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CHAPTER 5

# Verbal polysemy and Frame Semantics in Construction Grammar

## Some observations on the locative alternation

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## 1. Introduction*

In the study of the so-called locative alternation, it has been observed that verbs relating to putting some substance on a location and verbs relating to removing some substance from a location can express their arguments in two different ways, as illustrated in (1) and (2) (e.g., Jackendoff 1990: Ch. 8; Levin 1993: 49–55; Pinker 1989: 77–82, 124–130; Rappaport & Levin 1988).[1]

(1) a. Harry loaded hay onto the truck. (=*onto*-form)
b. Harry loaded the truck with hay. (=*with*-form)

(2) a. Harry emptied water from the tub. (=*from*-form)
b. Harry emptied the tub of water. (= *of*-form)

What we call the *onto*- and *from*-forms can occur with a wide variety of prepositions (Jackendoff 1990: 173). The former includes *into*, *on*, and *over* and the latter includes *off* and *out of*. With respect to the syntactic frames found in the two types of the locative alternation, the denominal verb *brush* allows the options shown in (3).

(3) a. John brushed the crumbs off the table.
b. John brushed the crumbs onto the floor.
c. John brushed melted butter over the loaves.
d. John brushed the loaves with melted butter.

In (3), *brush* appears in the *from*-, *onto*-, and *with*-forms. The aim of this chapter is to account for the usage differences in (3) and examine the following question: Under what circumstances may a verb occur with the syntactic configurations associated with putting and those associated with removal? This chapter is concerned with the question of how much of the idiosyncratic properties of an individual verb can be thought of as associated with the meaning of that verb and how much can be thought of as explainable in terms of other facts. To achieve this goal, this chapter adopts some basic ideas of Construction Grammar (Fillmore & Kay 1993; Goldberg 1995; Kay & Fillmore 1999), which aims to account for the entirety of a language, from the most idiomatic to the most general. With Frame Semantics (Fillmore 1982) as a descriptive tool, Construction Grammar will be shown to provide a principled explanation of the distribution of verbs in the locative alternation.

In Section 2, we review some previous analyses relating to the locative alternation and *brush* sentences like those in (3). In Section 3, we introduce some of the basic mechanisms of Construction Grammar as a background for the analysis that follows by way of a critical survey of Goldberg's (1995, 2002) approach. Section 4 presents a constructional analysis aimed at providing a proper description of the variation in meaning and syntactic behavior associated with *brush*. The results of this section lead us to answer the question of why the same verb can be used in both syntactic frames expressing removal and putting. Section 5 goes into details about this issue. In Section 6, we make concluding remarks.

## 2. Previous studies

### 2.1 The locative alternation

The relation between the two argument structures found in each type of the locative alternation has received considerable attention. It has been shown that some change in meaning accompanies the alternation. For example, (1b) suggests that the truck is full of hay, but (1a) need not suggest this, displaying what has become known as the holistic/partitive effect (Anderson 1971; Rappaport & Levin 1988: 19). This difference manifests itself clearly in the following contrasts (see also Levin & Rappaport Hovav 1991: 146):

(4) a. Felix loaded some books onto the truck. (Jackendoff 1990: 172)
b. ?*Felix loaded the truck with some books. (1990: 173)



(5) a. Bill cleared some dishes from the table. (1990: 174)
b. *Bill cleared the table of some dishes. (ibid.)

This property is explained in terms of the distinction between change of state and change of location (Fraser 1971).[2] Given that people can view an event from different perspectives, the loading event described in (1) can be construed either as causing hay to go onto the truck or as causing the truck to become full of hay (Fillmore 1971: 386; Iwata 1998: Ch. 2; Pinker 1989: 79). Since the argument that denotes an affected entity is realized as the direct object (Gropen et al. 1991: 159), the *onto*-form highlights a change of location that a substance undergoes and the *with*-form highlights a change of state that a place undergoes. Thus, in (4b), putting some books onto the truck is incompatible with the *with*-form, which indicates a change of state on the part of the truck, because the relevant space in the truck is unlikely to be completely occupied by some books. The same holds for the alternation relating to removal as in (5).

Some distributional facts are explained along these lines. Furthermore, it has been shown that not all semantically related verbs allow both options in each type of the locative alternation, as the following examples illustrate (Gropen et al. 1991; Levin 1993: 49–55; Pinker 1989: Chs. 3–4).

(6) a. I put books on the table. (Levin 1993: 111)
b. *I put the table with the books. (ibid.)

(7) a. *Jane covered the blanket over the baby. (Levin 1993: 51)
b. Jane covered the baby with a blanket. (ibid.)

(8) a. Doug removed the smudges from the tabletop. (Levin 1993: 122)
b. *Doug removed the tabletop of smudges. (ibid.)

(9) a. *The doctor cured pneumonia from Pat. (Levin 1993: 129)
b. The doctor cured Pat of pneumonia. (ibid.)

The *onto*- and *from*-forms can be found with verbs that encode a type of motion and the *with*- and *of*-forms can be found with verbs that encode a resultant state. Thus, *put* and *remove*, which encode motion can appear in the *onto*- or *from*-form but not the *with*- or *of*-form. On the contrary, since *cover* and *cure* denote a resultant state, they can appear in the *with*- or *of*-form but not the *onto*- or *from*-form. These distributional properties can be summarized in Table 1.

Table 1. The behavior of some representative verbs with respect to the locative alternation

| | *with*-form | *onto*-form | *from*-form | *of*-form |
|---|---|---|---|---|
| *cover, decorate* | X | – | – | – |
| *load, smear* | X | X | – | – |
| *place, put* | – | X | – | – |
| *remove, steal* | – | – | X | – |
| *clear, empty* | – | – | X | X |
| *cure, rob* | – | – | – | X |

*Note.* 'X' indicates that the verb (given in a row heading) can appear in the syntactic frame (given as a column heading); '–' indicates that the verb cannot appear in the syntactic frame.

### 2.2 Uses of *brush*

Levin & Rapoport (1988: 279) address the uses of *brush* presented in (3). Examples that are relevant to our discussion are cited below.[3]

(10) a. brush the lint off the coat (Levin & Rapoport 1988: 279)
b. brush the crumbs into the bowl (ibid.)
c. brush melted butter over the loaves (ibid.)

Levin & Rapoport characterize (10a) as involving the removal sense and (10b, c) as involving the putting sense. Their claim is that *brush* lexically encodes the sense of contact, which is shared by all three expressions in (10). In addition, the verb acquires additional meanings in a regular manner from its basic sense. According to the authors, (10a) encodes removing the lint from the coat by brushing; and (10b, c) encode putting crumbs into the bowl by brushing and putting butter over the loaves by brushing, respectively.

There are two problems with Levin & Rapoport's analysis of the uses of *brush* in (10). First, their analysis incorrectly characterizes the two *onto*-forms, (10b) and (10c), as encoding the same sense. Their analysis does not recognize that there is a clear difference between the two *onto*-forms. That is, in (10b), contact is not made between a brush and the bowl; but in (10c), a brush comes into contact with the surface of the loaves. That is, the *onto*-phrase in (10b) refers to an endpoint of a path that the substance traverses; but the *onto*-phrase in (10c) refers to a surface that a brush is moved against. Since their analysis does not take this meaning difference into consideration, it is likely to fail to account for the difference in syntactic behavior between the two uses. As the following examples show, (10c) but not (10b) can enter into the locative alternation associated with verbs like *load* and *spray*.



(11) a. John brushed the crumbs into the bowl. (cf. (10b))
b. *John brushed the bowl with the crumbs.

(12) a. John brushed melted butter over the loaves. (cf. (10c))
b. John brushed the loaves with melted butter.

The second problem with Levin & Rapoport's analysis of (10) is that (10a) is characterized as encoding a removal event and differentiated from both (10b) and (10c), which are characterized as encoding putting events. However, this view is inconsistent with the following examples, in which the accented words are represented with capital letters.

(13) Bill brushed the lint FROM the table and the crumbs INTO the bowl.

(14) *Bill brushed the lint FROM these loaves and melted butter OVER those loaves.

The sentences demonstrate that an *onto*-form like (10b) but not one like (10c) can coordinate with a *from*-form. These observations suggest that we need to remove a possible impression that the *onto*-and *from*-forms are used to describe antagonistic events.[4] We return to this issue in Section 5.

## 3. Goldberg's (1995, 2002) constructional approach

### 3.1 Goldberg's Construction Grammar framework

Goldberg (1995) introduces a constructional approach to argument structure and argues that some argument structures can be regarded as independently existing grammatical constructions. In Goldberg's analysis, a verb can occur in a constructional pattern when the event type encoded by the verb is compatible with the one encoded by the construction in certain ways. She proposes to describe verb meaning with reference to rich frame-semantic knowledge. For example, Goldberg (1995: 54, 2002: 345) claims that the participant roles of the verb *kick* are a kicker and a kicked and that since kicking can be the means of transfer the verb can appear in the ditransitive construction, as in (15b), where the ditransitive construction contributes the recipient argument.

(15) a. John kicked the ball.
b. John kicked Bill the ball.

While Goldberg generally does not appeal to verbal polysemy, she recognizes that some alternations of arguments are not attributable to the constructions

involved. For example, Goldberg (1995:56) cites (16) as an instance of verbal polysemy and states that "what we have here is an instance of polysemy, not homonymy, because of the fact that the two senses share the same background semantic frame" (1995:56).

(16) a. Cecile leased the apartment from Ernest.
b. Ernest leased the apartment to Cecile.

Concerning the locative alternation, Goldberg (1995:175–179, 2002:337–347) characterizes what we call the *onto-* and *with*-forms as an instance of the caused-motion construction, illustrated in (17), and an instance of the causative-plus-*with*-adjunct constructions, illustrated in (18), respectively.

(17) a. Pat loaded the hay onto the truck. (Goldberg 2002:337)
b. Pat put the hay on the wagon. (ibid.)
c. Pat shoveled the hay into the wagon. (ibid.)

(18) a. Pat loaded the wagon with hay. (Goldberg 1995:340)
b. Pat broke the window with a hammer. (ibid.)

According to Goldberg, the caused-motion construction involves the argument roles cause, theme, and path/location. The causative-plus-*with*-adjunct constructions involve the argument roles of cause, patient, and instrument.

### 3.2 Problems with Goldberg's approach

Let us consider how Goldberg's (1995, 2002) approach would deal with the *brush* sentences in question. Her theory generally tries to avoid verbal polysemy and attributes different meanings of full expressions to the constructions involved. The two constructions introduced above are available. That is, examples (3a)–(3c), here repeated as (19a)–(19c), can be analyzed as instances of the caused-motion construction, and (3d), here repeated as (19d), can be regarded as an instance of the causative-plus-*with*-adjunct constructions.

(19) a. John brushed the crumbs off the table.
b. John brushed the crumbs onto the floor.
c. John brushed melted butter over the loaves.
d. John brushed the loaves with melted butter.

Concerning (19a)–(19c), Goldberg's analysis has problems describing the properties that need to be accounted for. That is, given that *kick* is characterized as involving a kicker and a kicked, *brush* would be analyzed as having two roles, a person who is engaged in a brushing act and a surface.[5] The theory would therefore claim that the theme role is contributed by the caused-motion construction.

This type of analysis suffers from the same problems as Levin & Rapoport's (1988) account, discussed in Section 2.2. As with the lexical semantic analysis they propose, this constructional analysis cannot account for the difference between (19b) and (19c) on the one hand and the similarity between (19a) and (19b) on the other hand. My alternative analysis in Section 4 shows that these problems can be solved if we pay more attention to a detailed frame-based description of the different types of verb meaning associated with *brush* and related verbs.

Although Goldberg (1995:56) considers verbal polysemy, she seems to confine polysemy to senses that share a single semantic frame. However, verbs can be associated with more than one frame. To illustrate this point, let us review Nemoto's (1996, 2001) observation of the polysemy of the verb *trim*. This verb can be used to encode either a decorating event, as in (20a), or a clearing event, as in (20b) (cf. Hook 1983:187).

(20) a. John trimmed the tree with lights.
b. John trimmed the tree of overgrown branches.

Nemoto (1996) claims that although in (20) the same verb is used in different constructions to describe different types of events, the difference in meaning cannot be attributed to the constructions involved since the two senses are available in a simple transitive sentence like (21).

(21) John trimmed the tree.

The two senses prove to be distinct since *trim* must receive the same reading, i.e. either a decorating event or a clearing event as in the following identity test.[6]

(22) John has been trimming the trees and so has Mary. (Nemoto 2001:191)

With respect to the notion of polysemy, Tuggy (1993:282) argues that distinct and unrelated meanings and indistinguishable meanings can be seen as two extremes of a cline with polysemy in the middle. Since the senses of decorating and clearing can be subsumed under a common meaning that could be described as "causing an entity to look better," it makes sense to regard the two senses as an instance of polysemy.

Note that the polysemy of *trim* is different from that of *lease*. In the case of *lease*, the different uses are understood against a single frame, as Goldberg

claims, but the two uses of *trim* seem to be linked to two distinct but related frames. This difference may underlie the following contrast.

(23) Bill leased this house FROM Cathy and that house TO Beth.

(24) *Bill trimmed Laura's tree WITH lights and Mary's tree OF overgrown branches. (Nemoto 2001: 191)

These observations show that verbs need not be associated with a single frame.

## 4. An alternative constructional analysis

### 4.1 Verb meaning

Let us now turn to the characterization of the meaning of *brush*. We know from experience that a brushing act may be done for several different purposes, including those of clearing and smearing.[7] When we are brushing a surface with the intention of taking some substance away from it, we sometimes find it difficult to accomplish our goal. That is, a sweeping act may or may not result in the surface being clean. By contrast, when we are brushing a surface with the intention of applying some liquid to a surface, the liquid usually ends up on the surface. The background frames for a sweeping event and a smearing event can be defined as follows:

(25) *The Sweeping Frame*:
Roles: sweeper, substance, surface, destination
Relation: A sweeper makes contact with a surface with the intention of moving a substance from the surface to a destination, which may or may not be succeeding.

(26) *The Smearing Frame*:
Roles: smearer, substance, surface
Relation: A smearer makes contact with a surface with the intention of putting a substance on a surface, which is usually carried out successfully.

We will refer to the uses of *brush* understood against the sweeping and smearing frames as sweeping-*brush* and smearing-*brush*, respectively. The claim that *brush* is polysemous is confirmed by the reading of a sentence that contains an identity-of-sense anaphora like (27).

(27) John has been brushing the loaves and so has Mary.



This sentence sounds like a pun, if John has been brushing the loaves with some liquid and Mary has been brushing some foreign substance off the loaves. Thus, *brush* can be said to be ambiguous between the senses of smearing and sweeping, rather than vague.

### 4.2 The interaction between verb uses and constructions

Following Goldberg (1995, 2002), we regard the *onto-* and *with*-forms as an instance of the caused-motion and causative-plus-*with*-adjunct constructions, respectively.[8] It seems to make sense to characterize the rest of the forms found in the locative alternation in a parallel fashion. Thus, we regard the *from-* and *of*-forms as instantiating the caused-motion and causative-plus-*of*-adjunct constructions, respectively. As we have seen in Section 2.1, these argument structures are used to provide a particular perspective for conceptualizing an event (cf. Fillmore 1977: 59; Fillmore & Kay 1993: Ch. 8 for discussion of the role of argument structure). Adopting the insights of previous analyses, the caused-motion construction can be regarded as characterizing an event in terms of a change of location, and the causative-plus-*with*-adjunct and causative-plus-*of*-adjunct constructions can be seen as characterizing an event in terms of a change of state.

Returning to our discussion of the verb *brush*, we can observe that in a sweeping event, a surface has some foreign substance on it and a sweeping activity may or may not carry out the removal of the substance. When a sweeping act brings about removal, we can describe the motion of the substance by referring to either the initial place of the substance, as in (19a), or, the final place of the substance, as in (19b). The *from-* and *onto*-forms can be said to refer to different points of a single putative path along which the substance moves. The participant roles of sweeping-*brush* fuse with the argument roles of the caused-motion construction as follows.

(19) a. John brushed the crumbs off the table.

(28) sweeping-*brush*: (sweeper, substance, surface)
caused-motion construction: (cause, theme, path/location)

(19) b. John brushed the crumbs onto the floor.

(29) sweeping-*brush*: (sweeper, substance, destination)
caused-motion construction: (cause, theme, path/location)

An event of smearing can be viewed either as causing a liquid to be applied to a surface or as causing a surface to be covered with a liquid. Thus smearing

*brush* can occur either in the caused-motion construction, as in (19c), or in the causative-plus-*with*-adjunct construction, as in (19d). The interaction between smearing-*brush* and the two constructions is given below.

(19) c. John brushed melted butter over the loaves.

(30) smearing-*brush*: (smear, substance, surface)
caused-motion construction: (cause, theme, path/location)

(19) d. John brushed the loaves with melted butter.

(31) smearing-*brush*: (smearer, surface, substance)
causative-plus-*with*-adjunct construction:
(cause, patient, instrument)

The interaction between verbal and constructional semantics in (28)–(31) explains why smearing-*brush* displays the same type of alternation as verbs like *load*, *smear*, and *spray* (cf. also Goldberg 2002: 344 for the representation of the interaction between *load* and the two constructions). Given that the two constructions provide different perspectives, i.e., a change of state and a change of location, we might expect the proverbial holistic/partitive effect in (19c) and (19d). However, the meaning difference is neutralized here because of the properties of the lexical items involved. With respect to the preposition *over*, Salkoff (1983: 322) points out that it has the power to remove the relevant meaning difference in the so-called *swarm*-alternation. Salkoff points out that the holistic/partitive effect accompanies the alternation between (32a) and (32b) but not between (32a) and (32c).

(32) a. The tree swarmed with bugs.
b. Bugs swarmed on the tree.
c. Bugs swarmed over the tree. (Salkoff 1983: 322)

As regards the choice of the noun phrases, Jeffries and Willis (1984: 717) cite (33) to show that the holistic/partitive relationship can be neutralized when the size of the entity referred to by the direct object is relatively small and it is unlikely that one intends to cover only part of it.

(33) a. Lesley sprayed her plugs with Damp Start.
b. Lesley sprayed Damp Start on her plugs.

In this section, we have shown how the two uses of *brush* interact with the two constructions.



## 4.3 Some solutions to the problems with previous analyses

As we have discussed in Sections 2.2 and 3.2, the difference between (19b) and (19c) on the one hand and the similarity between (19a) and (19b) on the other elude a proper explanation in Levin & Rapoport's (1988) analysis and a putative constructional analysis that falls short of providing a detailed frame-based description of verb meaning. However, the difference and similarity can be explained by our alternative analysis, which divides the verb uses in (19) into two groups: sweeping-*brush*, as in (19a, b), and smearing-*brush*, as in (19c, d).

Our analysis explains the difference between (19b) and (19c) as follows. The *onto*-phrase with sweeping-*brush* (19b) refers to an endpoint of a path that the substance traverses and thus contact is not made between a brush and the bowl. By contrast, the *onto*-phrase with smearing-*brush* (19c) refers to a surface that a brush is moved against and hence covered with some substance. Since (19c), but not (19b), involves the sense of smearing, only (19c) can enter into the locative alternation associated with verbs like *load* and *spray*.

With respect to the similarity between (19a) and (19b), the present analysis argues that in both examples the same verb is used in the same construction, i.e. both sentences are made up of the combination of sweeping-*brush* and the caused-motion construction. These sentences describe a sweeping event in which some substance is moved from one place to another. The *from*- and *onto*-phrases in these sentences specify a starting point and an endpoint of a path that some substance traverses, respectively. Thus these phrases can be coordinated, as in (13), here repeated as (34a).

(34) a. Bill brushed the lint FROM the table and the crumbs INTO the bowl.
b. *Bill brushed the lint FROM these loaves and melted butter OVER those loaves.

By contrast, in (34b), the *from*-phrase and the *onto*-phrase evoke different frames, i.e., the former evokes the sweeping frame and the latter the smearing frame. Thus, the two phrases fail to coordinate.

## 4.4 Idiosyncrasy and generality

In the present analysis, we characterize verb meaning with fairly specific notions, rather than positing more general schematic notions subsuming them. Such an analysis can prove that facts which might appear at first to be idiosyncratic and complex such as the one we are concerned with in this chapter are made up of both idiosyncratic and more general patterns of language (see stud-

Table 2. The behavior of the two uses of *brush* with respect to the locative alternation

| | *with*-form | *onto*-form | *from*-form | *of*-form |
|---|---|---|---|---|
| smearing-*brush* | X | X | – | – |
| sweeping-*brush* | – | X | X | – |

*Note.* 'X' indicates that the verb use (given in a row heading) can appear in the syntactic frame (given as a column heading); '–' indicates that the verb cannot appear in the syntactic frame.

ies such as Fillmore & Atkins 1994; Norvig & Lakoff 1987). According to our alternative analysis, the usage differences in (19) can be reported as in Table 2.

The fact that *brush* encodes the senses of smearing and sweeping can be taken as a relatively idiosyncratic phenomenon. Kiparsky (1997:482) claims that while all meanings of denominal verbs can be explained in terms of canonical uses of the things denoted by the noun, the exact array of meanings expressed by the denominal verb is not predictable. Similarly, the actual range of uses associated with *brush* can be regarded as a function of linguistic convention.

On the other hand, the fact that smearing-*brush* can occur with either the *with*-form or the *onto*-form is explainable in terms of facts about other semantically related verbs. Since the smearing sense is compatible with both the notions of a change of state and a change of location, smearing-*brush* can be integrated into either the causative-plus-*with*-adjunct construction, including the *with*-form, or the caused-motion construction, including the *onto*-form, thus behaving like *load*, *smear*, and *spray*.

We can also explain the behavior of sweeping-*brush* with reference to a property exhibited by some other verbs with a similar meaning. Sweeping-*brush* can appear in the *onto*- and *from*-forms but not in the *with*- or *of*-forms, as shown below.

(35) a. John brushed the crumbs into the bowl. (=(11a))
b. *John brushed the bowl with the crumbs. (=(11b))
c. John brushed the crumbs off the table. (=(3a))
d. *John brushed the table of the crumbs.

The same holds for verbs like *shovel* and *sweep*, as the following examples illustrate.

(36) a. She swept the dust into the corner.
(Levin & Rappaport Hovav 1995:204)
b. *She swept the corner with the dust.



c. Phil swept the crumbs off the table.
d. *Phil swept the floor of crumbs.
(Rappaport Hovav & Levin 1998:120/121)

(37) a. Sylvia shoveled the snow onto the lawn.
(Levin & Rappaport Hovav 1991:136)
b. *Sylvia shoveled the lawn with the snow.
c. Carla shoveled the snow from the walk. (Levin 1993:127)
d. *Carla shoveled the walk of snow. (ibid.)

These observations show that the relation between semantic and distributional properties of *brush* is best described in terms of verbal polysemy, as summarized in Table 2. A theory that prefers a single verb sense is likely to fail to accommodate both the idiosyncratic and productive aspects of *brush* with which we are concerned.[9]

## 5. The semantics of the *onto*- and *from*-forms

As we have pointed out at the beginning of this chapter, there is an open question: What is it like for a single verb to be found with both syntactic frames associated with putting and those associated with removal? We have already hinted at an answer to this question: The *onto*- and *from*-forms need not be taken as encoding contradictory events; rather they can be understood as referring to different parts of an event and hence evoking a single background frame.

In the present analysis, the *onto*-form is not always associated with the putting sense. It is used to encode the putting sense when it is found with smearing-*brush* but not with sweeping-*brush*. This important distinction does not seem to be made by previous accounts because they cite the following examples as describing putting events.

(38) a. brush the crumbs into the bowl
(Levin & Rapoport 1988:279)
b. Lynn scraped the leftovers into a bowl.
(Levin & Rappaport Hovav 1995:136)
c. Sylvia shoveled the snow onto the lawn. (ibid.)
d. Kelly raked the leaves into the gutter. (ibid.)
e. She swept the dust into the corner.
(Levin & Rappaport Hovav 1995:20)

In (38), each *onto*-phrase refers to a destination of the motion of some substance. It does not mark the surface against which a person's hand or an instrument is moved. This property contrasts with that of the *onto*-phrase found with a verb use denoting the putting sense, exemplified below:

(39) a. John brushed melted butter over the loaves.
(Levin & Rapoport 1988:279)
b. I rubbed the oil into the furniture.
(Levin & Rappaport Hovav 1995:204)
c. Kay wiped the polish onto the table.
(Levin & Rappaport Hovav 1991:136)
d. He winced as she dabbed disinfectant on the cut and covered it up for him. (British National Corpus)

In (39), each *onto*-phrase introduces an entity with which a person's hand or an instrument makes contact. The analysis presented here claims that the *onto*- and *from*-phrases are instances of the same construction and hence should not be characterized as expressing incompatible events. This view also allows us to explain the following examples.

(40) a. John brushed the crumbs off the table onto the floor.
b. John shoveled snow off the pavement into the gutter.
c. John wiped the dirt from the plate onto the table.

The sentences in (40) are problematic, if the *from*- and *onto*-phrases encode antagonistic meanings, as Levin & Rappaport Hovav (1991) suggest. The examples in (40) describe the motion of some substances referring to the whole path. This property stands in contrast to the property of verbs like *load*, *put*, *clear*, and *remove*.

(41) a. John loaded freight (*off the truck) onto the ship.
b. John put the money (*out of the bag) into the safe.

(42) a. John cleared the dishes from the table (*to the sink).
b. John removed the dishes from the table (*to the sink).

These verbs cannot express the whole path, though they describe events, which necessarily involve motion of some substance from one place to another. Verbs like *load* and *put* focus on an endpoint of a path along which some substance traverses but verbs like *clear* and *remove* focus on a starting point of a path along which substances move. This is how verbs like *load* and *put* and verbs like *clear* and *remove* develop antagonistic meanings.



## 6. Conclusion

In order to show the constructional nature of some argument structures, Goldberg (1995) mainly analyzes cases where the same argument structure is found with different verbs. Goldberg (2002) also emphasizes the importance of examining each surface pattern on its own terms, thereby questioning a tendency to analyze one argument structure pattern solely in relation to another. Given a commitment of Construction Grammar to account for the entirety of a language, I believe that it is also important to examine cases like the one in which the same verb is found in a single argument structure or different argument structures to yield a range of meanings. With regard to such a case, Goldberg presents the following view: "[I]t is possible to recognize that to a large extent, verb meaning remains constant across constructions; differences in the meaning of full expressions are in large part attributable directly to the different constructions involved" (Goldberg 1995:19). The results of the present analysis suggest that this remark should not be read as giving instructions to emphasize the role of constructions. We must be careful not to insist on wider powers than a construction really has. See studies like Boas (2003a, 2003b), Kay (1996), van der Leek (1996, 2000) for a similar view.

With Frame Semantics as a descriptive and analytic tool, Construction Grammar allows us to delve into more details of verb meaning. As suggested by Kay and Fillmore (1999), the construction grammarian is required to describe all the patterns of a language without loss of generalization. Focusing on the locative alternation, this chapter has shown how a frame-based description of verbal polysemy may be used to explain a range of argument structures associated with a verb in a constructional approach.

## Notes

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1. See e.g., Salkoff (1983) and Dowty (2000) for discussion of the intransitive *swarm*-alternation, exemplified by (i), and its relation to the transitive *spray/load* alternation.

(i) a. *Bees are swarming in the garden.* (Salkoff 1983: 288)
b. The garden is swarming with bees. (ibid.)

2. Fraser (1971: 607) illustrates this distinction with the following contrast.

(i) a. The boy loaded the boards one by one onto the wagon.
b. *The boy loaded the wagon with boards one by one.

3. The whole array of *brush* expressions that Levin & Rapoport (1988: 279) cite as an example of a single verb appearing in a broad range of syntactic contexts includes the following: *brush the tangle out; brush the lint off; brush the lint off the coat; brush the crumbs into the bowl; brush melted butter over the loaves; brush the coat clean; brush one's way to healthy hair; brush a hole in one's coat.*

4. In conjunction with this, Levin & Rappaport Hovav (1991) claim that verbs like *wipe* can be used not only as verbs of removal, (i), but also as verbs of putting, (ii).

(i) a. Kay wiped the fingerprints from the counter. (1991: 128)
b. Sylvia mopped the spots from the floor. (1991: 131)

(ii) a. Kay wiped the polish onto the table. (1991: 136)
b. Lynn scraped the leftovers into a bowl. (ibid.)

In explaining this fact they state as follows: "This property is problematic if these verbs are basically verbs of removal since putting and removing are opposite activities" (1991: 136).

5. For a critique of Goldberg's treatment of *kick* see e.g., Hirose (1996) and Nemoto (1998: 225). A similar critique is presented by Boas (2003a: 107–110) with respect to *hit*.

6. See Cruse (2000), Geeraerts (1993), Langacker (1988: 133–140), and Tuggy (1993) for discussion of some problems in using commonly employed tests like this as a diagnostic for polysemy.

7. Describing the whole range of meanings associated with the denominal verb *brush* goes beyond the scope of this chapter.

8. Given that verbs with very general meanings such as *go*, *do*, *make*, *give*, and *put* can be regarded as forming the basis of the meanings of the argument structure constructions (Goldberg 1999; Kay 1996), the semantics of the causative-plus-*with*-adjunct and causative-plus-*of*-adjunct constructions can be characterized as derived from the meanings of the verbs *fill* and *empty*.

9. In conjunction with this, Cruse (2000: 35–39) points out that specific readings of the noun *knife* are well established in contrast to a general reading. See Boas (2003a: Chs. 3 and 6) for some relevant discussion of a similar view.



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CHAPTER 6

# A constructional approach to mimetic verbs

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## 1. Introduction*

Mimetic words in Japanese employ a large set of members and their linguistically unique properties have recently led to a great deal of interesting investigations (Hamano 1986, 1998; Tamori & Schourup 1999). They are symbolic or iconic and represent sounds, shapes, texture, or something more abstract such as feelings. McCawley (1968: 64) gives the following description: mimetics "function syntactically as manner adverbs and may refer to just any aspect (visual, emotion, etc.) of the activity involved, rather than just its sound." Morphophonological make-up of mimetic words ranges from two-mora words as in (1a), three-mora words as in (1b), reduplication of 2-mora and to 3-mora base as in (1c) and (1d), respectively, and to multi-mora words as in (1e).

(1) a. *pin, pan, gan, kit(-to), paa, ...*
b. *kitin, garan, garari, zubari, baan, pitit(-to), pityat(-to), pesyari, ...*
c. *kuru-kuru, saku-saku, guri-guri, gura-gura, kan- kan, suya-suya, ...*
d. *dosun-dosun, dosin-dosin, katin-katin, gatan- gatan, ...*
e. *gossori, kossori, todabata, hunwari, pottyari, ...*

While many mimetic words are used to describe sounds and manners, some refer to concrete objects and others are used as predicates when they occur with the light verb *suru* 'do'. Some examples are given in (2)–(4).

(2) *Hosi ga kirakira(-to) hikatteiru.*
stars NOM in glittering manner shining
'Stars are glittering.'