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A GENERALIZATION ON THE DESCRIPTIVITY OF LEXICAL VERBS*

1 INTRODUCTION

This paper deals with *verb-descriptivity*, a notion first presented by Snell-Hornby (1983). It refers to the degree of specificity of meanings which verbs denote. For example, let us compare the verbs: *walk* and *strut*. As shown in (1), we can say that the verb *walk* has a *low* degree of verb-descriptivity, while the verb *strut* has a *high* degree of verb-descriptivity, because the meaning of the former is less specific, as in (1a), while the meaning of the latter is more specific, as in (1b).

(1) a. The verb *walk*:
"use one's feet to advance; advance by steps"
b. The verb *strut*:
"to walk with a lofty proud gait, often in an attempt to impress others."
(WordNet)

Snell-Hornby (1983:35) proposes a generalization on verb-descriptivity as follows:

(2) The higher the degree of verb-descriptivity is, the narrower the verb's range of application is likely to be.

However, this poses a problem. Previous studies of verb-descriptivity do not provide any criterion for evaluating the degree of verb-descriptivity. To solve this problem, we will make use of a semantic relation called *troponymy* (Fellbaum 1990). Troponymy refers to a vertical relationship with respect to the *manner* of action or state that verbs denote. In addition, we will propose a revised version of the generalization on verb-descriptivity. The new generalization will allow us to capture the whole picture

* This paper is based on my study presented at the 158th meeting of the Linguistic Society of Japan. I would like to express my gratitude to Sadayuki Okada for invaluable comments to this paper. I also would like to thank Ann Cary and James Crocker, who cooperate in informant surveys of this paper. Of course, all remaining errors are mine.

of verb-descriptivity.

The organization of this paper is as follows: §2 reviews the problems of previous studies, especially that of Snell-Hornby (1983) and Boas (2006, 2008). §3 introduces the notion of *troponymy* and proposes it as a solution to the problems raised. In the same section, we will show how the solution works between manner of motion verbs, a verb class that lexicalizes 'motion' and 'manner of action' (e.g. *walk, run, dance*…), and provide constructions in which those verbs can appear. We suggest that the acceptability of manner of motion verbs in combination with constructions is basically predicted by Snell-Hornby's generalization. §4 deals with a further analysis of the generalization and proposes a revised version of the generalization on verb-descriptivity. Finally, §5 concludes this paper.

2 Previous Studies

This section reviews the following two previous studies: Snell-Hornby (1983) and Boas (2006, 2008). The former deals with verb-descriptivity and proposes the generalization on verb-descriptivity. The latter analyzes the acceptability of the manner of motion verbs in combination with constructions on the basis of the degree of verb-descriptivity of lexical verbs. However, both studies have problems in defining the degree of verb-descriptivity.

2.1 Snell-Hornby (1983): Proposals and A Generalization of Verb-descriptivity

Snell-Hornby (1983: 24) stresses that German languages such as English and German have *descriptive verbs*. Those verbs are formed by semantically combining verbs with adjectives or manner adverbs. Let us consider (3). (3a) can be paraphrased into (3b) or (3c). The verb *dawdle* consists of the verb *walk* or *work* and the manner adverb *slowly*.

(3) a. He *dawdled*.
b. He *walked slowly*.
c. He *worked slowly*.

(Snell-Hornby 1983: 39)

Snell-Hornby (1983: 25) says that descriptive verbs consist of *act-nucleus* and *modificants*. Act-nucleus (=ANu) is a core of verbal actions, while modificants (=Mod) are modifying elements expressed by one or more manner adjectives or adverbs. Let us consider another verb *strut*, as in (4). ANu of the verb *strut* is the verb *walk* and Mod of it is *in a stiff, self-satisfied way*.

(4) a. ANu: *walk*
b. Mods: *in a stiff, self-satisfied way…*
(adapted from Snell-Hornby 1983: 25)

She focuses on the degree of meaning specificity and proposes a characteristic of verbal meanings as follows:

(5) The higher the specificity of Mod of verbs is, the higher the degree of verb-descriptivity is likely to be.
(adapted from Snell-Hornby 1983: 33)

Given (5), let us compare the verb *hike* with the verb *backpack*. The meanings of the two lexical verbs are defined in (6). The meaning of the verb *hike* consists of ANu *walk* and Mod *a long way as for pleasure or physical exercise*, while the meaning of the verb *backpack* consists of ANu *walk,* together with Mod (i) *a long way as for pleasure or physical exercise*, and Mod (ii) *with a backpack.* We can say that the Mod of the latter verb is more specified than that of the former. Thus, the degree of verb-descriptivity of the verb *backpack* is higher than that of the verb *hike*.

(6) a. The verb *hike*
= walk a long way, as for pleasure or physical exercise (WordNet)
b. The verb *backpack*
= walk a long way, as for pleasure or physical exercise with a backpack (WordNet)

Moreover, Snell-Hornby (1983: 35) provides a generalization for verb-descriptivity, as in (7), but without providing specific examples to which her generalization is applied.

(7) The higher the degree of verb-descriptivity is, the narrower the verb's range of application is likely to be.
(adapted from Snell-Hornby 1983: 35)

Moreover, she does not clearly define the requirement for qualifying as an ANu so that she cannot show why the ANu of the verb *strut* is the verb *walk*. Without any specific procedure for determining the ANu, we could not apply her proposal and generalization to other lexical items. Thus, we need to prescribe a device for defining the ANu of verbs.

2.2 Boas (2006, 2008): Acceptability Judgements of Manner of Motion Verbs when Combined with Constructions

Boas (2006, 2008) analyzes the acceptability of manner of motion verbs in combination with constructions. His finding shows that there is a correlation between the degree of verb-descriptivity and the number of constructions in which those verbs can occur. That is, he claims that the acceptability of manner of motion verbs shows the validity of Snell-Hornby's generalization given in (7).

In his study, Boas (2006, 2008) picks up four manner of motion verbs: *walk, parade, stagger,* and *totter* based on the *Self-motion frame* in FrameNet. He (2008: 31) defines the frame as "The SELF_MOVER, a living being, moves under its own power in a directed fashion." (Also see *What is FrameNet?* in FrameNet (https://framenet.icsi.berkeley.edu/))

What he adopts as the criteria for evaluating the degree of verb-descriptivity of the verbs are the following two aspects: (i) the meaning prominence of ANu and Mod which verbs denote in the frame and (ii) the meaning defined in the following dictionaries: (a) Merriam-Webster Dictionary (http://www.m-w.com/home.htm.) and (b) Oxford English Dictionary (http://dictionary.oed.com.).

Let us look closely at (i). Boas (2006: 142) indicates that the combination of the *high* prominence of ANu and the *low* prominence of Mod brings about *low verb-descriptivity*, while the combination of the *low* prominence of ANu and the *high* prominence of Mod brings about *high verb-descriptivity*. Let us consider Table 1. In his analysis, ANu represents a schematic form such that "Agent (=AG) is moving from a Source (=S) along a Path (=P) to a Goal (=G)" in the Self-motion frame, and the decreasing font size represents less prominence of the schema. Mod represents the *manner* that verbs denote (Boas 2006: 142). In the case of the verb *walk,* the ANu has a high prominence, while the Mod has a low prominence. On the other hand, in the case of the verb *totter*, the ANu has a low prominence, while the Mod has a high prominence. Thus, we can say that the degree of verb-descriptivity increases from the verb *walk* to the verb *totter*.

<Table 1> The meaning prominence adapted from Boas (2006: 142)

Verbs	**ANu**	**Mod**
walk	AG [S→P→G]	(a…)
parade	AG [S→P→G]	(a, b, c…)
stagger	AG [S→P→G]	(a, b, c, d…)
totter	AG [S→P→G]	(a, b, c, d, e…)

As for (ii), the definitions in the Merriam-Webster Dictionary (http://www.m-w.com/home.htm.) and Oxford English Dictionary (http://dictionary.oed.com.) also represent the gradual rise of specificity of the meaning of Mod from the verb *walk* to the verb *totter*, as shown in Table 2.

<Table 2> Definitions of the four verbs: *walk*, *parade*, *totter,* and *stagger*

Verbs	Merriam-Webster	OED
walk	1. To move along on foot: advance by steps. 2. To come or go easily or readily	1. To journey move about, esp. on foot. 2. To travel or move about on foot. Also, with advs, *about, on*, etc.
parade	1.To march in or as if in a procession. 2. Promenade	1. To march in procession or with great display or ostentation; to walk up and down, promenade, etc., in a public place, esp. in order to be seen; to show off. 2. Off troops, etc.; to assemble for parade.
totter	1. To tremble or rock as if about to fall: sway; to become unstable: threaten to collapse. 2. To move unsteadily: stagger, wobble	To walk or move with unsteady steps; to go shakily or feebly; to toddle; also, to walk with difficulty; to reel, stagger
stagger	1. To reel from side to side: totter; to move on unsteadily; 2. To waver in purpose or action: hesitate.	1. Of a person or animal: to sway involuntarily from side to side when trying to stand or walk erect; to totter or reel as if about to fall; to walk with a swaying movement of the body and unsteady and devious steps, as from weakness, giddiness 2. Said of the legs or feet

(extracted from Boas 2006:141)

With these in mind, Boas (2006, 2008) determines the degree of verb-descriptivity of the four verbs, as in (8).

(8) The degree of verb-descriptivity
Verb: *walk* < *parade* < *stagger* < *totter*
Meaning: *Abstract* ⟷ *Specific*
Descriptivity: *Low* ⟷ *High*
(summarized from Boas 2008: 141-142)

Table 3 summarizes his finding. [✓] means that the verb is acceptable, while [*] means that the verb is unacceptable. [?] means that the acceptability of verbs varies among informants or that some contexts are needed to make the construction acceptable. (9) shows the examples corresponding to Table 3.

<Table 3> An Acceptability of Manner of Motion Verbs

Constructions	*walk*	*parade*	*stagger*	*totter*
(a) Location PP	✓	✓	✓	✓
(b) Zero-related Nominal	✓	✓	✓	✓
(c) Resultative Construction	✓	?	*	*
(d) Caused-motion Construction	✓	*	*	*
(e-i) Locative Preposition Drop Alternation	✓	✓	*	*
(f-i) Induced Action Alternation	✓	✓	*	*
(g) Adjective Passive Participle	✓	?	*	*

(9) a. Gerry {*walked / paraded / staggered / tottered*} down the street.
b. *a walk, a parade, a stagger, a totter*
c. Cathy {*walked/?paraded/*staggered/ *tottered*} herself to exhaustion.
d. Cathy {*walked / *paraded / *staggered / *tottered*} Pat off the street.
e. (i) Julia {*walked / paraded / *staggered / *tottered*} the town.
(ii) Julia {*walked / paraded / staggered / tottered*} across the town.
f. (i) Claire {*walked/ paraded/ *staggered/ *tottered*} the dog down the street.
(ii) The dog {*walked/ paraded / staggered / tottered*} down the street.
g. *the {walked / ??paraded / *staggered / *tottered} dog*
Boas (2006: 143)

Table 3 suggests that the low descriptive verb *walk* has a high acceptability (i.e., the number of constrictions in which a verb can occur is large), while the high descriptive verbs *stagger* or *totter* have a low acceptability (i.e., the number of constructions in which a verb can occur is small). This supports the validity of Snell-Hornby's generalization in (7).

However, his research procedure has two problems: (i) He cannot guarantee that these verbs have the same ANu and (ii) He relies on definitions defined in dictionaries to determine the degree of verb-descriptivity. As for (ii), especially, those definitions of a lexical item can be varied, as in (10). The definitions of the verbs *stagger* and *totter* are almost the same in Cambridge Dictionary. Looking at the definitions in (10), it is very difficult to decide which is more complex in terms of verb-descriptivity. Thus, we should not refer to definitions in dictionaries to evaluate the degree of verb-descriptivity.

(10) a. the verb *stagger*:
to walk or move with difficulty as if you are going to fall
b. the verb *totter*:
to walk with difficulty in a way that looks as if you are about to fall
(Cambridge Dictionary; https://dictionary.cambridge.org/)

In sum, as seen in the previous studies, we cannot guarantee that the verbs have

the same ANu. To solve this problem, § 3 will propose a semantic relation named *troponymy* (Fellbaum 1990). This proposal will bring about proper findings based on the generalization mentioned in (7).

3 Proposal and Analysis

In this section, we refer to a semantic relation of *troponymy*. Troponymy refers to a vertical relationship with respect to the *manner* of action or state which verbs denote, in other words, 'verb hyponym' (Fellbaum 1990: 285). This relation has been employed in structuring WordNet. We introduce how troponymy relation works in WordNet and propose it as a solution to the problem mentioned in § 2.

3.1. Proposal: Troponymy in WordNet

WordNet is an English lexical database provided by Princeton University. It is based on the idea that lexical items are stored in our mental lexicon under semantic relations (Miller et al.1993). This idea corresponds to a relational semantic analysis in which the meaning distinction of words relies on semantic relationships among them. The analysis discusses whether or not a word is a hyponym, opposite, etc. of other words. In Wordnet, verbs comprise troponymy relations. Fellbaum (1990) formulates troponymy relations, as in (11). (11a-b) are the formulations and (11c-d) are examples of (11a-b). Fellbaum (1998: 79) considers *Manner* to be a very loose category and says that "troponyms can be related to their superordinates along many sematic relations."

(11) a. To V_1 is to V_2 in some particular manner.
b. V_1 is a troponym of V_2.
c. To *limp* is to *walk* in some particular manner.
d. The verb *limp* is a troponym of the verb *walk*.

(Fellbaum 1990: 285)

Fellbaum (1990: 285-286) says that verbs which are related by troponymy relations have the lexical entailment in (12a). (12b) is an example of (12a). Also, pairs which are related by troponymy relations are always temporally co-extensive. That is, "one must necessarily be *walking* in every instance that one is *limping*."

(12) a. Every troponym V_1 of a more general verb V_2 also entails V_2.
b. Every troponym {*limp*…} of a more general verb *walk* also entails *walk*.

(Fellbaum 1990: 285-286)

We propose that V_2 of (12a) is an ANu of V_1. As a result, we can say that the verb *walk* is an ANu of the verb *limp*. This proposal will give us proper findings meeting Snell-Hornby's generalization. We will discuss this point in § 3.2.

The proposal with the troponymy relation and the lexical entailment brings us other advantages. First, we can analyze verbs based on the presence of the same ANu among them. Also, we can divide the relevant verbs into the following cases: (i) the case where the hierarchy of the degree of verb-descriptivity can be properly defined, and (ii) the case where verb-descriptivity cannot be properly applied. Let us first consider the latter case.

We cannot properly define the hierarchy of the degree of verb-descriptivity among verbs such as *walk, parade, stagger,* and *totter* that Boas (2006, 2008) analyzes, because the troponymy relation between the verbs *parade* and *stagger* does not hold, as shown in (13b), and neither does the relation between the verbs *stagger* and *totter*, as shown in (13c).

(13) a. To {*parade / stagger / totter*} is to *walk* in some particular manner.
b. To *stagger* is **not** to *parade* in some particular manner.
c. To *totter* **almost equals** to *stagger*.

On the other hand, we can properly define the hierarchy of the degree of verb-descriptivity among verbs such as *walk*, *hike,* and *backpack* with which this paper deals, as in (14). This is a case of (i). Thus, the adoption of troponymy relation leads us to the proper treatment of verb-descriptivity.

(14) a. To {*hike / backpack*} is to *walk* in some particular manner.
b. To *backpack* is to *hike* in some particular manner.

In § 3.2, we will analyze the acceptability of manner of motion verbs in combination with constructions in which those verbs are employed, with the proposal given in § 3.1.

3.2. An Analysis of Verb-descriptivity: A Case of Manner of Motion Verbs

In this section, we analyze the acceptability of manner of motion verbs in constructions. Manner of motion verbs refer to a verb class that lexicalizes 'manner' and 'motion.' Levin (1993: 264) divides those verbs into two classes: *Role* verbs (e.g., *roll, slide, float…*) and *Run* verbs (e.g., *run, walk, jump…*). Moreover, Levin (1993: 269) shows that *Waltz* verbs, a class of unergative verbs, can be used to describe motion events in the presence of directional phrases (e.g., *dance, waltz, tango*…). In this paper, we focus on *Run* verbs and *Waltz* verbs, that is, *unergative manner of motion verbs*, as in (15).

(15) a. *Run* verbs:
walk, hike, backpack, run, scurry, crab
b. *Waltz* verbs:
dance, waltz, Viennese waltz

It may be worth mentioning the relationship between *Run* verbs and *Waltz* verbs. The two types of verbs have much common (cf. Levin 1993), but there are some differences between them, as shown in (16). Both are acceptable in the presence of *into*-phrases describing the change of location (i.e., directional phrases), but the acceptability of *in*-phrases describing the location is higher in (16a) than in (16b), when the verbs designate a change of location inside a confined area.

(16) a. He ran {?in/into} the room.
b. He danced {*in/into} the room.

One of the reasons for the distribution given in (16) is whether or not the verb necessarily entails a change of location; in other words, whether or not the verb exhibits a motion event such that we move forward due to the movement of arms and legs (cf. Tanaka and Matsumoto 1997:182). The verb *run* always entails such a change of location, but the verb *dance* does not. That is, because we can consider the manner of *dancing* to have no specific direction such as *forward* or *backward*. Thus, we can suppose that the verb *run* could occur with the *in*-phrase, while the verb *dance* cannot.

From the above discussion, we found that *Waltz* verbs are more difficult to describe motion events than *Run* verbs. It is clear that *Run* verbs are much more prototypical motion verbs than *Waltz* verbs. We can suggest that *Waltz* verbs fall into the category of manner of motion verbs and that they constitute a verb class that is derived from another manner of motion verbs, *Run* verbs, through category extension.

As for constructions on which we focus, this paper concentrates on the following constructions in which manner of motion verbs can appear, as stated in (17). We will provide a research procedure for analyzing the acceptability of manner of motion verbs in constructions in § 3.2.1.

(17) a. Location PP: *Gerry walked down the street.*
b. Locative Preposition Drop Alternation: *Julia walked the street*.
c. Induced Action Alternation: *Claire walked the dog down the street.*
d. Resultative Construction: (1) *John walked himself to exhaustion.*
(2) *John walked the soles off his shoes.*
e. Way Construction: *John walked his way through the crowd.*
f. Tough Construction: *This dog is tough (for me) to walk with.*
g. Pretty Construction: *These shoes are beautiful (for me) to walk in.*
h. Hard Nut Construction: *This is a tough route to walk.*
i. Fictive Motion: **His eyes walked through the letter.*

Before going into the procedure, we have to decide the ANu of manner of motion verbs. Note that this paper defines the ANu of verbs as a lexical item, not as a concept. We can also consider ANu to be *root verbs* including *act, move, get, become, be, make* (Lyons 1977: 294), and *unique beginners* (Fellbaum 1998: 71). According to WordNet, manner of motion verbs have the same ANu *move*, *travel, go,* and *locomote* which mean a change of location. WordNet considers those verbs to be a synset, i.e., a set of synonyms, and the meaning of a lexical item is described by synsets and its sematic relations to other words (Fellbaum 1990, 1998). This paper picks up the verb *move* as the representative. We will discuss the characteristics of ANu in detail in §4. With this note in mind, let us return to our main subject in §3.2.1.

3.2.1. Research Procedure

This section shows two steps for analyzing the acceptability of the verbs in constructions. First, we apply (11a) and (12a) to the verbs, and then make sure that they have the same ANu and that they are aligned in a single order in the hierarchy of verb-descriptivity. The application of the verbs given in (15) is shown below. Each of the manner descriptions A, B, and C is based on the definitions of WordNet and *WikiDanceSport* (http://www.wikidancesport.com.).

(18) Manner of Motion verbs (1) *Run* verbs: *walk, hike, backpack*
a. To *walk* is to *move* in A manner.
b. To *hike* is to *walk* (= to *move* in A manner) in B manner.
c. To *backpack* is to *hike* (to *walk* (= to *move* in A manner) in B manner) in C manner.
⎡A= *using one's feet*⎤
⎢B= *a long way, as for pleasure or physical exercise*⎥
⎣C= *with a backpack*⎦
d. Every troponym {*walk, hike, backpack*} of a more general verb *move* also entails *move*.

(19) Manner of Motion verbs (2) *Run* verbs: *run, scurry, crab*
a. To *run* is to *move* in A manner.
b. To *scurry* is to *run* (= to *move* in A manner) in B manner.
c. To *crab* is to *scurry* (= to *run* (= to *move* in A manner) in B manner) in C manner.
⎡A= *fast by using one's feet*⎤
⎢B= *hurriedly*⎥
⎣C=*sideways like a crab*⎦
d. Every troponym {*run, scurry, crab*} of a more general verb *move* also entails *move*.

(20) Manner of Motion verbs (3) *Waltz* verbs: *dance, waltz, Viennese waltz*
a. To *dance* is to *move* in A manner.
b. To *waltz* is to *dance* (= to *move* in A manner) in B manner.
c. To *Viennese waltz* is to *waltz* (= to *dance* (= to *move* in A manner) in B manner) in C manner.
⎛A= *a graceful and rhythmical way*
⎜B= *triple time with a strong accent on the first beat*
⎜C= *about 180 beats to the minute*
⎝ (from *WikiDanceSport*; http://www.wikidancesport.com)⎠
d. Every troponym {*dance, waltz, Viennese waltz*} of a more general verb to *move* also entails *move*.

The above examples suggest that the verbs *walk*, *run,* and *dance* have a low verb-descriptivity, while the verbs *backpack*, *crab,* and *Viennese waltz* have a high verb-descriptivity due to the specificity of the manner of each of the lexical items. This also follows from Snell-Hornby's claim given in (5). Thus, we can define the hierarchy of the degree of verb-descriptivity, as in (21). The degree of verb-descriptivity increases from left to right.

(21) a. Manner of Motion verbs (1): *walk* < *hike* < *backpack*
b. Manner of Motion verbs (2): *run* < *scurry* < *crab*
c. Manner of Motion verbs (3): *dance* < *waltz* < *Viennese waltz*

In addition, every verb has the same ANu *move* from (18d), (19d), and (20d). Thus, the verbs presented above form proper hierarchies of verb-descriptivity and all have the same ANu *move.*

Now, we are ready to make a survey of how they occur in constructions given in (17). The present author made the questionnaires herself to prevent irrelevant judgements, such that the sentence is unacceptable because of the discord between the meaning of lexical items and contexts, as in (22). Informants say that (22) is not acceptable because the meaning of the adjective *beautiful* does not agree with the meaning of the verb *drag*. This kind of semantic or pragmatic anomaly has been excluded from the start. In §3.2.2, we will show the findings of the analysis. They are compatible with Snell-Hornby's generalization mentioned in (7).

(22) #These shoes are beautiful (for me) to *drag* my feet in.

3.2.2 Research Findings

This section shows the acceptability of the verbs in constructions in which they occur. The tables presented below summarize the results of the research. [✓] means that the sentence is acceptable, [*] means that the sentence is not acceptable, and [?] means that the acceptability of the sentence differs among informants or that some contexts are needed. The sentences from (23) to (25) are examples corresponding to each of

the Tables.

<Table 4> Manner of Motion verbs (1) *Run* verbs: *walk* < *hike* < *backpack*

Constructions	*walk*	*hike*	*backpack*
a. Location PP	✓	✓	✓
b. Locative Preposition Drop Alternation	✓	✓	*
c. Induced Action Alternation	✓	*	*
d. Resultative Construction (1)	✓	*	*
e. Resultative Construction (2)	✓	*	*
f. Way Construction	✓	✓	✓
g. Fictive Motion	*	*	*
h. Tough Construction	✓	✓	✓
i. Pretty Construction	✓	✓	✓
j. Hard Nut Construction	✓	✓	✓

(23) a. John {*walked / hiked / backpacked*} through the mountain.
b. John {*walked / hiked /*backpacked*} the mountain.
c. John {*walked / *hiked / *backpacked*} Mary through the mountain.
d. Cathy {*walked / *hiked / *backpacked*} herself to exhaustion.
e. John {*walked / *hiked / *backpacked*} the soles off his shoes.
f. John {*walked / hiked / backpacked*} his way across Europe.
g. His eyes {**walked / *hiked / *backpacked*} through the letter.
h. This dog is easy for me to {*walk / hike / backpack*} with.
i. These shoes are beautiful for me to {*walk / hike / backpack*} in.
j. This is a tough route/path to {*walk / hike / backpack*}.

<Table 5> Manner of Motion Verbs (2) *Run* verbs: *run* < *scurry* < *crab*

Constructions	*run*	*scurry*	*crab*
a. Location PP	✓	✓	✓
b. Locative Preposition Drop Alternation	?	*	*
c. Induced Action Alternation	✓	✓	✓
d. Resultative Construction (1)	✓	*	*
e. Resultative Construction (2)	✓	*	*
f. Way Construction	✓	✓	✓
g. Fictive Motion	✓	✓	*
h. Tough Construction	✓	✓	✓
i. Pretty Construction	✓	*	*
j. Hard Nut Construction	✓	*	*

(24) a. John {*ran / scurried / crabbed*} through the street.
b. John {*?ran / *scurried /*crabbed*} the street.
c. John {*ran / scurried /crabbed*} Mary down the street.
d. John {*ran/*scurried/ *crabbed*} himself to exhaustion.
e. John {*ran/*scurried/ *crabbed*} the soles off his shoes.
f. John {*ran / scurried/ crabbed*} his way through the crowd.
g. His eyes {*ran/scurried/ *crabbed*} through the letter.
h. This dog is tough for me to {*run/scurry/ crab*} with.
i. These shoes are beautiful for me to {*run/*scurry/ *crab*} in.
j. This is a tough route to {*run/*scurry/ *crab*} on.

<Table 6> Manner of Motion verbs (3) *Waltz* verbs: *dance* < *waltz* < *Viennese waltz*

Constructions	*dance*	*waltz*	*Viennese waltz*
a. Location PP	✓	✓	✓
b. Locative Preposition Drop Alternation	✓	?	*
c. Induced Action Alternation	✓	✓	*
d. Resultative Construction (1)	✓	✓	✓
e. Resultative Construction (2)	✓	✓	✓
f. Way Construction	✓	✓	✓
g. Fictive Motion	✓	*	*
h. Tough Construction	✓	✓	✓
i. Pretty Construction	✓	✓	*
j. Hard Nut Construction	✓	✓	✓

(25) a. A dozen Scottish boys and girls {*danced/ waltzed / Viennese waltzed*} into the ballroom.
b. A dozen Scottish boys and girls {*danced /??waltzed /*Viennese waltzed*} the ballroom.
c. John {*danced/ waltzed / *Viennese waltzed*} Mary across the floor.
d. John {*danced/ waltzed / Viennese waltzed*} himself to exhaustion.
e. John {*danced/ waltzed / Viennese waltzed*} the soles off his shoes.
f. John {*danced/ waltzed / Viennese waltzed*} his way to the top all over the world.
g. His heart {*danced/ *waltzed / *Viennese waltzed*} with pleasure.
h. John is tough for me to {*dance /waltz /Viennese waltz*} with.
i. Mary is pretty to {*dance /waltz /*Viennese waltz*} with.
j. This is a tough tune to {*dance /waltz /Viennese waltz*} to.

The above examples show that the higher the degree of verb-descriptivity is, the narrower the verb's range of application is likely to be, i.e., the number of verbs that are acceptable in constructions falls. This fact is compatible with Snell-Hornby's generalization given in (7).

Moreover, the analysis with troponymy relations captures the findings of Boas

(2006, 2008), especially on the acceptability status of the verbs *stagger* and *totter*. In troponymy analysis, the degree of verb-descriptivity of both verbs is almost the same, as mentioned in (13c). That is, it implies that both have the same level of acceptability. Table 3 actually proves that they have the same level of acceptability. Thus, we can see that the troponymy analysis which this paper proposes is on the right track.

To summarize, we proposed a semantic relation *troponymy* to solve the problem mentioned in §2. As a result of the troponymy analysis, we were able to solve the problem and see that the acceptability of manner of motion verbs in constructions is predicted by Snell-Hornby's generalization. This section will be a basic study for analyzing the relationship between lexical items and constructions.

§4 will see a further analysis of verb-descriptivity. We will analyze the acceptability of ANu *move,* which is involved in all manner of motion verbs. The finding will give us a more detailed generalization of verb-descriptivity.

4 An analysis of Act-Nucleus

This section discusses the acceptability of ANu *move*, which has never been done in previous studies. Thus, it will bring us a new insight into verb-descriptivity.

Let us first consider the characteristic of ANu *move*. We can say that ANu has a *strikingly low* degree of verb-descriptivity, because it does not have any Mods which are used to evaluate the degree of verb-descriptivity. Thus, we can assume the following implication from Snell-Hornby's generalization given in (7).

(26) If the degree of verb-descriptivity is strikingly low, the verb's range of application is likely to be strikingly broader.

As for whether the implication (26) is valid or not, this paper presents the acceptability of ANu *move* in constructions. The research procedure is the same as the previous one mentioned in §3.2.1. In the case of ANu *move*, this paper uses two kinds of sentences to survey the acceptability: (i) sentences that are used in the survey of *Run* verbs and (ii) those that are used in the survey of *Waltz* verbs. The findings are summarized in Table 7 and 8. (27) and (28) are examples corresponding to each of the Tables.

<Table 7> ANu *move* (1): sentences employed in *Run* verbs

Constructions	*move*
a. Location PP	✓
b. Locative Preposition Drop Alternation	✓
c. Induced Action Alternation	?
d. Resultative Construction (1)	?
e. Resultative Construction (2)	*
f. Way Construction	✓
g. Fictive Motion	*
h. Tough Construction	?
i. Pretty Construction	✓
j. Hard Nut Construction	*

(27) a. Gerry *moved* down the street.
b. Julia *moved* the street.
c. ?Claire *moved* the dog down the street.
d. ?John *moved* himself to exhaustion.
e. *John *moved* the soles off his shoes.
f. John *moved* his way through the crowd.
g. *His eyes *moved* through the letter.
h. ?John is tough for me to *move* with.
i. These shoes are beautiful to *move* in.
j. *This is a tough route for me to *move* on.

<Table 8> ANu *move* (2) sentences employed in *Waltz* verbs

Constructions	*move*
a. Location PP	✓
b. Locative Preposition Drop Alternation	*
c. Induced Action Alternation	?
d. Resultative Construction (1)	?
e. Resultative Construction (2)	*
f. Way Construction	*
g. Fictive Motion	✓
h. Tough Construction	?
i. Pretty Construction	*
j. Hard Nut Construction	✓

(28) a. A dozen Scottish boys and girls *moved* into the ballroom.
b. *A dozen Scottish boys and girls *moved* the ballroom.
c. ?John *moved* Mary across the floor.
d. ?John *moved* himself to exhaustion.

e. *John *moved* the soles off his shoes.
f. *John *moved* his way to the top all over the world.
g. His heart *moved* with pleasure.
h. ?John is tough for me to *move* with.
i. *Mary is pretty to *move* with.
j. This is a tough tune for me to *move* to.

The above findings show us the following four facts. First, they are not compatible with the implication mentioned in (26), that is, *if the degree of verb-descriptivity is strikingly low, the verb's range of application is likely to be strikingly narrower.* We can suppose that the finding is induced by the lower specificity of the meaning of the verb *move*. This also follows from the informants' comments that each sentence would be unacceptable unless the meaning of the verb is more specific.

Second, ANu *move* has a different range of application (cf. Fictive Motion (27g) vs. (28g)). We can say that each verb class has its own ANu. On this point, Fellbaum (1998: 72) emphasizes that not all verbs can be grouped under a single unique beginner (=ANu). She suggests that motion verbs have two homophonous top nodes, describing two distinct concepts: *move1* (transitional movement) and *move2* (movement without displacement). In the case of verbs with which this paper deals, we can say that *Run* verbs can be related to *move1*, while *Waltz* verbs can be related to *move2,* since the agent of *waltz* verbs do not move out from a specified enclosure, like a ballroom. It seems like *move2* is more tolerant to the construction type in (g). Besides, according to Wordnet, both concepts *move1* and *move2* are placed at the same level. If we assume that *Waltz* verbs have both *move1* and *move2*, we could explain why *Waltz* verbs need directional phrases to describe motion events, as shown in (16). One of the explanations for this could be that *move2* is the ANu by nature in *Waltz* verbs and the ANu becomes *move1* when combined with directional phrases. This paper will not deal with the relationships between ANu and its polysemy, but it could be worth discussing in future research.

Third, we can suggest the level of the degree of verb-descriptivity that is easy to use in various constructions, as in (29). The verb level of *walk, run*, and *dance* is the most convenient for use in a variety of constructions. This fact implies that it is necessary for verbs to have a moderate verb-descriptivity in order to describe diverse situations.

Finally, we can suggest that the level of verb-descriptivity in question can be compared to the basic level category of motion verbs (cf. Rosch 1978, Cruse 2011: 62-63). Rosch (1978) says that the basic members are learnt and used earlier by children and are used more often in everyday speech. According to Tables 4, 5, and 6, the level to which *walk, run,* and *dance* belongs has a high acceptability on constructions; we can suggest that those verbs are easy for us to use in various situations. Besides, basic members have maximum distinctness from surrounding categories. The movement represented by the verbs *walk*, *run,* and *dance* is easy for us to distinguish as soon as we see someone's specific movement. Therefore, for the above reasons, we can say that the verbs most frequently used in constructions belong to the basic level category. This paper will not expand this discussion further, but much could be explored later on.

(29)

Run verbs:	*move* <	*walk*	<	*hike*	<	*backpack*
		run		*scurry*		*crab*
Waltz verbs:	*move* <	*dance*	<	*waltz*	<	*Viennese waltz*
Descriptivity: LOW	◄				►	HIGH

To sum, we can show a revised generalization due to the analysis of ANu *move* as follows:

(30) The higher the degree of verb-descriptivity is, the narrower the verb's range of application is likely to be. However, if the degree of verb-descriptivity is strikingly low, the verb's range of application is likely to be strikingly narrower.

Now, only manner of motion verbs, especially *Run* verbs and *Waltz* verbs, have been attested with (30). We need to survey whether or not (30) is valid in other verb classes, such as change of state verbs *break, crash,* and *shatter* and other parts of speech, including nouns. If (30) is valid in other domains, it will be a comprehensive generalization of lexical-descriptivity.

5 CONCLUSION

This paper dealt with *verb-descriptivity.* We focused on the relationship between manner of motion verbs and constructions in which those verbs can occur. As a consequence, we found that there are verbs which are easily accepted with various constructions and verbs which are not. This follows from the fact that every verb has its own meaning specificity (i.e., verb-descriptivity) and the degree of verb-descriptivity influences the acceptability of verbs when combined with various constructions. In addition, this paper analyzed the acceptability of ANu *move* that has never been attested by previous studies. As a result of the analysis, we saw that ANu *move* itself has a lower acceptability than verbs such as *walk, run,* and *dance*. The fact indicates that verbs need moderate verb-descriptivity to describe various situations. Given the analysis, we likewise found some open issues mentioned earlier. These could be worth tackling in order to provide new ideas with respect to *Polysemy* or *Categorization*.

Finally, we showed a revised version of the generalization on verb-descriptivity, but we will need to verify whether or not the generalization applies to other verb classes and nouns. If the generalization is attested, it will be a widespread one on lexical-descriptivity.

REFERENCES

Boas, Hans C. (2006) "A Frame-Semantic Approach to Identifying Syntactically Relevant Elements of Meaning," In Steiner, Petra C. Hans C. Boas and Stefan J. Schierholz (eds.) *Contrastive Studies and Valency: Studies in Honor of Hans Ulrich Boas.*, Frankfurt am Main, Peter Lang, 119–149.

Boas, Hans C. (2008) "Towards a Frame-Constructional Approach to Verb Classification," In Acevedo, Eulalia S. and Francisco J. Cortés Rodríguez (eds.) *Grammar, Constructions, and Interfaces*, Special issue of *Revista Canaria de Estudios Ingleses* 57, 17–47.

Cruse, Alan (2011) *Meaning in Language: An introduction to Semantics and Pragmatics*, Oxford University Press, United Kingdom.

Fellbaum, Christiane (1990) "English Verbs as a Semantic Net.", *International Journal of Lexicography* 3-4, 278–301.

Fellbaum, Christiane (1998) "Semantic Network of English Verbs", In Christiane Fellbaum (eds.) *WordNet: an electoronic lexical database*, MIT Press, Cambridge Mass, 70-104.

Levin, Beth (1993) *English Verb Classes and Alternations: A Preliminary Investigation.*, The University of Chicago Press, Chicago and London.

Lyons, John (1977) *Semantics*, volume 2, Cambridge University Press, New York.

Miller, George A., Richard Beckwith, Christine Fellbaum, Derek Gross, and Katherine Miller (1993) "Introduction to WordNet: An On-line Lexical Database.", In Miller, George A. (ed.), *Five Papers on WordNet*, 1-9.

Rosch, Eleanor H. (1978) "Principles of categorization" In Rosch, E. and Lloyd, B.B. (eds.) *Cognition and Categorization*, Lawrence Erlbaum Associates, Hillsdale, 27–48.

Snell-Hornby, Mary (1983) *Verb-descriptivity in German and English: A Contrastive Study in Semantic Fields.*, Carl Winter Universitätsverlag, Heidelberg.

Tanaka, Shigenori and Yo Matsumoto (1997) *Kukan to Ido no Hyogen* (Space and Motion Expressions), Kenkyusha, Tokyo.

SOURCES

Cambridge Dictionary (https://dictionary.cambridge.org/)
FrameNet (https://framenet.icsi.berkeley.edu/)
WordNet – A Lexical Database for English (https://wordnet.princeton.edu/)
WikiDanceSport (http://www.wikidancesport.com)

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