



# Verb meanings at the crossroads between higher-level and lower-level constructions

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## 1. Introduction

Q2 Over the past four decades, the locative alternation has been analyzed in various theoretical frameworks (see  
Salkoff, 1983; Levin, 1993, and Iwata, 2005a,b for an overview of the relevant literature).<sup>1</sup> Seizi Iwata's *Locative*  
Q3 *Alternation—A lexical-constructional* approach ties into the on-going debate about syntactic alternations by offering a  
novel lexical-constructional analysis. Iwata's book consists of twelve well-organized chapters and draws on data from  
English, Japanese, and German; his investigation focuses on the question of how to account for the distribution of a  
Q4 class of verbs in the locative alternation, where either a locatum or a location appears in direct object position, as in (1).

- (1) a. Jack sprayed paint onto the wall. (locatum-as-object variant)  
b. Jack sprayed the wall with paint. (location-as-object variant)

In what follows, I first sketch the contents of the individual chapters and then address some relevant empirical and theoretical issues. Finally, I briefly comment on the use of data by Iwata, as well as the general layout and formatting of the book.

## 2. Verb meanings and lower-level constructions in a lexical-constructional approach

In chapter 1 (“Introduction”), Iwata first outlines the objectives of his study, namely “to give a coherent account of the locative alternation in English,” and “to develop a constructional theory which overcomes a number of problems with the version proposed by Goldberg (1995, 2006)” (1). What follows is a very brief discussion of previous accounts of the locative alternation, most notably Pinker (1989), Kageyama (1997), Rappaport Hovav and Levin (1998), Croft (1998), Davis (2001), and Goldberg (1995). In his discussion of the role and validity of corpus data Iwata adopts a modified usage-based view of language (cf. Bybee, 2001, 2007, among others), pointing out that he does not base his “theory on frequency data alone” (6). Instead, he uses the Google search engine as a way of determining whether “a given expression is actually possible” (8). The chapter ends with an overview of the structure of the book.

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34 In chapter 2 (“Two previous analyses”) Iwata offers a critique of two previous accounts of the locative alternation.  
35 Iwata first shows that Pinker’s (1989) lexical rule approach is problematic because it assumes that one of the two  
36 variants of the locative alternation is basic while the other is derived via a lexical rule. However, when tested against  
37 data from the British National Corpus (BNC), Pinker’s account does not seem to hold water because (1) not all verbs in  
38 the same class exhibit the same distribution, and (2) there are no clear empirical criteria that help determining which  
39 variant is more basic, leading to a “derivational asymmetry” (16). Next, Iwata discusses Goldberg’s (1995, 2002,  
40 2006) constructional approach which “does not have to worry about the derivational asymmetry” (25). Although  
41 Iwata appears to be sympathetic towards Goldberg’s analysis in principle, he argues that Goldberg’s high-level  
42 constructions encounter some problems when it comes to determining what types of constructions can fuse with what  
43 types of verbs. In Goldberg’s theory, a single verb meaning may fuse with different constructions, namely the caused-  
44 motion construction and the causative-construction plus *with*-adjunct, thereby licensing the locatum and location  
45 variants. Iwata convincingly demonstrates that Goldberg’s (1995:50) Semantic Coherence Principle and  
46 Correspondence Principle in combination with semantic information about the verb are not sufficient to determine  
47 what types of verbs may fuse with what types of constructions to license the locative alternation. In his view,  
48 Goldberg’s account is “circular” because it relies on the insight that “the construction can be fused because the full  
49 expression is actually acceptable” (20). Another issue noted by Iwata is the contribution of participant NPs and PPs, as  
50 well as the status of the location-as-object variant. Based on a discussion of the syntactic distribution of change of state  
51 verbs such as *break* and verbs occurring in the locative alternation Iwata claims the two should be distinguished  
52 systematically because secondary location phrases are found with the latter but not the former.

53 Iwata’s discussion in chapter 2 is thoughtful and well-structured. It uses the critique of Pinker’s and Goldberg’s  
54 accounts to set the stage for the remaining chapters in which he develops his own lexical-constructional approach that  
55 regards a detailed analysis of verb meaning as central to a successful analysis of the locative alternation. While Iwata’s  
56 arguments appear convincing, and are supported by corpus data, the exact search parameters he used when searching  
57 the BNC for data are somewhat unclear. For example, he states that he “manually counted the occurrences of the two  
58 variants across several alternating verbs in the BNC” (15) but does not specify whether he searched for particular verb  
59 forms (present, past, future, active/passive, etc.) or focused only on regular declarative clauses including the locative  
60 alternation. Furthermore, the internet data he cites in (30a)–(30d) to support his observation that secondary location  
61 phrases may occur with some location-as-object variants all consist of passive constructions such as “... a fancy term  
62 for being sprayed *from head to toe* with warm water” (2008:23), with the agent omitted. This data point warrants some  
63 discussion, as the reader is left with the impression that secondary location phrases are only possible with location-as-  
64 object variants in passive constructions. This in turn raises the question of whether the appearance of secondary  
65 location phrases in these examples is specifically licensed by the passive construction. This point is unfortunately left  
66 unresolved.

67 At the beginning of chapter 3 (“A lexical-constructional account of the locative alternation”), which – together  
68 with chapter 4 – forms the cornerstone of his analysis, Iwata summarizes his account as follows: “1. A constructional  
69 approach is preferable over a lexical rule approach. 2. A more detailed examination of verb meanings is necessary. 3.  
70 Contributions of participant NPs and PPs should be taken into account. 4. Characterizing the location-as-object variant  
71 in terms of change of state is problematic.” (27) The remainder of this chapter details each of his points, building in  
72 part on some of his earlier works such as Iwata (2002, 2005a,b), in which he proposed earlier versions of a lexical-  
73 constructional analysis. Iwata begins by adopting the basic tenets of Construction Grammar (CxG; see Fillmore et al.,  
74 1988; Goldberg, 1995; Kay and Fillmore, 1999; Goldberg and Jackendoff, 2004, among others). CxG is a non-  
75 derivational theory “where syntactic and semantic commonalities shared between different expressions are captured  
76 by multiple instantiations rather than by derivation. (...) [and] constructions are necessarily symbolic: any pairing of  
77 form and meaning (of function) can count as a construction. Constructions thus conceived are taken to be the basic  
78 units of language” (28). Reviewing other central notions of CxG, such as different definitions of constructions,  
79 constructional inheritance, and compositionality (29–30) leads Iwata to his first major argument in favor of more  
80 detailed specifications of verb semantics. To this end, he analyzes the meanings of verbs belonging to (1) the *spray*-,  
81 *smear*-, and *scatter*-classes, (2) the *load*- and *cram*-classes, and (3) the *pile*-class (these are roughly equivalent to  
82 Pinker’s 1989 classes). He points out that the semantics of each verb class differ from those of other verbs, which  
83 requires a non-uniform way of explaining the distribution of the location-as-object variant. Thus, the first group of  
84 verbs can be characterized in terms of what he calls “cover” semantics while the second group of verbs can be  
85 characterized in terms of the “fill” semantics. Finally, the third group “can be characterized in terms of either the

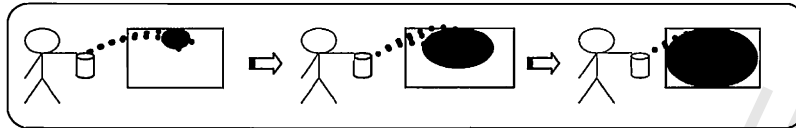


Fig. 1. Spray paint onto the wall/spray the wall with paint (Iwata, 2008:31, Fig. 3).

“cover” or “fill” semantics. Each of the three types of meanings are described in more detail and illustrated with figures such as Fig. 1 representing the force-dynamic and temporal relationships between the entities in the relevant scenes.

For example, verbs associated with the “cover” semantics can receive two alternative interpretations depending on how the event described by a verb such as *spray* is viewed. Thus, “if we focus on the paint, we get an event of sending a substance in a mist. Hence the locatum-as-object variant of *spray* (...). If, on the other hand, we focus on the wall, this is an event of covering the wall with paint” (31). These observations, together with further discussion of other behavioral characteristics of the location-as-object variant lead Iwata to propose to capture the relevant properties of the locative alternation in terms of lower-level generalizations.

Similar arguments have been made by other usage-based proponents of CxG such as Boas (2003, 2006), Croft (2003), Croft and Cruse (2004), among others. However, Iwata goes a step further by leading one of the main tenets of CxG – no separation between the lexicon and syntax – to its logical conclusion. He argues that constructions should be available at varying levels of abstraction, i.e., there should be verb-specific constructions and verb-class-specific constructions besides the type of abstract constructions postulated by Goldberg (1995, 2006). Fig. 2 illustrates Iwata’s conception of how constructions are organized hierarchically, representing different levels of schematicity. At the top level we find a verb-class-specific construction representing the pairing of a particular form (NP<sub>X</sub> V NP<sub>Y</sub>) with a specific meaning (X causes Y to have a layer over it). This verb-class-specific construction is an abstraction over verb-specific constructions associated with verbs such as *cover* and *spray* at the intermediate level. These verb-specific constructions, in turn, are abstractions over individual occurrences. While the location-as-object variant of verbs such as *spray* is sanctioned by the constructions depicted in Fig. 2, another set of constructions (similar in structure and complexity) is required to sanction locatum-as-object variants. While formalists might protest that Iwata’s system includes a certain amount of redundancy, Iwata argues that this is unproblematic because usage-based accounts typically rely on such hierarchies to capture relevant generalizations at different levels (Langacker, 1999). More importantly, Iwata argues that argument structure alternations in his framework are accounted for without derivations. Instead, “for a single verb to alternate between two syntactic frames means simply that that verb has two verb-specific constructions” (37), which are defined as schemas in the sense of Langacker (1999). This, in turn, has two important ramifications for the relation between constructions and individual full expressions in Iwata’s analysis. The first concerns the acceptability of newly encountered expressions. According to Iwata, newly encountered expressions are acceptable when they can be associated with linguistic structures that have already unit status. New expressions may

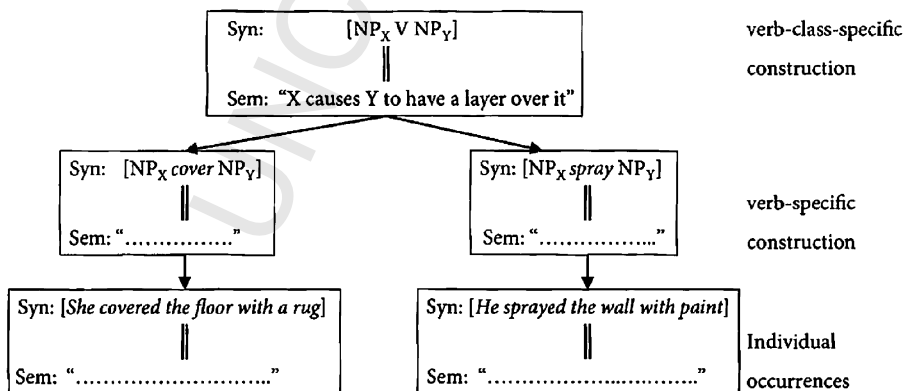


Fig. 2. How the location-as-object variant of *spray* is sanctioned (Iwata, 2008:39, Fig. 12).

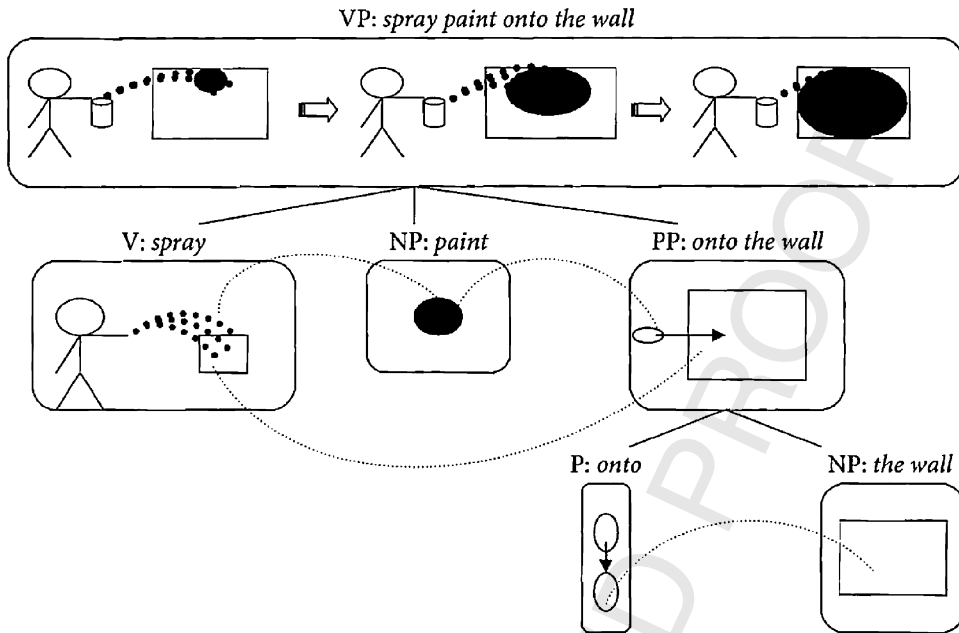


Fig. 3. The composition of *spray paint onto the wall* (Iwata, 2008:41, Fig. 13)

115 either be interpreted as an instance of a schema, or they may be assimilated, via similarity, to an already established  
 116 unit. The second and perhaps more important ramification of this usage-based approach is that “schemas sanction the  
 117 linguistic expression as a whole, not part of it” (38). This claim distinguishes Iwata’s approach from other accounts of  
 118 argument structure alternations, as he explicitly points to the importance of the entire semantic and pragmatic context  
 119 in which the verb is embedded by arguing that “all we can ask is whether *He sprayed paint onto the wall* is sanctioned  
 120 by a particular construction or not, rather than whether the verb *spray* is sanctioned by the construction or not” (38–39).  
 121 According to Iwata, there are two major consequences of this view: (1) it is not sufficient to look at the verb (meaning)  
 122 in isolation when determining whether it may occur in a specific syntactic frame or not, and (2) the analysis of  
 123 syntactic alternations needs to be shifted outside of the lexicon proper to properly reflect the need for inclusion of more  
 124 than just verbal semantics in isolation.

125 Based on this discussion, Iwata specifies in the remainder of chapter 3 the details of how the alternating behavior of  
 126 verbs such as *spray* in (1) above should be explained. In essence, the ability of a verb to alternate appears to come down  
 127 to the question of whether and how the entities of the scene described by the verb can be focused. Thus, verbs such as  
 128 *spray* refer schematically to a liquid and a surface. In the locatum-as-object variant as in (1a) above, the liquid and the  
 129 surface are elaborated by the entities *paint* and *wall*, which in turn allow the respective semantic structures to be  
 130 “combined to yield the scene for *spray paint onto the wall*” (40), as illustrated in Figs. 3 and 4.  
 131

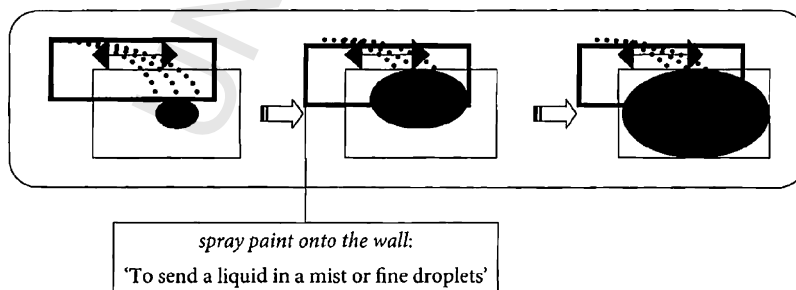


Fig. 4. *Spray paint onto the wall* (Iwata, 2008:41, Fig. 14).

132 To explain the relation between the different constructions involved in sanctioning the locatum-as-object variant,  
133 Iwata (40) argues the following:

134 This bottom-up aspect of *spray paint onto the wall* may seem too trivial, but there is also the top-down aspect.  
135 The scene expressed by the composed expression needs to be sanctioned by the verb-class-specific construction  
136 which pairs the syntactic frame [NP V NP PP] with the semantics “X moves Y into/onto Z,” as seen above. This  
137 is rather straightforward, for by focusing upon the paint’s movement inside the scene, we get the interpretation  
138 “to send paint onto the wall” as in Fig. 4 [14 on p. 41 of Iwata’s original text, HCB].

139 Iwata presents a parallel scenario to account for the location-as-object variant. In this case, *spray* as in (1b) still  
140 refers schematically to a liquid and a surface, but there is a difference in focusing. Instead of focusing on the *paint* and  
141 *the wall* as in the locatum-as-object variant, focusing is now on *the wall*, yielding an interpretation “to cover the wall  
142 with paint,” similar to that of “cover the floor with a rug.” This explanation is accompanied by a graphical  
143 representation similar to that of the locatum-as-object variant in Figs. 3 and 4, but omitted here because of space  
144 limitations. Iwata further states that he does not need to refer to any special mechanisms to account for the locative  
145 alternation, because each of the variants is sanctioned by verb-class-specific constructions that are already recognized  
146 to exist to account for the distribution of verbs with similar (but not identical) semantics such as *put* and *cover*.

147 The remainder of chapter 3 is concerned with the application of Iwata’s lexical-constructional approach to the  
148 analysis of other verbs such as *spread* (42–45) and the investigation of the status of the locatum *with* vis-à-vis the  
149 instrumental *with*. With respect to the second point the author argues that the locatum *with* should not be regarded as an  
150 argument, which leads him to the conclusion that it should not be part of any argument structure construction (46–51).  
151 Overall, this chapter reads very well and the arguments are structured clearly. It is somewhat unfortunate that Iwata  
152 does not discuss Baker and Ruppenhofer’s (2002) paper addressing the question of how syntactic and semantic criteria  
153 may be employed to define verb classes. Discussion of this very valuable paper, together with related publications such  
154 as Fillmore and Atkins (2000) and Boas (2006) would have helped illuminate and clarify Iwata’s rather brief  
155 discussion of Levin’s (1993) account of verb classes on p. 60. I return to this point below.

156 Chapter 4 (“More on the location-as-object variant”) addresses the question of why some location-as-object  
157 variants do not conform to the template of change of state, expressing the transition from an old state to a new state.  
158 Iwata points out that the location-as-object variant is typically regarded as atelic. However, this raises a problem for his  
159 analysis since the cover-class-specific construction is only telic (cf. *John sprayed the wall with paint {in/for} ten*  
160 *minutes* vs. *John covered the ground with a tarpaulin {in/\*for} ten seconds* (53)). Discussing data on *cover-* and  
161 *fill-*type constructions, as well as the holistic effect (Fillmore, 1968; Anderson, 1971) and telicity leads Iwata to claim  
162 that the location-as-object variant of *spray* may in fact be sanctioned by two different constructions. Thus, when  
163 it has an end-point reading and denotes a telic event it is sanctioned by the *cover*-class-specific construction.  
164 In contrast, when it lacks an end-point reading and denotes an atelic event it is sanctioned by the *wipe*-class-specific  
165 construction (60). According to Iwata, his analysis has the advantage of capturing lower-level generalizations at the  
166 level of verb-class-specific constructions, thereby avoiding the problems that come with classifying locating  
167 alternation verbs as typical change of state verbs. Finally, he applies a similar analysis to explain the distribution  
168 of *rub* and *brush*, which can both be classified as verbs of surface contact and as locative alternation verbs.

169 In chapter 5 (“Another look at putative non-alternating cases”) Iwata discusses verbs that have been described as  
170 not participating in the locative alternation. Following a brief review of Pinker’s (1989) and Levin’s (1993) data, the  
171 author turns to the question of whether the absence of alternating behavior should really be attributed to the lack a  
172 component of meaning (change of location or change of state). To answer this question, Iwata first turns to internet data  
173 obtained through Google which demonstrate that verbs such as *dribble*, *drizzle*, *slosh*, *wind*, *litter*, *clutter*, and *bind*  
174 may in fact alternate, and thus present counterexamples to Pinker’s (1989) claims. This observation is augmented by  
175 additional data from the BNC showing that verbs differ in their alternating frequency, leading Iwata to label them  
176 “sporadically alternating verbs”. The remainder of chapter 5 provides a very detailed analysis explaining why  
177 sporadically alternating verbs alternate and how some of them are different from full-fledged alternating verbs such as  
178 *spray* and *load*. Based on frequency counts obtained from the BNC and a detailed analysis of verbal semantics Iwata  
179 argues that verbs such as *dribble*, *drizzle*, *slosh*, and *wind* should in fact be regarded as alternating verbs since “their  
180 occurrence in the location-as-object frame can be accounted for in the same way the location-as-object variants of  
181 *spray* and *smear* are” (85). In contrast, verbs such as *litter*, *clutter*, and *bind* that exhibit the locatum-as-object frame at  
182 a very low frequency are argued to be sanctioned via analogical extension. In Iwata’s view, higher-order schemas are

183 extracted from verb-specific constructions and then in turn sanction other individual occurrences (see pp. 74–77 for  
184 details).

185 Chapter 6 (“The locative alternation and verb meaning”) presents an in-depth usage-based investigation of verb  
186 meanings to show that they need to be given a detailed analysis to explain their behavior in the locative alternation.  
187 Iwata opens this chapter by asking whether verb meanings and constructional meanings can always be separated  
188 easily. His discussion of the semantics of *load*, *spray*, and *spread* highlights the importance of schematic reference  
189 made by verb meanings. On this view, each verb meaning differs in the types of lexical encodings it provides: while *to*  
190 *load* means “to transfer objects into/onto a container and thereby fill that container”, *to spray* means “to send a liquid  
191 in a mist (in such a way that the liquid ends up covering an area)”, and *to spread* means an event/state that saliently  
192 involves an image-schema (cf. Lakoff, 1987) representing an enlargement process with a reflexive trajectory (93–94).  
193 According to Iwata, the verb meanings are not homogeneous and a difference in verb meaning has direct repercussions  
194 for a verb’s ability to occur in the locative alternation. He proposes a continuum of verb meanings, where verbs such as  
195 *load* that lexically specify a change of location and the “cover/fill” semantics are located on one side of the continuum  
196 because they “can be safely characterized as locative alternation verbs” (95). According to Iwata, these so-called  
197 “scene-encoding” type verbs differ from so-called “constant-insertion” type verbs such as *spread*, which are not  
198 strictly locative alternation verbs and are thus located at the other end of the continuum. Such verbs can appear in the  
199 locative alternation given the proper locatum and location entities. Verbs such as *spray* are somewhere in between the  
200 two ends of the continuum. Comparing his analysis with Pinker’s (1989) and Goldberg’s (1995) accounts leads Iwata  
201 to the conclusion that verb meanings should in fact be regarded as “the minimum that should be attributed to verbs”  
202 (99). Thus, the meaning of the verb and the VP are very close to each other with scene-encoding type verbs such as  
203 *load*, while there is a greater distance between verb meaning and VP meaning among constant-insertion type verbs  
204 such as *spread*. Chapter 7 (“Types of verb meaning and types of alternation”) offers further insights about the  
205 alternating behaviors of verbs that go beyond the locative alternation alone. Investigating the distribution of scene-  
206 encoding type verbs, Iwata first argues that the locative alternation may in fact arise from many different verb  
207 meanings, not just from a single scene such as that described by *load* alone. Consider Fig. 5.

208 According to Iwata, the scene described by the semantics of *wrap* may be open to three different interpretations (e.g.  
209 *He wrapped shiny paper around a present*, *He wrapped a present with paper*, and *He wrapped a present in paper* (101)),  
210 each sanctioned by a relevant verb-class-specific construction. Similarly, a single verb meaning may already encode two  
211 different scenes related via a scenario as is the case with *pack*. Finally, Iwata proposes that the semantics of verbs such as  
212 *trim* consist of two lexically encoded scenes that are related to each other via a higher-order schema that could be  
213 paraphrased as “to make something neat and tidy” (105). The remainder of chapter 7 discusses further alternating  
214 behaviors of constant-insertion type verbs such as *roll*, as well as denominal verbs such as *feather* and *brush* and  
215 deadjectival verbs such as *clear*. For each of these sub-classes of constant-insertion type verbs Iwata shows that they  
216 exhibit a more complex alternating behavior than regular locative alternation verbs. In his account this distribution is  
217 readily accounted for because constant-insertion type verbs differ systematically from scene-encoding type verbs in that  
218 they may encode a variety of events and states. Finally, Iwata compares his verb classification with that of Rappaport  
219 Hovav and Levin (1998), arguing that his approach is preferable because it systematically differentiates between different  
220 types of verb meanings that allows him to explain the various alternating behaviors of verbs.

221 Chapter 8 (“Further Issues”) addresses additional theoretical and empirical differences between his analysis and  
222 those of Pinker (1989) and Goldberg (1995, 2006). Iwata first compares Pinker’s (1989) claims about the acquisition of  
223 the locative alternation with Tomasello’s (2003) usage-based theory of acquisition. This leads Iwata to argue that  
224 Pinker’s analysis is not tenable because it does not account for actual data and does not appear to be psychologically  
225 real. Instead, Iwata claims that his lexical-constructional account is compatible with Tomasello’s observations about  
226 children acquiring constructions at varying degrees of abstraction, beginning with verb-specific constructions and then  
227 extending them to verb-class-specific and higher-level constructions. In comparing his lexical-constructional account  
228 with that of Goldberg (1995, 2006), Iwata (123) notes three major differences: (1) relevant constructions are lower-  
229 level ones (as opposed to Goldberg’s abstract meaningful constructions); (2) verb meanings are extremely rich and  
230 cannot be captured by semantic roles alone (as in Goldberg’s analysis); (3) the interaction between verbs and  
231 constructions should pay more attention to the semantics of the full expressions, and not only look at whether a verb in  
232 isolation is compatible with a construction or not. To highlight some of the differences in greater detail, Iwata reviews  
233 the notion of compatibility between verbs and constructions, coercion effects, and the psychological reality of lower-  
234 level constructions versus higher-level constructions. Arguing against Goldberg’s view that higher-level constructions

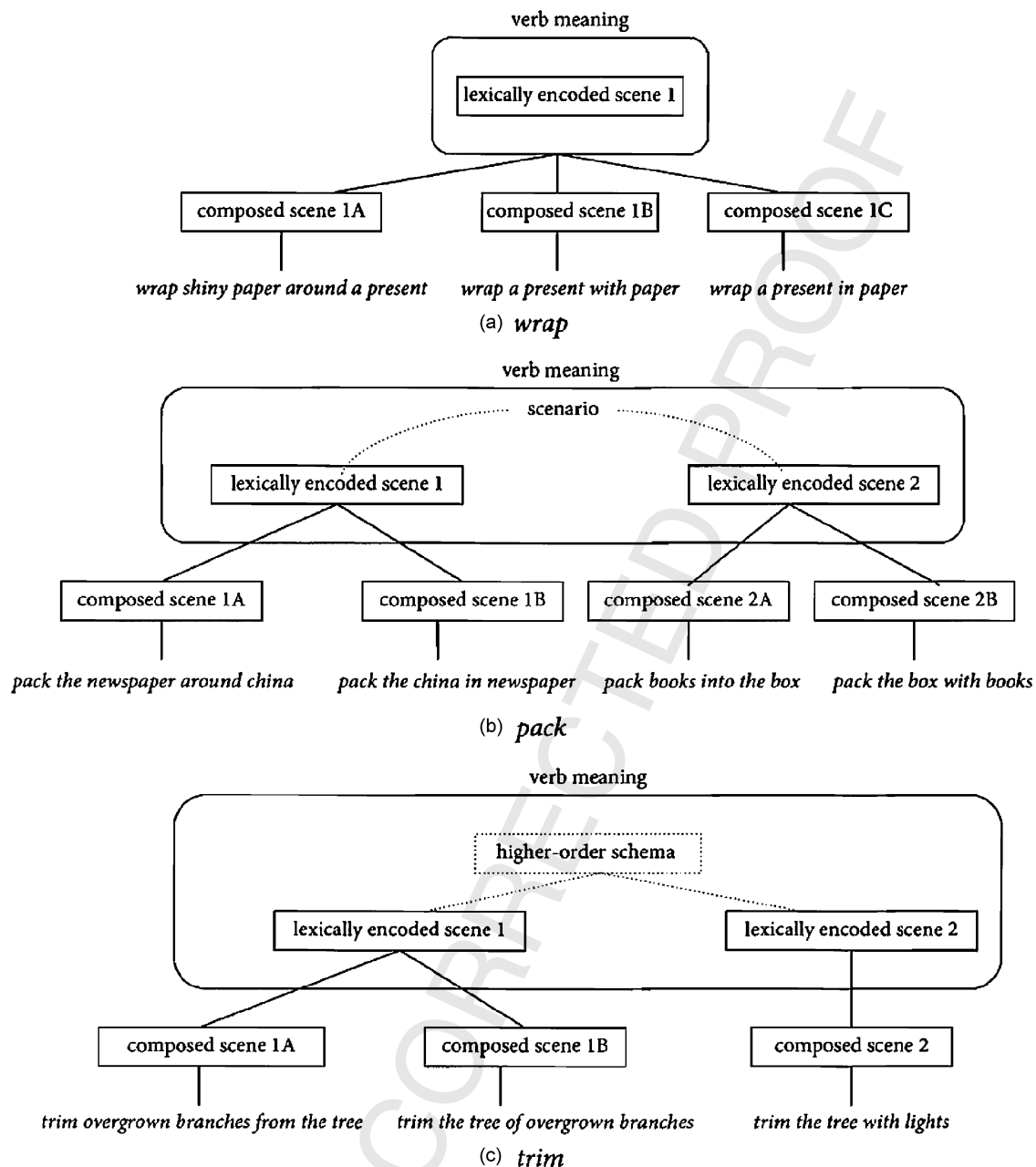


Fig. 5. How the variants arise (Iwata, 2008:106, Fig. 4).

235 are sufficient to account for argument structure alternations, Iwata makes a very crucial point, namely that while  
 236 different types of constructions serve different purposes, “lower-level constructions that are more essential to  
 237 describing actual linguistic phenomena” (126). This in turn leads him to one of the most important insights of his  
 238 book: “what is at issue is at what level generalizations are made. Obviously, just because generalizations are essential  
 239 does not mean that those generalizations are made at a higher level, as Goldberg claims. (...) Thus all considerations  
 240 point to the precedence of lower-level constructions over higher-level constructions” (127).

241 In chapter 9 (“The locative alternation with verbs of removal”) Iwata analyzes the alternation behavior of verbs  
 242 such as *clear* (*Doug cleared dishes from the table (from variant)* vs. *Doug cleared the table of dishes (of variant)*).  
 243 A brief critique of Levin and Rappaport Hovav’s (1991) lexical extension analysis sets the stage for Iwata’s

lexical-constructional account. He first points out that the alternation with verbs of removal is relatively “stable” and includes only a short list of four verbs (*clear*, *drain*, *empty*, and *strip*), in contrast to the more than forty *spray/load* verbs occurring in the locative alternation. As in previous chapters, the alternating behavior of removal type verbs is explained in terms of sanctioning by two verb-class-specific constructions, one encoding the semantics “X moves Y from Z” and the other “X causes Y not to have something”. To account for the fact that *clear*, a change of state verb, alternates Iwata investigates the complex interplay between verbal semantics and the “logic” of the spatial domain. More specifically, he argues (136–142) that when change of state verbs such as *clear* are used in the spatial sense, the change of state predicated can be identical to a change of location. Finally, Iwata ends chapter 9 with a short discussion of further consequences of his account. Chapter 10 (“Morphologically complex cases”) begins with a discussion of the German applicative, which has often been claimed to be the counterpart to the English locative alternation. Based on an extensive array of data from German and Japanese, Iwata criticizes Brinkmann’s (1997) virtual *be*-analysis that assumes a zero morpheme to account for the parallels between German *spritzen/bespritzen* and English *spray*. The presentation of the data in this chapter is quite clear; Iwata argues that the German applicative should not be regarded as the counterpart to the English location-as-object variant of the locative alternation. Furthermore, zero-morpheme analyses of the English locative alternation can only handle derivation from the locatum-as-object variant to the location-as-object variant. To overcome this problem the author suggests a lexical-constructional analysis of the German applicative. Chapter 10 closes with a well-argued analysis of *over*-prefixation in English locative alternations, showing that the non-alternating behavior of some verbs can be accounted for by paying attention to how the notion of excess can be interpreted in certain contexts.

Chapter 11 (“The locative alternation in Japanese”) first offers a review of the relevant literature, most notably Fukui et al. (1985) on the distribution of the *ni*- and *de*-variants in the Japanese counterpart of the English locative alternation. Iwata presents an impressive amount of data showing that the previous analyses of the locative alternation are problematic, largely because they do not properly explain the distribution of the *-tsukusu* (‘to exhaust’) affix, which allows specific verbs to occur in the *de*-variant. To solve this problem, Iwata presents an in-depth lexical-constructional analysis of a number of Japanese verbs (75–195). As in his analysis of the English locative alternation, the main emphasis of his account lies in dissecting the meanings of the individual verbs and teasing out what aspects of their meanings may lead to them to occur in the locative alternation. The parallels between the English and the Japanese data lead Iwata to argue that “the locative alternation in Japanese is fundamentally the same as that in English” and that “the remaining differences between the two languages should boil down to the lexical encoding of each verb” (195). Iwata therefore investigates verbs that do not alternate in English, together with their Japanese counterparts that do. According to Iwata, the differences between these verbs can be explained by taking the lexical encoding properties into account: Japanese verbs that can alternate differ from their English counterparts in that they “do not involve the “cover/fill” semantics in the *de*-variant and are, therefore, not strictly cases of locative alternation” (2008:205).

In chapter 12 (“Summary and conclusion”) Iwata synthesizes his main arguments from the preceding eleven chapters and offers some additional comments on the status of lower-level constructions. As for the differences between Goldberg’s approach and his, he points out once more that a detailed examination of verb meaning is necessary to account for the distribution of verbs in the locative alternation. The introduction of verb-class-specific and verb-specific constructions is thus an automatic consequence of a usage-based theory that embraces different levels of schematicity.

### 3. Evaluating the lexical-constructional approach

Iwata’s book is a valuable contribution to on-going research in Construction Grammar. It reads easily and tackles the important questions head-on by identifying the problems inherent to previous accounts of the locative alternation. Iwata’s novel approach successfully explains how the details of verb meaning determine a verb’s ability to occur not only in the English locative alternation, but also in its German and Japanese counterparts.

Perhaps the most valuable contribution of Iwata’s analysis is that he successfully relativizes the role played by abstract meaningful grammatical constructions in Goldberg’s (1995, 2006) framework. As such, he is in line with other proposals such as Nemoto (1998, 2005), Croft (2003), and Boas (2005, 2008a), who have previously suggested to shift the explanatory burden for a variety of argument structure constructions from the more abstract type of construction to more concrete, often verb-centered constructions. Iwata’s contribution stands out in that it provides a systematic description of different levels of schematicity, from individual occurrences to verb-specific constructions to verb-class-specific constructions, always keeping the importance of detailed descriptions of verbal semantics in mind. As such, Iwata’s account combines the best of both constructional worlds: while acknowledging the



(now somewhat limited) status of higher-level constructions à la Goldberg, his detailed proposals regarding the status of lower-level constructions and verbal semantics also allow him to account for those cases that previously posed problems for Goldberg's abstract meaningful constructions. At the same time, however, there are a few points which, if laid out in more detail, could have made Iwata's arguments even more convincing. I begin with Iwata's use of terminology. In explaining how a spraying scene is able to receive two alternative interpretations, Iwata (31) uses the term "focus" as in "if we focus on the paint. . ." or "we focus on the wall . . .". Unfortunately, he does not clearly define "focusing." Given the way Iwata employs focusing to explain how a scene described by a verb can receive multiple interpretations, I suspect that he intended it to be somewhat related to Langacker's (1987) notion of profiling, as employed by Goldberg (1995:45–48). While Iwata's use of focusing is somewhat intuitive, a clear definition of the term, together with a set of criteria that can be employed to determine whether a certain entity in a scene can be focused or not, should have been given.

Another issue I have with Iwata's use of terminology concerns his description of how verbal semantics and constructional semantics are related to each other. Throughout the book he uses various types of terms to describe this process, but it is not entirely clear whether they mean the same thing. For example, in explaining the alternating behavior of verbs, Iwata routinely uses the term *sanction* as in "whether the verb *spray* is sanctioned by the construction or not" (39), "the scene expressed by the composed expression needs to be sanctioned by . . ." (40), or "when the location-as-object variant of *spray* is sanctioned by.." (60). Unfortunately, the author does not provide a clear definition of what he actually means by sanctioning, or whether there are specific criteria that need to be fulfilled in order for sanctioning to take place. Similarly, when Iwata (40) writes "the semantic structures are combined to yield the scene for *spray paint on the wall*," it is unclear whether he is describing a process similar to that described by *sanction* above, or some other process. It would have been helpful if he had provided clear definitions of these terms and to described in detail how they are related to established constructional terminology such as "fusion" (of verbal and constructional semantics (Goldberg, 1995:50)) or "unification" (Fillmore and Kay, 1995), which are typically used to describe the details of how verbs and constructions interact with each other. Providing a clear definition of what it means to sanction an expression would also help set the stage for a more detailed discussion about the exact circumstances under which an expression may not be sanctioned. In other words, while Iwata offers very detailed explanations about the circumstances under which an expression is sanctioned, he does not provide systematic restrictions that would help rule out unattested examples from being sanctioned. The absence of explicit restrictions of the type used, for example, by Zwicky (1986:116–123), Goldberg (1995:146–148), Kay and Fillmore (1999:21–28), or Boas (2008a:22) is perhaps the biggest gap in Iwata's line of argumentation.

The second point that could have been fleshed out a bit more concerns the status of Iwata's figures and notations throughout his book. More specifically, he employs various visual representations to illustrate the different types of scenes described by verbs. For example, Figs. 3 and 4 on p. 31 are meant to illustrate a scene described by the verb *spray* (see Fig. 1 above). The exact interpretation of these figures, as well as their more detailed versions on pp. 41–42, is a bit puzzling, because the author does not provide any description or instruction for how to interpret them. For example, it would be nice if Iwata had provided the reader with answers to the following questions: (1) What is the status of the different types of arrows? (2) Why are the lines of some rectangles in bold? (3) What do the dotted lines represent vis-à-vis the non-dotted lines? Similarly, Iwata's representation of the hierarchical organization of constructions (Fig. 12, p. 39; see Fig. 2 above) includes arrows pointing from higher-level constructions to lower-level constructions. This raises the following questions: (1) How are we to interpret these arrows? (2) Do they represent an inheritance relation, and if yes, of what type? (3) The figures depicting constructional hierarchies also include a dotted representation in the semantics part of the verb-specific constructions and the individual occurrences (see Fig. 2 above). What types of information do the dots represent? An explanation of how to interpret the various figures and notations throughout the book would have certainly improved Iwata's arguments because it would have made them more transparent and accessible.

I also felt the lack of a more in-depth discussion of verb classes. In chapters 3 and 5, as well as in other parts of his book, the author discusses Pinker's (1989) and Levin's (1993) methods of verb classification, showing that their definitions are problematic because they do not cover the full range of data. Based on corpus data Iwata then goes on to develop his own definitions of verb classes, which ultimately result in his verb-class-specific constructions such as that in Fig. 12, p. 39 (see Fig. 2 above). His usage-based approach appears to be intuitive and at first sight successful when it comes to systematically describing the proper level at which semi-schematic constructions such as  $[NP_X V NP_Y]$  expressing the "X causes Y to have a layer over it" semantics (Fig. 12, p. 39) are abstractions over verb-specific constructions and

individual occurrences. However, it leaves open two very important questions. First: What set of criteria should be employed to define verb classes? Pinker (1989) and Levin (1993) propose various definitions for verb classes involving semantic and syntactic criteria. Baker and Ruppenhofer (2002) address the problem of verb class definition in more detail and show that while syntactic criteria may often be helpful to narrow down particular aspects of verb classes, it is typically semantic criteria which are the most useful for establishing verb class membership. Adopting their main ideas and comparing how English motion verbs differ in their syntactic distribution, Boas (2006, 2008b) also suggests to base verb classifications on frame-semantic criteria. In contrast to Iwata's (2008) analysis, Baker and Ruppenhofer as well as Boas argue for a splitting approach that is even more radical in that it regards the lexical unit (LU) as the relevant unit of description for verb class membership. Based on Fillmore's (1985) Frame Semantics and its practical implementation in FrameNet (see Fillmore et al., 2003), these alternative approaches argue that each LU (a word in one of its senses) evokes a different semantic frame, thereby eliminating the need for any type of sanctioning as proposed by Iwata all together. Consider Fig. 6, which compares the differences in classification between Levin's (1993) syntactic classification and FrameNet's semantic classification.

In contrast to Levin's approach, which regards syntactic valence alternations as a crucial feature for identifying verb class membership, the description of verbs in FrameNet rests on the assumption that verbs are often polysemous and that each LU evokes a different semantic frame. Thus, "verbs which share the same alternation might be represented in two different semantic frames" (Baker and Ruppenhofer, 2002:27), as *load* and *spray* in Fig. 6 above, which evoke both the *Placing* and the *Filling* frames. Verbs alternate syntactically because they evoke different semantic frames. In contrast, verbs such as *put* or *butter* do not alternate because they only evoke one frame, namely *Placing* or *Filling*, respectively. The crucial point about this alternative verb classification is that it represents an even finer-grained method of analyzing verb semantics. Iwata assumes basic scenes of events such as spraying and then proposes to account for the alternating behavior by looking at whether the entities described by such a scene can be focused on differently, thereby sanctioning alternating behavior. The frame-semantic approach does not require any focusing or sanctioning because it assumes a split semantics depending on which frames are evoked from the very beginning. As such, it eliminates the need for a number of mechanisms proposed by Iwata. Note that the two approaches are in principle compatible with each other. They differ in that the frame-semantic approach applies an even more fine-grained approach to verb semantics than Iwata's account. Iwata's analysis would have profited immensely by including a more detailed discussion of these issues.

The second question raised by Iwata's notion of verb class concerns its applicability to other linguistic phenomena. In other words, are the verb-class-specific constructions proposed by Iwata (37, 39, etc.) only applicable to the description and analysis of one particular phenomenon such as the locative alternation, or can they also be employed to explain other facts about the distribution of their members in other constructions? In my own work I have tried to answer these questions with respect to the resultative construction (Boas, 2003, 2005) and other idiomatic constructions (Boas, 2008a,b), and my analysis of the data has led me to propose that verb classes should be defined in terms of semantic criteria. Each sense of a verb can be represented in terms of a so-called mini-construction, a pairing of form with meaning/function, together with specific restrictions. Mini-constructions that share certain aspects of meaning can then be grouped together and represented by more schematic constructions higher up in the constructional hierarchy. The important point is that the method for defining verb classes appears to be highly sensitive to semantic criteria, suggesting – as already

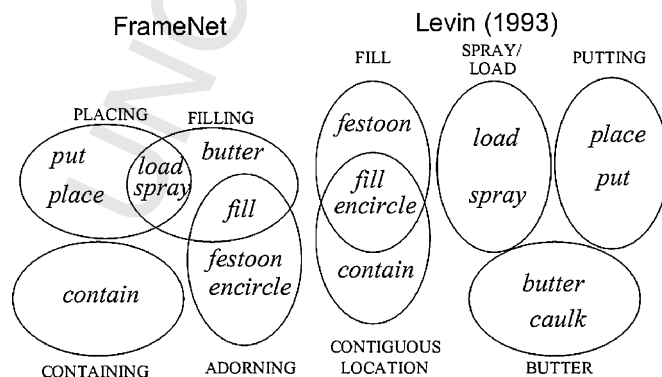


Fig. 6. *Load*, *fill*, and related verbs in FrameNet and Levin (1993) (Baker and Ruppenhofer, 2002:28, Fig. 1).

pointed out above – a more detailed splitting approach. Given Iwata’s specific definitions of verb-class-specific constructions I suspect that his verb classes are also specific to particular phenomena such as the locative alternation. It would have been nice to see a more detailed discussion of how his specific verb-class-specific constructions are related to higher-level schematic constructions such as the caused-motion construction. Such a step could help other researchers with connecting their results to Iwata’s insights more straightforwardly. Similarly, it would have been nice to include a short discussion of the broad range of formalist approaches that have dealt with the locative alternation from a syntactic perspective, such as Mulder (1992) and Wunderlich (1997), among others.

The fourth point which Iwata could have discussed in more detail is the role played by analogical extensions. Adopting basic ideas from Langacker (1987, 1991), Iwata offers two options for deciding whether newly encountered expressions are acceptable: “On the one hand, the novel expression may count as an instance of a schema. On the other, it may be assimilated, via similarity, to an already established unit” (38). Going into more detail about how this analogical extension operates, Iwata describes how low-frequency occurrences of particular patterns such as the locatum-as-object variant of *scatter* as in . . . *papers fluttered on desks, books were scattered around the rooms* may be sanctioned. Noting the influence of the passive, he suggests that “a higher-order schema is extracted from a verb-specific construction [NP *be scattered around/about* NP]. The higher-order schema then sanctions [NP *be littered around/about* NP]” (74). While this explanation appears to be intuitive at first sight, the exact mechanisms underlying such analogical extensions are not discussed in detail. For example, there is no explicit mentioning of constraints that might restrict analogical extensions. Previous research by Kay (2002) on the [A *as* NP] pattern (e.g. *dumber as an ox* vs. *\*easier as pie*) and Boas (2003) on the resultative construction (e.g. *sneeze the napkin off the table* vs. *\*exhale the beer case off the table*) has demonstrated that analogical extensions are often subject to specific syntactic, semantic, and pragmatic restrictions. Iwata’s analysis would have benefitted from a discussion of how such restrictions might restrict analogical extensions to cover low-frequency locative alternations (together with the passive, for example).

Finally, while the book is easy to read and the figures are generally laid out well, a few minor points should have been corrected at the proof reading stage. First, there are a few typos. On p. 39 in Fig. 11, in the box representing the verb-class-specific construction, the final “Y” in the description of the semantics of the construction should be labeled “Z”. Other typos are found on the following pages: p. 135 (“dish” should be “dishes”), p. 137 (the “Y” in the semantics in the top-level construction should be labeled “Z”), pp. 154 and 155 (“bestreichth” should be “bestreicht”), p. 183 (“bandagae” should be “bandage”), p. 192 (“Evdently” should be “Evidently”), and p. 227 (Note 4, examples in (i) should read “füllte” instead of “füllten”). Second, the font size is sometimes inconsistent. For example, the last words in (9a) and (10b) on p. 33 seem to be in a slightly larger size than the preceding words. In the examples in (10) on p. 152 the umlaut “ä” is not italicized like the remaining characters.

#### 4. Conclusions

Seizi Iwata’s *Locative Alternation—A lexical-constructional approach* is a welcome contribution for anyone interested in the locative alternation. His innovative examination refocuses the debate over what factors influence syntactic alternations and offers new insights to the study of lexical semantics and Construction Grammar. Iwata presents his results in a relatively non-formalist way which will allow linguists from various theoretical orientations to adopt his insights into their frameworks. As such, his book is a must-read for anyone interested in the influence of verbal semantics on syntactic argument structure.

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