as its argument. Instead, *away*

takes the event denoted by the verb *dance* as the Theme argument.

The following semantic representation is proposed for the sentence in (36a).

(38)
$$\left(\begin{array}{l} \text{Mary danced away} \\ \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1} : [\text{MARY}] \\ \text{D-ARG1} = \boxed{2} : [\text{A REFERENCE POINT}] \\ \text{D-ARG2} = \boxed{3} : [\text{AN UNSPECIFIED DISTANCE}] \end{array} \right) \\ \\ \text{EVENTSTR} = \left(\begin{array}{l} \text{E}_1 = \text{e}_1 : \text{process} \\ \text{E}_2 = \text{e}_2 : \text{process} \\ \text{E}_3 = \text{e}_3 : \text{process} \\ \text{E}_4 = \text{e}_4 : \text{process} \\ \text{RESTR} = \circ_{\infty} (\text{e}_1, \text{e}_2), < \circ_{\infty} (\text{e}_2, \text{e}_3), \text{e}_4 \\ \text{HEAD} = \text{e}_1 \end{array} \right) \\ \\ \text{QUALIA} = \left(\begin{array}{l} \text{TELIC} = \boxed{\text{PURPOSE}} \\ \quad [\text{Event GO}_{\text{Poss}} ([\text{PLEASURE}], [\text{TO}[\boxed{1}]])] (\text{e}_4) \\ \quad \boxed{\text{ITS CHARACTERISTIC ACTION}} \\ \quad [\text{Event GO}_{\text{Spatial}} ([\boxed{1}], [\text{PATH}])] (\text{e}_3) \\ \text{AGENTIVE} = [\text{Event GO}_{\text{Temp}} ([\text{Event ACT} ([\boxed{1}]) \\ \quad \text{IN A DANCING MANNER}] (\text{e}_2), \\ \quad [\text{Path FROM } \boxed{2} \text{ TO } \boxed{3}])] (\text{e}_1) \end{array} \right) \end{array} \right)$$

The first true argument is inherited from the argument structures of *dance* and *away*. The first and second default arguments are inherited from that of *away*. Next let us look at the qualia structure. The TELIC role is inherited from the TELIC role of *dance*. The information of the typical purpose of dancing and its characteristic action is represented

in the TELIC role. The AGENTIVE role shows that *away* instead of *dance* serves as the semantic head. The AGENTIVE role means ‘the event denoted by the verb *dance* continuously flows from a reference point to an unspecified distance’. The Theme argument of GO is an unbounded event and therefore the Path of *away* serves as the temporal Path which the event denoted by the verb continuously flows along. The aspectual meaning of continuation in *away* is obtained from the AGENTIVE role.

Next, let us turn to (36b) and examine what semantic information is shared between the qualia roles of *jump* and *away*. The following lexical representation is assumed for *jump*.

$$(39) \left[\begin{array}{l} \text{jump} \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1} : [\text{THING}] \\ \text{D-ARG1} = \boxed{2} : [\text{PATH}] \end{array} \right) \\ \text{EVENTSTR} = \left(\begin{array}{l} E_1 = e_1 : \text{process} \\ E_2 = e_2 : \text{process} \\ E_3 = e_3 : \text{state} \\ \text{RESTR} = \langle \circ_\infty (e_1, e_2), \langle_\infty (e_2, e_3) \rangle \\ \text{HEAD} = e_2 \end{array} \right) \\ \text{QUALIA} = \left(\begin{array}{l} \text{TELIC} = \boxed{\text{PURPOSE}} \\ \quad [\text{State BE}_{\text{Spatial}} ([\boxed{1}], \\ \quad \quad [\text{Place AT-END-OF} ([\boxed{2}])]) (e_3) \\ \text{AGENTIVE} = [\text{Event GO}_{\text{Spatial}} ([\boxed{1}], [\boxed{2}]) (e_2), \\ \quad [\text{Event ACT} ([\boxed{1}]) \\ \quad \quad \text{IN A JUMPING MANNER}] (e_1) \end{array} \right) \end{array} \right)$$

As shown above, the head of the event structure of *jump* is e_2 . The event in the

AGENTIVE role corresponding to e_2 expresses a process event. On the other hand, the head of the event structure of *away* is e_2 , as shown in (22). The FORMAL role of *away* corresponding to the e_2 expresses a state. They cannot combine due to the difference in the event types. As an alternative candidate, the AGENTIVE role of *away* emerges. It expresses a process event and matches the event in the AGENTIVE role corresponding to the e_2 of *jump*. Hence, they are allowed to be conflated.

The following semantic representation is for the sentence in (36b).

(40) Mary jumped away

$$\text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1} : [\text{MARY}] \\ \text{D-ARG1} = \boxed{2} : [\text{A REFERENCE POINT}] \\ \text{D-ARG2} = \boxed{3} : [\text{AN UNSPECIFIED DISTANCE}] \end{array} \right)$$

$$\text{EVENTSTR} = \left(\begin{array}{l} E_1 = e_1 : \text{process} \\ E_2 = e_2 : \text{process} \\ E_3 = e_3 : \text{state} \\ E_4 = e_4 : \text{state} \\ \text{RESTR} = \langle_{\infty} (e_2, e_3/e_4), \langle_{0\infty} (e_1, e_2), \\ \text{HEAD} = e_4 \end{array} \right)$$

$$\text{QUALIA} = \left(\begin{array}{l} \text{FORMAL} = [\text{STATE BE} ([\boxed{1}], [\text{Place AT } \boxed{3}])] (e_4) \\ \text{TELIC} = \boxed{\text{PURPOSE}} \\ \quad [\text{State BE}_{\text{Spatial}} ([\boxed{1}], \\ \quad \quad [\text{Place AT-END-OF} ([\text{PATH}])]) (e_3) \\ \text{AGENTIVE} = [\text{Event GO}_{\text{Spatial}} ([\boxed{1}], \\ \quad [\text{Path FROM } \boxed{2} \text{ TO } \boxed{3}])] (e_2), \\ \quad [\text{Event ACT} ([\boxed{1}]) \\ \quad \quad \text{IN A JUMPING MANNER}] (e_1) \end{array} \right)$$

The argument structure consists of a true argument and two default arguments. The true argument is inherited from the argument structures of *jump* and *away*. The first and second default arguments are inherited from that of *away*. The event structure provides the information that e_2 temporally precedes e_3/e_4 and in addition e_2 is brought about by e_1 but e_2 temporally overlaps e_1 . It also shows that the head of the event structure is e_4 . Let us look at the qualia structure. The FORMAL role is inherited from the qualia structure

of *away*. It corresponds to e_4 in the event structure and carries the information that Mary is at an unspecified distance. The TELIC role is inherited from the qualia structure of *jump*. It corresponds to e_3 in the event structure and provides the information that the purpose of jumping is to go to a place. The event in the AGENTIVE role corresponding to e_1 in (40) is inherited from the qualia structure of *jump*. It conveys the information that Mary acts in a jumping manner. The event in the AGENTIVE role corresponding to e_2 in (40) is the conflation of the e_2 of the AGENTIVE role of *jump* and the AGENTIVE role of *away*. It conveys the information that Mary goes from a reference point to an unspecified distance. In the event in the AGENTIVE role corresponding to e_2 in (40), the Path of *away* serves as the spatial Path Mary traverses. Therefore in this case, *away* is interpreted as the meaning of spatial movement.

Next, let us turn to the following examples.

- (41) a. Mary danced away to her bedroom. (=9b)
 b. Mary jumped away on the trampoline. (=10b)

When the VP *dance away* is followed by a Path PP as in (41a), the meaning of *away* shifts from the aspectual meaning of continuation to the meaning of spatial movement. On the other hand, when the VP *jump away* is followed by a Place PP as in (41b), the meaning of *away* shifts from the meaning of spatial movement to the aspectual meaning of continuation. In what follows, I demonstrate that the present analysis can provide a theoretical explanation for even the cases where the interpretation of *away* changes by context.

First let us begin with (41a). The following semantic representation is for the PP *to her bedroom*.

$$(42) \left[\begin{array}{l} \text{to her bedroom} \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1} : [\text{THING}] \\ \text{ARG2} = \boxed{2} : [\text{HER BEDROOM}] \end{array} \right) \\ \text{EVENTSTR} = \left(\begin{array}{l} \text{E}_1 = e_1 : \text{process} \\ \text{E}_2 = e_2 : \text{state} \\ \text{RESTR} = <_{\infty} (e_1, e_2) \\ \text{HEAD} = e_2 \end{array} \right) \\ \text{QUALIA} = \left(\begin{array}{l} \text{FORMAL} = [\text{State BE}_{\text{Spatial}} ([\boxed{1}], [\text{Place AT } \boxed{2}])] (e_2) \\ \text{AGENTIVE} = [\text{Event GO}_{\text{Spatial}} ([\boxed{1}], [\text{Path TO } \boxed{2}])] (e_1) \end{array} \right) \end{array} \right]$$

From the above qualia structure, it is clear that the AGENTIVE and FORMAL roles of the PP *to her bedroom* share the same conceptual functions as those of *away*. In addition, the PP *to her bedroom* has more specific semantic information about the Goal than *away*. The commonality allows *away* to fuse with *to her bedroom*.

The following semantic representation is assumed for the PP *away to her bedroom*.

$$(43) \left[\begin{array}{l} \text{away to her bedroom} \\ \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1} : [\text{THING}] \\ \text{ARG2} = \boxed{2} : [\text{HER BEDROOM}] \\ \text{D-ARG1} = \boxed{3} : [\text{A REFERENCE POINT}] \end{array} \right) \\ \\ \text{EVENTSTR} = \left(\begin{array}{l} \text{E}_1 = e_1 : \text{process} \\ \text{E}_2 = e_2 : \text{state} \\ \text{RESTR} = \langle_{\infty} (e_1, e_2) \\ \text{HEAD} = e_2 \end{array} \right) \\ \\ \text{QUALIA} = \left(\begin{array}{l} \text{FORMAL} = [\text{State BE } ([\boxed{1}], [\text{Place AT } \boxed{2}])] (e_2) \\ \text{AGENTIVE} = [\text{Event GO } ([\boxed{1}], \\ \quad [\text{Path FROM } \boxed{3} \text{ TO } \boxed{2}])] (e_1) \end{array} \right) \end{array} \right]$$

The argument structure consists of two true arguments and a default argument. The D-ARG1 of *away*, A REFERENCE POINT, is inherited to the argument structure in (43) while the D-ARG2 of *away*, AN UNSPECIFIED DISTANCE, is not. The reason is that the second true argument, HER BEDROOM, provides more specific information about the Goal than *away* and therefore the D-ARG2 of *away* is deleted. The event structure provides the information that e_1 temporally precedes e_2 and also that the head is e_2 . Next let us look at the qualia structure. The FORMAL role carries the information that Mary is at her bedroom. The AGENTIVE role carries the information that Mary goes from a reference point to her bedroom. This shows that *away* and *to her bedroom* form a single Path, whose final point is her bedroom; therefore, the Path of the PP cannot serve as a temporal Path. This suggests that when the PP *away to her bedroom* combines with *dance*, the same operation performed for the combination of *dance* and *away* cannot be applied.

Let us consider how the PP *away to her bedroom* combines with *dance*. The AGENTIVE role of the PP *away to her bedroom* in (43) cannot combine with the

AGENTIVE role of *dance* in (37) because the final point of the Path is her bedroom and thus the Path cannot serve as a temporal Path, as pointed out above. On the other hand, the e_2 encoded in the TELIC role of *dance*, [_{Event} GO_{Spatial} ([$\boxed{1}$], [PATH])], shares the same EVENT-function GO as the AGENTIVE role of the PP *away to her bedroom*. The commonality allows the AGENTIVE role of the PP *away to her bedroom* to be inherited to the AGENTIVE role of the sentence in (41a).

The following semantic representation results for the sentence in (41a).

$$(44) \left[\begin{array}{l} \text{Mary danced away to her bedroom} \\ \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1} : [\text{MARY}] \\ \text{D-ARG1} = \boxed{2} : [\text{A REFERENCE POINT}] \\ \text{D-ARG2} = \boxed{3} : [\text{HER BEDROOM}] \end{array} \right) \\ \\ \text{EVENTSTR} = \left(\begin{array}{l} \text{E}_1 = e_1 : \text{process} \\ \text{E}_2 = e_2 : \text{process} \\ \text{E}_3 = e_3 : \text{state} \\ \text{RESTR} = <_{\infty} (e_2, e_3), <_{\circ\infty} (e_1, e_2) \\ \text{HEAD} = e_3 \end{array} \right) \\ \\ \text{QUALIA} = \left(\begin{array}{l} \text{FORMAL} = [\text{State BE} ([\boxed{1}], [\text{Place AT } \boxed{3}])] (e_3) \\ \text{AGENTIVE} = [\text{Event GO}_{\text{Spatial}} ([\boxed{1}], \\ \quad [\text{Path FROM } \boxed{2} \text{ TO } \boxed{3}])] (e_2), \\ \quad [\text{Event ACT} ([\boxed{1}]) \\ \quad \text{IN A DANCING MANNER}] (e_1) \end{array} \right) \end{array} \right)$$

The argument structure consists of a true argument and two default arguments. The event structure provides the information that e_2 temporally precedes e_3 and e_2 also temporally

overlaps e_1 , though e_2 is brought about by e_1 . This also shows that the head of the event is e_3 . Next let us turn to the qualia structure. The FORMAL role in (44) is inherited from the semantic representation of the PP *away to her bedroom*. It represents the resulting state and provides the information that Mary is in her bedroom. The e_1 in the AGENTIVE role is inherited from the AGENTIVE role of *dance* while the e_2 of the AGENTIVE role is inherited from the AGENTIVE role of the PP *away to her bedroom*. The two events temporally overlap although e_2 is brought about by e_1 . This temporal relation is consistent with the temporal relation between the AGENTIVE role of *dance* and the e_2 encoded in the TELIC role of *dance*. It should be noticed that the semantic information of the e_2 encoded in the TELIC role of *dance* is reflected in the AGENTIVE role of (44), while the information of the purpose in the TELIC role of *dance* is not inherited to (44). The reason is that the purpose might have changed from enjoying dancing to the movement to her room. As shown in the e_2 in the AGENTIVE role in (44), the Path of *away* serves as the spatial Path Mary traverses. In this case, therefore, *away* is interpreted as the meaning of spatial movement.

Next let us turn to the sentence in (41b). When a Place expression like *on the trampoline* is added to *jump away*, *away* takes the aspectual meaning of continuation.³¹ Let us examine what effect the meaning of *on the trampoline* has on the combination of *jump* and *away*. The following lexical representation is assumed for the PP *on the trampoline*.

³¹ The VP *jump on* means a change of position when NPs like *the roof* and *the fence* occur after it as follows:

(a) The cat jumped on the roof/the fence.

It is expected that *away* has a directional meaning when it is inserted between *jump* and *on the roof/fence* as follows:

(b) The cat jumped away on the roof/the fence.

Against this expectation, however, the co-occurring *away* has an aspectual meaning. This suggests that the meaning of *away* in the VP [*jump away on NP*] is not affected depending on what the NP is.

$$(45) \left(\begin{array}{l} \text{on the trampoline} \\ \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1}: [\text{THING}] \\ \text{ARG2} = \boxed{2}: [\text{TRAMPOLINE}] \end{array} \right) \\ \\ \text{EVENTSTR} = [E_1 = e_1 : \text{state}] \\ \\ \text{QUALIA} = [\text{FORMAL} = [\text{State BE } ([\boxed{1}], [\text{Place ON } \boxed{2}])] (e_1)] \end{array} \right)$$

The event structure shows that the event type of the PP is a state. The FORMAL role corresponds to e_1 in the event structure and carries the information that a Thing is on the trampoline. To this end, the PP expresses only a state. Therefore, a conceptual conflict occurs when the PP *on the trampoline* co-occurs with Path expressions which have the concept of locomotion (change of position), as follows:

- (46) a. *Mary ran through the door on the trampoline.
 b. *Mary ran down the mat on the trampoline.

The same holds true for the sentence in (41b). If *away* in (41b) is interpreted as a directional Path, the meaning of *away* conflicts with the meaning of *on the trampoline*. This suggests that the same operation performed for interpreting the sentence, *Mary jumped away*, cannot be applied to the case of (41b). More specifically, the AGENTIVE role of *away*, [Event GO ([$\boxed{1}$], [Path FROM $\boxed{2}$ TO $\boxed{3}$])], cannot combine with the e_2 encoded in the AGENTIVE role of *jump*, [Event GO_{Spatial} ([$\boxed{1}$], [$\boxed{2}$])] because the Path of *away* here serves as a spatial Path; as a result the Path meaning of *away* conflicts with the Place meaning of *on the trampoline*. Alternatively, the AGENTIVE role of *away* is then forced to be fused with the e_1 encoded in the AGENTIVE role of *jump*, [Event ACT ([$\boxed{1}$]) IN A JUMPING MANNER]. It should be noticed that the e_1 encoded in the AGENTIVE role of *jump* is the same as the AGENTIVE role of activity verbs. Therefore, the same operation performed for the combination of activity verbs and *away* is applied to this case. The e_1 encoded in the AGENTIVE role of *jump* is the same as the

AGENTIVE role of *away* in that they both denote a process event. This commonality allows them to be conflated.

The following semantic representation results for the sentence in (41b).

(47)

$$\left(\begin{array}{l}
 \text{Mary jumped away on the trampoline} \\
 \\
 \text{ARGSTR} = \left(\begin{array}{l}
 \text{ARG1} = \boxed{1} : [\text{MARY}] \\
 \text{D-ARG1} = \boxed{2} : [\text{A REFERENCE POINT}] \\
 \text{D-ARG2} = \boxed{3} : [\text{AN UNSPECIFIED DISTANCE}] \\
 \text{D-ARG 3} = \boxed{4} : [\text{TRAMPOLINE}]
 \end{array} \right) \\
 \\
 \text{EVENTSTR} = \left(\begin{array}{l}
 \text{E}_1 = \text{e}_1 : \text{process} \\
 \text{E}_2 = \text{e}_2 : \text{process} \\
 \text{E}_3 = \text{e}_3 : \text{state} \\
 \text{RESTR} = \circ_{\infty} (\text{e}_1, \text{e}_2, \text{e}_3) \\
 \text{HEAD} = \text{e}_1
 \end{array} \right) \\
 \\
 \text{QUALIA} = \left(\begin{array}{l}
 \text{FORMAL} = [\text{State BE}_{\text{Spatial}} ([\boxed{1}], [\text{Place ON } \boxed{4}])] (\text{e}_3) \\
 \text{AGENTIVE} = [\text{Event GO}_{\text{Temp}} ([\text{Event ACT} ([\boxed{1}]) \\
 \text{IN A JUMPING MANNER}] (\text{e}_2), \\
 [\text{Path FROM } \boxed{2} \text{ TO } \boxed{3}])] (\text{e}_1)
 \end{array} \right)
 \end{array} \right)$$

The argument structure consists of a true argument and three default arguments. The true argument is inherited from the semantic representations of *jump*, *away*, and *on the trampoline*. The first and second default arguments are inherited from that of *away*. The third default argument is inherited from that of *on the trampoline*. The event structure shows that the three subevents temporally overlap and the head is e_1 . Next, let us look at the qualia structure. The FORMAL role in (47) is inherited from the FORMAL role of *on*

the trampoline and carries the information that Mary is on the trampoline. The AGENTIVE role is the combination of the e_1 in the AGENTIVE role of *jump* and the AGENTIVE role of *away* and carries information that the event where Mary acts in a jumping manner continuously flows from a reference point to an unspecified distance.³² In the AGENTIVE role, the Path of *away* serves as the temporal Path which the event denoted by the verb continuously flows along. In this case, therefore, *away* takes on the aspectual meaning of continuation.

In this subsection, it has been demonstrated that the present analysis can provide a theoretical explanation for even the cases where the lexical interpretation of *away* is affected by context.

5.5.2 The Co-occurrence of Sound Emission Verbs and *away*

The semantic interpretation of *away* co-occurring with sound emission verbs can be either a continual aspect or a spatial Path, depending on what the subject NP is. Let us consider the following examples.

- | | |
|------------------------------------------|--------|
| (48) a. The kettle whistled away. | (=11a) |
| b. The bullet whistled away. | (=11b) |
| (49) a. The sewing machine rattled away. | (=12a) |
| b. The truck rattled away. | (=12b) |

(48a) means ‘the kettle kept whistling’ while (48b) means ‘the bullet whistled and went away’. (49a) means ‘the sewing machine kept rattling’ while (49b) means ‘the truck rattled and went away’. How is the semantic interpretation of *away* in these examples determined?

Before going into the analysis, let us outline Levin and Rappaport (1995: 189-191)’s

³² The e_2 encoded in the AGENTIVE role of *jump* is not inherited to (47) because it conceptually conflicts the semantic information of the AGENTIVE role in (47). The TELIC role of *jump* is also not inherited to (47) because the information encoded in the TELIC role of *jump* is inconsistent with the information encoded in the AGENTIVE and FORMAL roles of (47).

discussion on what allows directional phrases to co-occur with sound emission verbs. They point out that not all sound emission verbs can appear with directional phrases, as shown in the following examples.

(50) a. *He yelled down the street.

b. *She shouted down the street.

(Levin and Rappaport 1995: 190)

(51) a. . . . the elevator wheezed upward.

[M. Muller, *There's Nothing to Be Afraid Of*, 3]

(Levin and Rappaport 1995: 189)

b. At that moment, a flatbed truck bearing a load of steel rumbled through the gate,

[M. Muller, *There's Nothing to Be Afraid Of*, 39]

(Levin and Rappaport 1995: 190)

Levin and Rappaport claim that sound emission verbs can behave as motion verbs if the sounds denoted by the verbs are characterized as those which necessarily accompany the motion. The sounds denoted by the verbs in (51) altogether require movement for their generation and hence the verbs are used as motion verbs. It is worth noticing that when the subject NPs in (51) are replaced with those in (52), the sentences become unacceptable:

(52) a. *The plane's air conditioner wheezed upwards.

b. *The cat rumbled through the gate.

The subject NPs in (52) can generate sounds regardless of whether or not they move. From this observation, it is obvious that the encyclopedic information about the subject cannot be neglected in determining whether sound emission verbs can co-occur with directional phrases or not. The same holds for (48) and (49): the encyclopedic information about the subjects must be taken into account in order for *away* to be correctly interpreted. The present analysis, unlike Levin and Rappaport (1995), does not assume that sound

emission verbs like *wheeze* and *rumble* have two senses, sound emission and directed motion, but attempts to attribute the interpretation as motion verbs to the co-composition of the subject NP and the V.

First let us consider what lexical semantic representation the class of sound emission verbs has. There is a difference among sound emission verbs in terms of the sound duration, ranging from momentary to continuous. However, sound emission verbs express process event regardless of the duration of sound. Hence, sound emission verbs are all subsumed under the class of activity verbs. In light of this observation, I propose the following lexical representation for sound emission verbs.

$$(53) \left[\begin{array}{l} \text{Sound emission verbs} \\ \text{ARGSTR} = [\text{ARG1} = \boxed{1} : [\text{THING}]] \\ \text{EVENTSTR} = [E_1 = e_1 : \text{process}] \\ \text{QUALIA} = [\text{AGENTIVE} = [\text{Event ACT} ([\boxed{1}]) \text{EMITTING SOUND } \alpha] (e_1)] \end{array} \right]$$

The argument structure shows that the verbs take a Thing as their argument. The event structure shows that the verbs express a process. In the qualia structure, the AGENTIVE role corresponds to e_1 in the event structure and carries the information that a Thing acts while emitting a sound denoted by sound emission verbs.

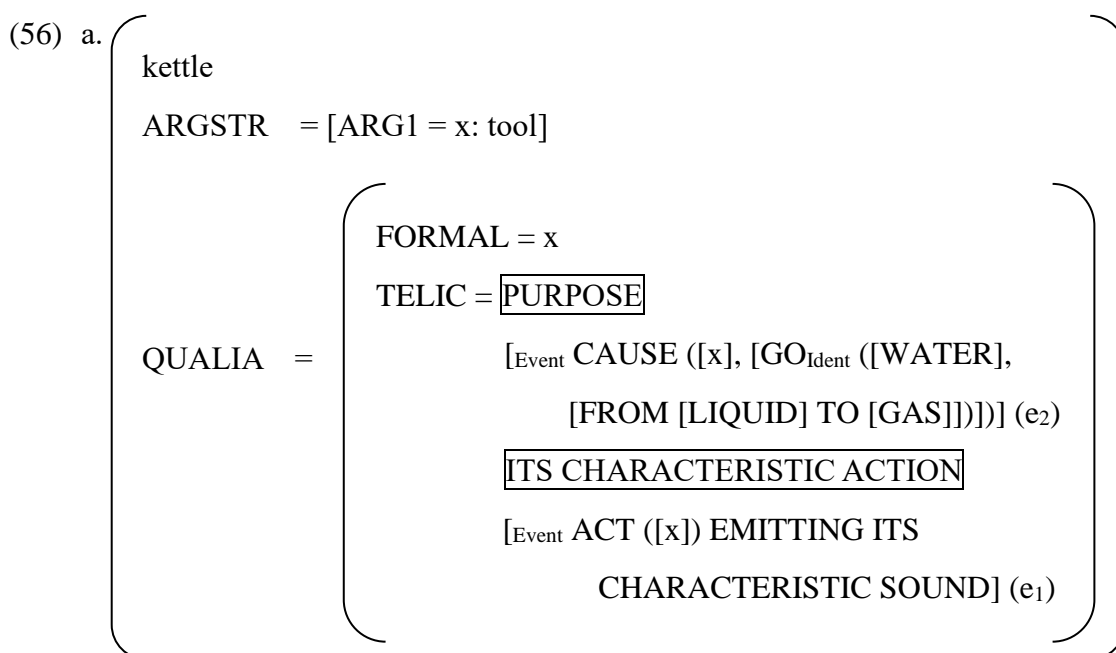
We have seen now that sound emission verbs have almost the same lexical representation as activity verbs but differ in the following respect: the lexical representation of sound emission verbs includes more specific information about the manner than that of activity verbs. The reason for including the conceptual information EMITTING SOUND in the AGENTIVE role in (53) is based on the following assumption: the conceptual information EMITTING SOUND plays the crucial role of allowing the subject NP to co-occur with sound emission verbs. The lexical representations of sound emission verbs and of activity verbs differ in terms of the manner but are the same with respect to the EVENT-function ACT. Hence, it is predictable that sound emission verbs and *away* are conflated by the same mechanism as the case where

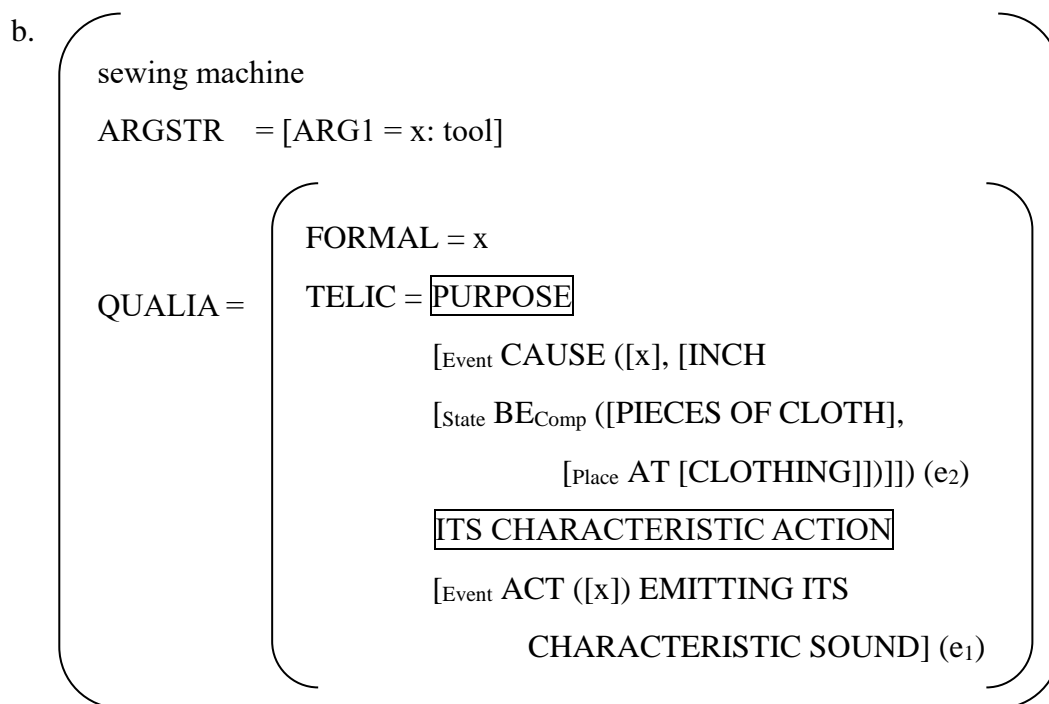
activity verbs co-occur with *away*. Indeed, however, the prediction holds for (48a) and (49a) but not for (48b) and (49b); the examples are repeated below.

- (54) a. The kettle whistled away. (=48a)
 b. The bullet whistled away. (=48b)
- (55) a. The sewing machine rattled away. (=49a)
 b. The truck rattled away. (=49b)

In what follows, I demonstrate that the difference in the semantic interpretation of *away* between (a) and (b) is ascribed to the difference in the semantic information encoded in the TELIC role of the subject NPs.

The following lexical representations are proposed for the subject NPs in (54a) and (55a), *the kettle* and *the sewing machine*.



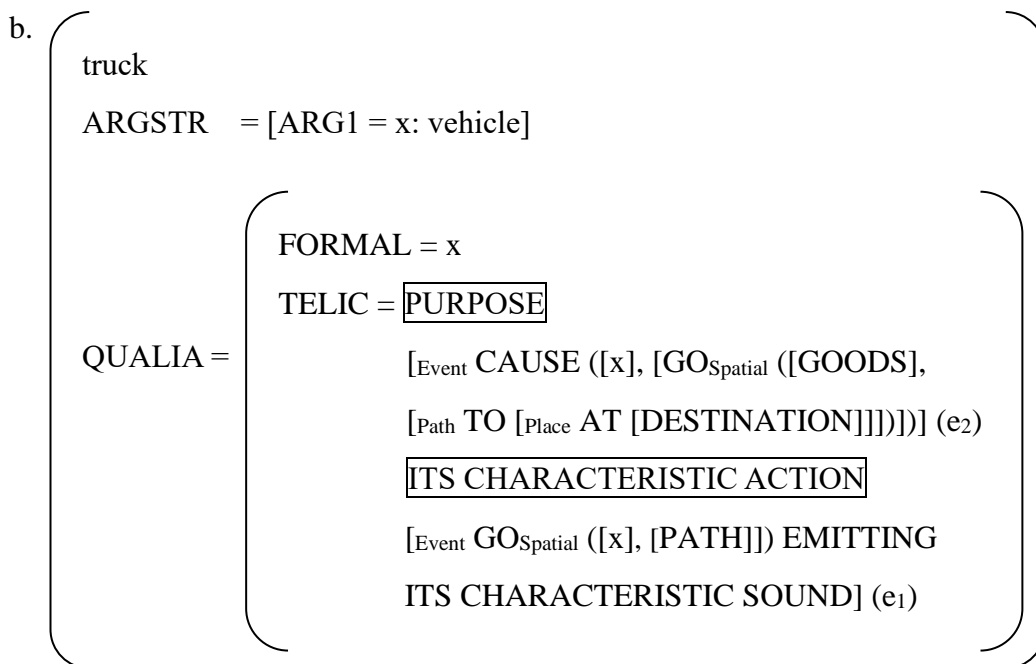
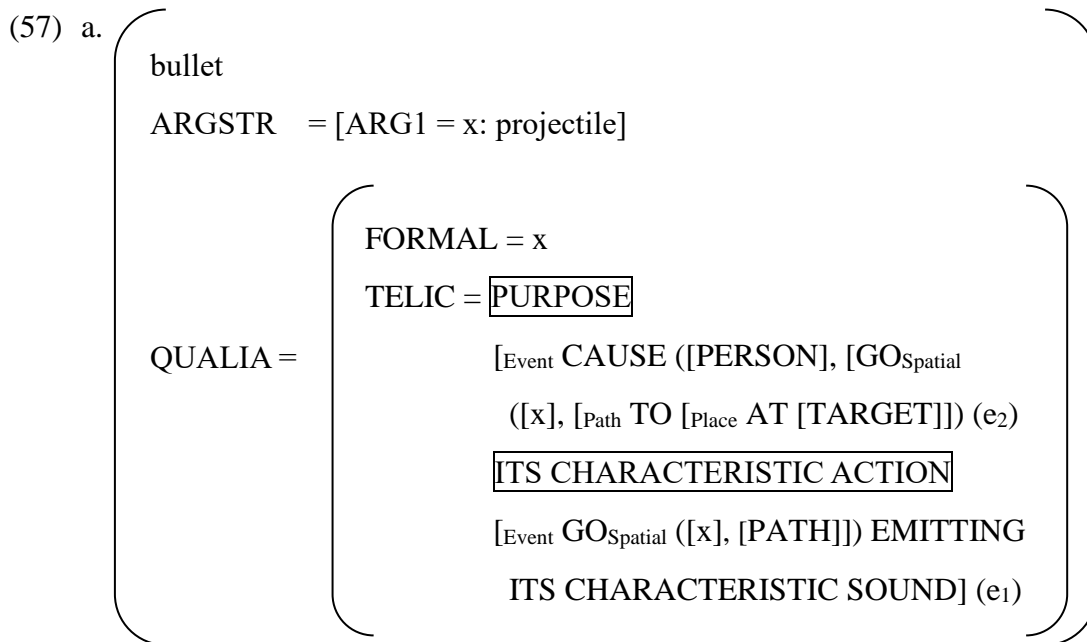


The FORMAL roles in (56a) and (56b) show that the kettle and sewing machine are categorized as tools. The TELIC role of *kettle* in (56a) provides the following two pieces of information: 1) the purpose of a kettle is to boil water, and 2) a kettle acts emitting its characteristic sound.³³ The TELIC role of *sewing machine* in (56b) provides the following two information: 1) the purpose of a sewing machine is to make clothing. 2) a sewing machine acts emitting its characteristic sound.³⁴

The following lexical representations are proposed for the subject NPs in (54b) and (55b), *the bullet* and *the truck*.

³³ Again, Jackendoff (2002b: 370) considers the TELIC role as not only the place to encode the purpose and function of an entity but also the place to localize our world knowledge of its characteristic actions. The present analysis follows Jackendoff's suggestion.

³⁴ The semantic field feature Comp in the TELIC role in (56b) is the abbreviation of composition (cf. Jackendoff (1990: 119)).



The FORMAL role in (57a) shows that bullet is categorized as a projectile. The FORMAL role in (57b) shows that truck is categorized as a vehicle. The TELIC role of *bullet* in (57a) provides the following two pieces of information: 1) the purpose of a bullet is to shoot a target, and 2) a bullet traverses a Path emitting its characteristic sound. The TELIC role of *truck* in (57b) provides the following two pieces of information: 1) the purpose of

a truck is to carry goods to a destination, and 2) a truck traverses a Path emitting its characteristic sound. From the e_1 encoded in the TELIC role of *kettle* and *sewing machine*, it is clear that the sound is one that accompanies the action. In contrast, it is clear from the e_1 encoded in the TELIC role of *bullet* and *truck* that the sound is one that accompany the movement. This shows that Levin and Rappaport (1995)'s perspective of sound emission verbs is reflected in the TELIC role of the subject NPs.

Now, let us examine how the semantic information of the subject NPs interacts and combines with the meanings of sound emission verbs and *away*. First, let us begin with (54a). The following lexical representation is assumed for *whistle*.

$$(58) \left(\begin{array}{l} \text{whistle} \\ \text{ARGSTR} = [\text{ARG1} = \boxed{1} : [\text{THING}]] \\ \text{EVENTSTR} = [E_1 = e_1 : \text{process}] \\ \text{QUALIA} = [\text{AGENTIVE} = [\text{Event ACT} ([\boxed{1}]) \\ \text{EMITTING A WHISTLING SOUND}] (e_1)] \end{array} \right)$$

It should be noticed that the event encoded in the AGENTIVE role of *whistle* in (58) includes the same EVENT-function ACT as the e_1 encoded in the TELIC role of *kettle* in (56a) and that they also include the same conceptual information EMITTING SOUND. These similarities make it possible to identify the sound emitted by *the kettle* to be the sound denoted by the verb *whistle* and also identify the argument of *whistle* to be *the kettle*.

The following semantic representation is for the sentence *the kettle whistled*.

$$(59) \left[\begin{array}{l} \text{The kettle whistled} \\ \text{ARGSTR} = [\text{ARG1} = \boxed{1} : [\text{KETTLE}]] \\ \text{EVENTSTR} = [E_1 = e_1 : \text{process}] \\ \text{QUALIA} = [\text{AGENTIVE} = [\text{Event ACT} ([\boxed{1}]) \\ \text{EMITTING A WHISTLING SOUND}] (e_1)] \end{array} \right]$$

The AGENTIVE role in (59) provides the information that the kettle acts emitting a whistling sound. Next, let us examine how the semantic representation of *the kettle whistled* in (59) combines with that of *away*. The AGENTIVE role of (59) has the same EVENT-function ACT as that of activity verbs. Hence, the same operation performed for the combination of activity verbs and *away* is applied to this case. The AGENTIVE role of (59) is the same as the AGENTIVE role of *away* in that they both denote a process event. Hence, they are allowed to be conflated. The following semantic representation is for the sentence in (54a).

(60)
$$\left(\begin{array}{l} \text{The kettle whistled away} \\ \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1} : [\text{KETTLE}] \\ \text{D-ARG1} = \boxed{2} : [\text{A REFERENCE POINT}] \\ \text{D-ARG2} = \boxed{3} : [\text{AN UNSPECIFIED DISTANCE}] \end{array} \right) \\ \\ \text{EVENTSTR} = \left(\begin{array}{l} \text{E}_1 = \text{e}_1 : \text{process} \\ \text{E}_2 = \text{e}_2 : \text{process} \\ \text{RESTR} = \circ_{\infty} (\text{e}_1, \text{e}_2) \\ \text{HEAD} = \text{e}_1 \end{array} \right) \\ \\ \text{QUALIA} = [\text{AGENTIVE} = [\text{Event GO}_{\text{Temp}} ([\text{Event ACT} ([\boxed{1}]) \\ \text{EMITTING A WHISTLING SOUND}] (\text{e}_2), \\ [\text{Path FROM } \boxed{2} \text{ TO } \boxed{3}])] (\text{e}_1)] \end{array} \right)$$

The AGENTIVE role carries the information that the event where the kettle acts emitting a whistling sound continuously flows from a reference point to an unspecified distance. In the AGENTIVE role, the Theme argument of GO is an Event. Hence, the Path of *away* serves as the temporal Path along which the event denoted by the verb continuously flows. In this case, hence, *away* is interpreted as the aspectual meaning of continuation.

The same explanation holds for (55a). The following lexical representation is assumed for *rattle*.

$$(61) \left(\begin{array}{l} \text{rattle} \\ \text{ARGSTR} = [\text{ARG1} = \boxed{1} : [\text{THING}]] \\ \text{EVENTSTR} = [\text{E}_1 = e_1 : \text{process}] \\ \text{QUALIA} = [\text{AGENTIVE} = [\text{Event ACT} ([\boxed{1}])] \\ \text{EMITTING A RATTLING SOUND}] (e_1)] \end{array} \right)$$

The AGENTIVE role of *rattle* in (61) includes the same EVENT-function ACT and the same conceptual information EMITTING SOUND as the e_1 encoded in the TELIC role of *sewing machine* in (56b). These commonalities allow the sound emitted by *the sewing machine* to be identified with the sounds denoted by the verb *rattle*, also allowing the argument of *rattle* to be identified as *the sewing machine*.

The following semantic representation is formed for the sentence *the sewing machine rattled*.

$$(62) \left(\begin{array}{l} \text{The sewing machine rattled} \\ \text{ARGSTR} = [\text{ARG1} = \boxed{1} : [\text{SEWING MACHINE}]] \\ \text{EVENTSTR} = [\text{E}_1 = e_1 : \text{process}] \\ \text{QUALIA} = [\text{AGENTIVE} = [\text{Event ACT} ([\boxed{1}])] \\ \text{EMITTING A RATTLING SOUND}] (e_1)] \end{array} \right)$$

The AGENTIVE role of (62) represents the same process event as the AGENTIVE role of *away*. This commonality allows the AGENTIVE role of (62) to combine with the AGENTIVE role of *away*. As a result, the following semantic representation is formed for the sentence in (55a).

(63) $\left(\begin{array}{l} \text{The sewing machine rattled away} \\ \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1} : [\text{SEWING MACHINE}] \\ \text{D-ARG1} = \boxed{2} : [\text{A REFERENCE POINT}] \\ \text{D-ARG2} = \boxed{3} : [\text{AN UNSPECIFIED DISTANCE}] \end{array} \right) \\ \\ \text{EVENTSTR} = \left(\begin{array}{l} \text{E}_1 = e_1 : \text{process} \\ \text{E}_2 = e_2 : \text{process} \\ \text{RESTR} = \circ_{\infty} (e_1, e_2) \\ \text{HEAD} = e_1 \end{array} \right) \\ \\ \text{QUALIA} = [\text{AGENTIVE} = [\text{Event GO}_{\text{Temp}} ([\text{Event ACT} ([\boxed{1}]) \\ \text{EMITTING A RATTLING SOUND}] (e_2), \\ [\text{Path FROM } \boxed{2} \text{ TO } \boxed{3}])] (e_1)] \end{array} \right)$

The AGENTIVE role in (63) shows that the event where the sewing machine acts emitting a rattling sound continuously flows from a reference point to an unspecified distance. The Path of *away* serves as the temporal Path along which the event continually flows and therefore *away* is interpreted as aspectual, in this case also. It has been shown that the sentences in (54a) and (55a) are interpreted through the same mechanism as the combination of activity verbs and *away*.

Next, let us turn to the sentence in (54b). The sentence expresses the movement of the bullet but the verb *whistle* itself does not entail the concept of movement, as shown in (58). How is the interpretation of the sentence derived? First let us examine the relationship between the subject NP *the bullet* and the verb *whistle*. The event encoded in the AGENTIVE role of *whistle* in (58) includes the same conceptual information EMITTING SOUND as the e_1 encoded in the TELIC role of *bullet* in (57a). They differ, however, in terms of the EVENT-function: the EVENT-function used in the AGENTIVE role of *whistle* in (58) is an ACT-function while that of the e_1 encoded in the TELIC role

of *bullet* in (57a) is a GO-function. If the AGENTIVE role of *whistle* is inherited to the AGENTIVE role of the sentence *the bullet whistle*, it is expected that the AGENTIVE role of *whistle* does not have the concept of movement and hence conflicts with the e_1 encoded in the TELIC role of *bullet*. This suggests that the e_1 encoded in the TELIC role of *bullet* prevents the AGENTIVE role of *whistle* from being inherited to the AGENTIVE role of the whole sentence in (54b), in order to avoid a conceptual conflict. In fact, Isono (2012: 58) points out that the combination of *the bullet* and *whistled* is unacceptable without a directional PP, as follow:

(64) *The bullet whistled. (Isono 2012: 58)

From this observation, it is clear that a directional intransitive preposition *away* allows the subject NP *the bullet* to co-occur with the verb *whistle*.

Next, let us examine the relationship between the subject NP *the bullet* and *away*. The AGENTIVE role of *away* in (22), [Event GO ([1], [Path FROM 2 TO 3])], shares the same EVENT-function GO as the e_1 encoded in the TELIC role of *bullet*, [Event GO_{Spatial} ([x], [PATH])] EMITTING ITS CHARACTERISTIC SOUND]. From this observation, it is expected that the commonality allows the AGENTIVE role of *away* to serve as the AGENTIVE role of the whole sentence in (54b), instead of the AGENTIVE role of the verb *whistle*.

The following semantic representation is formed for the sentence in (54b).

(65) $\left[\begin{array}{l} \text{The bullet whistled away} \\ \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1} : [\text{BULLET}] \\ \text{D-ARG1} = \boxed{2} : [\text{A REFERENCE POINT}] \\ \text{D-ARG2} = \boxed{3} : [\text{AN UNSPECIFIED DISTANCE}] \end{array} \right) \\ \\ \text{EVENTSTR} = \left(\begin{array}{l} \text{E}_1 = e_1 : \text{process} \\ \text{E}_2 = e_2 : \text{state} \\ \text{RESTR} = <_{\infty} (e_1, e_2) \\ \text{HEAD} = e_2 \end{array} \right) \\ \\ \text{QUALIA} = \left(\begin{array}{l} \text{FORMAL} = [\text{STATE BE} ([\boxed{1}], [\text{Place AT } \boxed{3}])] (e_2) \\ \text{AGENTIVE} = [\text{Event GO}_{\text{Spatial}} ([\boxed{1}], \\ \quad [\text{Path FROM } \boxed{2} \text{ TO } \boxed{3}] \\ \quad \text{EMITTING A WHISTLING SOUND})] (e_1) \end{array} \right) \end{array} \right]$

The FORMAL role is inherited from the lexical representation of *away* and carries the information that the bullet is at an unspecified distance. The manner in the AGENTIVE role is inherited from the AGENTIVE role of the verb *whistle*. The inheritance of the manner is achieved by the identification of the manner in the AGENTIVE role of *whistle* and the manner in the e_1 encoded in the TELIC role of *bullet*. The AGENTIVE role in (65) carries the information that the bullet goes from a reference point to an unspecified distance while emitting a whistling sound. The AGENTIVE role shows that *away* serves as the semantic head while the verb serves as the manner modifier. In the AGENTIVE role, the Path of *away* serves as the Spatial Path on which the bullet traverses and hence *away* is interpreted as the meaning of spatial movement.

The same explanation holds for the sentence in (55b). The mismatch of the EVENT-function between the e_1 encoded in the TELIC role of *truck* in (57b) and the AGENTIVE

role of *rattle* in (61) prevents the AGENTIVE role of *rattle* from being inherited to the AGENTIVE role of the whole sentence in (55b). On the other hand, the AGENTIVE role of *away* in (22) shares the same EVENT-function GO as the e_1 in the TELIC role of *truck* in (57b). This commonality allows the AGENTIVE role of *away* to be inherited to the AGENTIVE role of the whole sentence in (55b), instead of the AGENTIVE role of the verb *rattle*. The following semantic representation results for (55b).

$$(66) \left[\begin{array}{l} \text{The truck rattled away} \\ \\ \text{ARGSTR} = \left(\begin{array}{l} \text{ARG1} = \boxed{1} : [\text{TRUCK}] \\ \text{D-ARG1} = \boxed{2} : [\text{A REFERENCE POINT}] \\ \text{D-ARG2} = \boxed{3} : [\text{AN UNSPECIFIED DISTANCE}] \end{array} \right) \\ \\ \text{EVENTSTR} = \left(\begin{array}{l} \text{E}_1 = e_1 : \text{process} \\ \text{E}_2 = e_2 : \text{state} \\ \text{RESTR} = \langle \infty (e_1, e_2) \\ \text{HEAD} = e_2 \end{array} \right) \\ \\ \text{QUALIA} = \left(\begin{array}{l} \text{FORMAL} = [\text{STATE BE} ([\boxed{1}], [\text{Place AT } \boxed{3}])] (e_2) \\ \text{AGENTIVE} = [\text{Event GO}_{\text{Spatial}} ([\boxed{1}], \\ \text{[Path FROM } \boxed{2} \text{ TO } \boxed{3}] \\ \text{EMITTING A RATTLING SOUND)}] (e_2) \end{array} \right) \end{array} \right]$$

The AGENTIVE role carries the information that the truck goes from a reference point to an unspecified distance while emitting a rattling sound. The Path of *away* serves as the spatial Path on which the truck traverses and therefore *away* is interpreted as the meaning of spatial movement in this case, too. In this way, the meanings of the sentences in (54b) and (55b) are generated through the dynamic mechanism that allows *away* to serve as the semantic head and forces the verb to be demoted to the manner modifier.

In this subsection, I have demonstrated that the present analysis can provide a theoretically coherent explanation for even the cases where the semantic interpretation of *away* can be changed depending on what the subject NP is.

5.6 Conclusion

By introducing new semantic representations incorporating conceptual functions and conceptual structures into semantic representations proposed by Pustejovsky (1995) and the operation of co-composition, this chapter has demonstrated that *away* maintains the same semantic structure even for the aspectual meaning of continuation. In addition, it has been established that the present analysis can provide a theoretically coherent explanation for even the cases where the semantic interpretation of *away* is affected by context and the subject NP.

Chapter 6

Conclusion

The aim of this dissertation is to elucidate the mechanism of how the interpretation of *away* in particle *away* constructions is determined and to provide a unified explanation for the different meanings of *away*. In order to achieve this aim, I have attempted to analyze particle *away* constructions primarily based on the theory of Conceptual Semantics proposed by Jackendoff (1990).

Chapter 2 briefly outlines Jackendoff's framework, focusing on the Parallel Architecture, conceptual structure, and correspondence rules proposed by Jackendoff (1990).

Chapter 3 presents an analysis on how interpretations of *away* in particle *away* constructions are determined and how different meanings of *away* are related. I have argued that particle *away* constructions are interpreted by correspondence rules such as Argument Fusion and the Spatial Resultative Adjunct Rule (revised version). Through the analysis, several things have been revealed: first, *away* shares the same semantic structure at the level of conceptual structure regardless of the meaning it has. Next, the application of the LCS of *away* to different semantic fields makes it possible for *away* to have multiple meanings. On the other hand, however, it has been shown that there are cases where semantic fields alone are not enough to draw out the precise meaning of *away*. For such cases, I have argued that it is necessary to consider not only the conceptual structures of sentences but also the inference rule and our world knowledge. Next, I have demonstrated that the Place reading of *away* is drawn from the core Path sense by the cognitive operation of focusing and therefore need not necessarily be listed in the lexicon. This chapter also identifies some problems with Jackendoff (1990)'s theory: first, that it is not theoretically reasonable to preserve the PP-Adjunct Rule solely for the three verbs *send*, *throw*, and *hurl*; rather an optional PP should be included in the lexical entries of the verbs. Next, that a unique path constraint violation occurs when the PP-Adjunct Rule is applied to the VPs '*melt away into the sea*' and '*melt away into the river*'. As a solution, the Noncausative PP Resultative Adjunct Rule is proposed, and this new adjunct rule has

been shown to be useful for avoiding the constraint violation and also eliminating the need to preserve the PP-Adjunct Rule. Finally, it has been demonstrated that *away* co-occurring with the verbs *dance* and *waltz* is not correctly interpreted by the GO-Adjunct Rule.

Chapter 4 proposes that the semantic properties that are supposed to be peculiar to the ‘time’-*away* construction can be found in the resultative construction and therefore the two constructions should not be differentiated, but treated uniformly. Firstly, it is demonstrated that the ‘time’-*away* construction is generated and understood through the same compositional mechanism as the resultative construction. It is also shown that the peculiar semantic properties found in the ‘time’-*away* construction are pragmatically inferred, based on context and our world knowledge. Furthermore, it is posited that the ‘time’-*away* construction is divided to two types: one established as a constructional idiom (Type A), and the other improvised on the spot (Type B). It is shown that Type A is created and understood by either the Spatial Resultative Adjunct Rule or the constructional meaning ‘pleasantly spend [_{Time} NP] V-ing’ while Type B is created and understood by the Spatial Resultative Adjunct Rule. Finally, it is demonstrated that the present analysis can provide a clear explanation for why Takami (2015) disagrees with Jackendoff (1997b)’s analysis, with the contrary views being because Jackendoff (1997)’s analysis is based on Type A sentences while Takami (2015)’s is based on Type B sentences. In addition, it is shown that *away* in the ‘time’-*away* construction is represented by the same LCS as *away* with other meanings.

Chapter 5 points out that there is no theoretical consistency between the explanation of aspectual *away* provided by Jackendoff (1997b, 2002a) and the GO-Adjunct Rule proposed by Jackendoff (1990: 224) and therefore there exist cases where *away* is wrongly interpreted by the rule. Furthermore, it is pointed out that Jackendoff (1990)’s theory of Conceptual Semantics cannot predict the difference in semantic interpretations for *away* brought about by context or the subject NP. To solve this limitation, it is argued that Pustejovsky (1995)’s theoretical framework must be introduced. This chapter introduces a more elaborate semantic representation into which conceptual functions and conceptual structures are incorporated. It demonstrates that the new semantic

representation and the operation of co-composition enables correct interpretations for sentences including aspectual *away* and prediction of differences in the interpretation of *away* brought about by context and the subject NP. It is also shown that aspectual *away* can be represented by the same lexical semantic representation as *away* with other meanings at the level of conceptual structure.

This dissertation has demonstrated that the polysemy of *away* in particle *away* constructions is uniformly explained under Jackendoff (1990)'s theory of Conceptual Semantics. To be more specific, it has been shown that the meanings of particle *away* constructions are derived compositionally from the meanings of the constituent words and that *away* has the same semantic representation at the level of conceptual structure regardless of its interpretation. This dissertation also reveals the limitation of the LCS-based semantic analysis, that not only verbs and prepositional phrases but also noun phrases can affect the interpretations of particle *away* constructions. To solve this problem, this dissertation has shown that a unified explanation can be provided for all cases of particle *away* constructions without changing the theoretical stance: that sentence meanings are compositional by harmonizing Jackendoff (1990)'s theory with Pustejovsky (1995)'s. In this respect, this dissertation makes a theoretical contribution to both of the two theories. However, some undertakings are left for the future. First, Chapter 3 has pointed out that the interpretation of *away* in the VPs *go away*, *ebb away*, *melt away*, and *burn away* can be changed depending the subject NP. The present research can only provide an ad hoc explanation for this phenomenon and therefore cannot predict what subject NP affects the interpretation of *away*. To solve this problem, it is necessary to propose a further elaborate semantic representation of the subject NP and to formalize how the semantic information of the NP is utilized to interpret the sentences in question. Next, the verbs co-occurring with aspectual *away* is limited to verbs denoting activities under the present analysis. However, aspectual *away* co-occurs with verbs denoting a state like *sleep*. The present analysis cannot accommodate this case, and further research is required to solve this problem. Thus, some undertakings are left but I hope that this dissertation will provide new insight into the analysis of the polysemy of particles.

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