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Manner in Dative Alternation

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1 Overview

The Dative Alternation involves the alternation between the double object (DO) frame and a prepositional object (PO) frame:

(1) a. DO frame: *Ann sold Beth the car.*
NP_0 V NP_1 NP_2

b. PO frame: *Ann sold the car to Beth.*
NP_0 V NP_2 to NP_1

There are a number of well-known restrictions for the Dative Alternation (cf. Green (1974), Oehrle (1976), Gropen, Pinker, Hollander, & Goldberg (1989), Pinker (1989), Pesetsky (1992), Levin (1993). I will show that several of the low-level semantic restrictions are consequences of a more general one involving the incorporation of a **manner component** into the meaning of the verb. These restrictions can be explained by assuming two distinct representations of verbs participating in the Dative Alternation: The PO frame expresses **movement** of an object **to a goal**, the DO frame implies a **change of possession**. I will argue that these restrictions cannot be expressed in a syntactic representation of lexical meaning as in Pinker (1989) and Hale & Keyser (1993).

2 Restrictions for the Dative Alternation

First, the DO frame entails that NP_1 **possesses** NP_2 after the event expressed by the verb (2). The relevant notion of possession includes possession of **information** (3) and **future possession** (4).

(2) a. Ann sold the car to Beth.
b. Ann sold Beth the car.
c. Ann drove the car to Beth
d. *Ann drove Beth the car.

(3) a. Ann showed the car to Beth.
b. Ann showed Beth the car. (cf. also *read, tell, quote*)

(4) a. Ann forwarded the letter to Beth.
b. Ann forwarded Beth the letter. (cf. also *offer, promise*)

It is sometimes claimed, in view of contrasts like (5), that in the DO frame NP_1 (the possessor) must be animate, presumably because possessors must be animate. However, this is not the case (see (6)); rather, DO must satisfy the selectional restrictions for possessions, whatever they may be.

(5) a. Ann sent a package to London.
b. *Ann sent London a package.
(o.k. if *London* is a metonym for an organization, i.e. animate)

(6) I gave the wall a new coat of paint.
(after that, the wall *has* a new coat of paint).

Turning to the PO frame, observe that NP_2 must undergo **movement**, in contrast to the DO frame, see (7).

(7) a. The explosion gave Ann a headache.
b. *The explosion gave a headache to Ann.

The DO frame does not rule out movement, but comes with a restriction: The verb must not express a **continuous imparting of force**:

(8) a. Beth kicked the ball to Ann. (cf. also *hit, throw, fling*)
b. Beth kicked Ann the ball.

(9) a. Beth pulled the box to Ann. (cf. also *push, lower, haul*)
b. *Beth pulled Ann the box.

Judgements vary for such examples: Green (1974) allows for *I carried Bill a six-pound ashtray*, even though carry can be understood as implying continuous imparting of force. But most speakers rule out sentences like *I carried John the package*. Such differences may point to different conceptualizations of verb meanings. For example, Baker (1992) observes that *push* as a soccer allows for the DO frame, but then expresses an event of initial imparting of force. There is one apparent exception of this rule: the verb *bring*, which could be understood as implying continuous imparting of force, but allows for the DO frame.

(10) a. Ann brought the roses to Beth.
b. Ann brought Beth the roses.

Let us turn to verbs that relate to communication. Verbs of **manner of speaking** do not allow for the DO frame (11). This is in contrast with many other **verbs expressing speech acts** (12).

(11) a. Ann shouted the news to Beth. (cf. also *scream, yell, whisper*)
b. *Ann shouted Beth the news.

(12)a. Ann told the news to Beth. (cf. also *write, read, cite, quote*)
b. Ann told Beth the news.

But **speech act verbs that subcategorize for a clause** do not allow for the DO frame, and require a different word order for PO (Gropen, Pinker, Hollander, et al. (1989)), see (13). There is an exception to that: *tell*, when embedding a clause, see (14).

(13) a. Ann said to Beth that it was raining. (cf. also *assert, claim*)
b. *Ann said Beth that it was raining.

(14)a. *Ann told to Beth that it was raining.
b. Ann told Beth that it was raining.

Interestingly, verbs referring to **means of communication** allow for both constructions. This class contains many new members, which can be seen as evidence that this rule is indeed semantically motivated.

(15) a. Ann faxed the news to Beth. (cf. also *phoned, cable, e-mail*)
b. Ann faxed Beth the news.

There is one factor that does not appear to be semantic in nature: **Latinate verbs**, which typically are borrowed from French, often do not allow for the DO frame. (Notice that French does not have the DO frame, cf. *donner le roman à Beth* / **donner Beth le roman*).

(16) a. Ann gave the sofa to the museum./Ann gave them the sofa.
b. Ann donated the sofa to the museum./*Ann donated them the sofa.
(cf. also *report, explain, distribute, illustrate, recite*)

But not all Latinate verbs follow this pattern, cf. *promise* and *offer*. Grimshaw & Prince (1986) have proposed a phonological criterion: the DO frame is possible for verbs with one metrical foot (monosyllabic verbs, verbs with initial stress, or verbs with second-syllable stress if the first syllable is schwa, cf. *allot, assign, award*), which excludes most Latinate verbs. Pinker (1989, p. 216) points out a semantic condition: those verbs

that express a future possession generally allow for the DO frame. This does not only explain *offer, promise, allot, assign* and *award,* but also *bequeath, guarantee, reserve, refer* and *recommend* that constitute exceptions to the phonological rule.

For many verbs that admit both constructions we find subtle **semantic differences** between them (cf. Green (1974), Oehrle (1976)). (17.b), but not (a), entails that the students learned French, (18.b), but not (a), entails that Beth got the ball, and (19.b) presupposes that God exists, whereas (a) could be uttered by an atheist.

(17) a. Beth taught French to the students.
b. Beth taught the students French..

(18) a. Ann threw the ball to Beth.
b. Ann threw Beth the ball.

(19)a. Beth told her sorrows to God.
b. Beth told God her sorrows.

Another telling semantic difference appears in (20). Sentence (a) has a reading in which Ann was the cause of Beth having an idea, perhaps by behaving in a particular way. The idea originated in Beth, no movement of the idea from Ann to Beth is implied. This is in contrast to (b).

(20) a. Ann gave Beth an idea.
b. Ann gave an idea to Beth.

The constructions also differ in which NP has the thematic role of **theme**. (21) suggests that the theme of the PO frame is NP_2, and (22) shows that the theme of the DO frame is NP_1.

(21) a. What Bob did to the ring was give it to Sue.
b. ?What Bob did to Sue was give the ring to her.

(22)a. What Bob did to Sue was give her the ring.
b. *What Bob did to the ring was give Sue it.

3 Explaining Dative Alternation: Previous Attempts

The Dative Alternation has spawned a lively discussion in learnability theory (see Braine (1971), Baker (1979), Gropen, Pinker, Hollander, et al. (1989), Pinker (1989)). How do children learn the various restrictions to this construction). A purely syntactic rule for the Dative Alternation, e.g. a transformation between subcategorizations as in (23), would overgenerate.

(23) $\alpha[\ \_\_\ NP_1\ NP_2] \Leftrightarrow \alpha[\ \_\_\ NP_2\ [\textit{to}\ NP_1]]$

Pinker (1989) assumes two semantic representations that are related to each other and to distinct syntactic representations. They can be characterized as follows (but Pinker represents lexical information as syntactic trees):

(24) NP_0 CAUSES NP_1 to HAVE NP_2 $\Leftrightarrow$ NP_0 CAUSES NP_2 to GO TO NP_1

NP_0 V NP_1 NP_2 (DO) NP_0 V NP_2 *to* NP_1 (PO)

These structures help explain many of the observations that we have made in Section 2. They imply that in the DO frame, NP_1 must satisfy the selectional restriction for possession (cf. (5), (6)), as possession is only expressed in this construction. It follows that in the DO frame, the theme is NP_1, and in the PO frame, the theme is NP_2 (cf. (21)), as these NPs appear as objects of the predicate CAUSE. It is obvious why in the PO frame, NP_1 undergoes a change of location (cf. (7)): only this construction involves movement. It is also clear why in the DO frame the intended goal is achieved (cf. (17), (18)): DO expresses that NP_1 indeed possesses NP_2. We see why in the DO frame, NP_1 must exist (cf. (19)); the existence of possessors, but not of goals, is presupposed. We can even explain the semantically motivated exception to Latinate verbs: If the verb explicitly stresses possession (e.g., for future possession), then this favors the DO frame, which expresses precisely this feature.

But not all distributional facts follow from these underlying structures. Pinker has to assume a variety of narrow-range rules. He has to stipulate that if speech act verbs contain a manner component, DO is not an option (25), whereas if a continuous imparting of force is implied, it is an option (26). But recall that for *bring*, DO is possible again, so Pinker has to assume yet another rule for this verb.

(25) a. *Bob shouted Sue the news.
b. Bob shouted the news to Sue.

(26) a. *Bob pulled Sue the box.
b. Bob pulled the box to Sue.
c. Bob threw Sue the box.
d. Bob threw the box to Sue.

In another attempt to explain the Dative Alternation, Pesetsky (1992) analyzes the DO frame assuming a hypothetical preposition G which gets incorporated into the verb, and which alternates with *to* in PO:

(27) a. $[_{V'}$ [give] $[_{NP}$ the ring] $[_{PP}$ $[_{P}$ to] $[_{NP}$ Ann]]]
b. $[_{V'}$ $[G_i$ give] $[_{NP}$ Ann] $[_{PP}$ $[_{P}$ t_i] $[_{NP}$ the ring]]]

With this representation, Pesetsky tries to explain several restrictions for the Dative Alternation. First, the meaning of G excludes verbs “of con-

tinuous imparting of force", similar to *at* (cf. *throw the box at Sue / *pull the box at Sue*). This is a stipulation, there is no independent evidence given. Second, verbs expressing the communication of a proposition (*say, assert, claim*) involve "a communicative act that is supervised (or accompanied) by the hearer", which is similar to verbs expressing a continuous imparting of force. But it is unclear why verbs like *tell, write, read, cite* are different. Third, manner-of-speaking verbs (*whisper*) are similar to verbs that communicate a proposition: it is relevant to render the information that is expressed literally. It is unclear how to understand this point; a speaker certainly does not lie by saying *Ann whispered to Beth that she wanted to leave*, even though what she actually said was *Let's go!*

4 A New Explanation

In the following I will develop an analysis of the restrictions for the Dative Alternation which is based on Pinker's but tries to replace some of his narrow-range semantic conditions by more general ones.

4.1 Types of Manner: *throw* vs. *pull*.

Pinker has observed that for verbs entailing simultaneity of the causing event and the movement event (i.e. with verbs that express a continuous imparting of force, like *pull*), the DO frame is ruled out (cf. (26)). This is in contrast with verbs that do not entail that, like *throw*.

I would like to relate this to the semantic representation Pinker suggested in (24): By imposing simultaneity, verbs like *pull* require that the semantic representation contains a movement event; hence they are fine with the PO frame, but not for the DO frame, which does not refer to a movement event. Verbs like *throw*, on the other hand, just express a condition for the causing event. While an act of throwing is usually followed by a movement, it does not impose any conditions on this movement event. We can *throw* a ball horizontally, or up, or down, or even against a very close wall so that it hardly moves at all.

We can express this difference as one involving the **manner** component of these verbs. While the manner of *pull* requires a specification of the causing event and the movement event, and hence is a relation between two events, the manner of *throw* requires just a specification of the causing event. We can characterize these verbs, still rather informally but sufficiently for our purposes, as follows:

(28) MANNER(*pull*)(e, e′):
e: the causing event (application of continuous force to an object, directed towards the causer).
e′: the movement of the object, caused by e.
Condition: Each part of e corresponds to a part of e′ and vice versa.

(29) MANNER(*throw*)(e):
e: an event in which an agent accelerates and then releases an object.

The condition that is given informally in (28) can be spelled out as a **homomorphism** between the causing event and the movement event.

(30) If MANNER(*pull*)(e, e′), then for all x, x′ ≤ e and y, y′ ≤ e′:
a. If y ≠ y′, MANNER(*pull*)(x, y), MANNER(*pull*)(x′, y′), then x ≠ x′
b. If MANNER(*pull*)(x, y), MANNER(*pull*)(x′, y′), then MANNER(*pull*)(x ⊕ x′, y ⊕ y′).

Here, ≤ stands for the part relation, and ⊕ stands for sum formation. (30.a) says that distinct parts of the movement event correspond to distinct parts of the causing event. And (b) says that the sum of two parts of the causing event corresponds to the sum of two parts of the moving event. These conditions clearly do not obtain for *throw*: For example, if a box is thrown at as a consequence moves along a path ABCDE, then the parts AB and CD do not correspond to distinct throwing events.

Let me use the following representation schemes for the PO frame and the DO frame, which will be sufficient for our purposes:

(31) a. PO:Ann … the box to Beth.
e e′[AGENT(e, Ann) ∧ THEME(e, box) ∧ CAUSE(e, e′)
∧ MOVE(e′) ∧ THEME(e′, box) ∧ GOAL(e′, Beth)].

b. DO:Ann … Beth the box
e s[AGENT(e, Ann) ∧ THEME(e, box) ∧ CAUSE(e, s)
∧ s: HAVE(Beth, box)]

The PO frame says that there is an event e, with Ann as agent and the box as theme, that causes another event e′ that is a movement event with the box as theme and Beth as goal. The box is the theme of both events, and surfaces as the direct object. The DO frame says that there is an event e, with Ann as agent and the box as theme, that causes a state s of Beth having the box. It is a causative construction, ‘Ann causes Beth to have the box’, and one typical syntactic realization of such constructions is that the causee, Beth, surfaces as the direct object.

(31.a) and (b) are general schemes that have to be filled out with lexical information pertaining to particular verbs. One way to do so by adding a manner component. I have argued that different types of manner impose different requirements; in particular, verbs like *throw* express a condition on a causing event only, whereas verbs like *pull* express a condition on a causing event and a movement event. It follows that the manner of *throw* can be specified for both the DO frame and the PO frame, whereas the manner of *pull* can be added only to the PO frame:

(32) a. Ann threw the box to Beth.
e e′[AGENT(e, Ann), **MANNER(*throw*)(e)**, THEME(e, box), CAUSE(e, e′), MOVE(e′), THEME(e′, box), GOAL(e′, Beth)]

b. Ann threw Beth the box.
e s[AGENT(e, Ann), **MANNER(*throw*)(e)**, THEME(e, box), CAUSE(e, s), s: HAVE(Beth, box))]

(33)a. Ann pulled the box to Beth.
e e′[AGENT(e, Ann), **MANNER(*pull*)(e, e′)**, THEME(e, box), CAUSE(e, e′), MOVE(e′), THEME(e′, box), GOAL(e′, Beth)]

b. *Ann pulled Beth the box.
(There is no movement event; MANNER(*pull*) cannot be expressed.)

The restrictions for the Dative Alternation then follow from the semantic representation of the PO frame and the DO frame, together with the semantic representation of the manner of *throw* and *pull*. These restrictions are not due to idiosyncratic narrow-range rules, but follow from essential semantic requirements.

4.2 Bringing and Giving

Pinker treats *bring* as an apparent exception: It is a verb that could be understood as implying continuous imparting of force, yet it allows for the DO frame. He claims that the deictic nature of this verb exempts it from the general rule, without argument why this should be so.

I follow Pinker in assuming that it is the deictic nature of *bring* that is responsible for its syntactic behavior. However, I think that this follows from the general representation of the PO and DO frame, and the specification of that deictic nature, that *bring* is compatible with both constructions. What is crucial for the lexical semantics of *bring* is not a particular manner, but that the object that is brought has the **same location as the agent** during the causing event. As both the PO frame and the DO frame contain a causing event with an agent in their representation, *bring* is compatible with either one. In (34), PLACE(e)(x) is the place or path of x during the event e.

(34) a. Ann brought the box to Beth.
e e′[AGENT(e, Ann) THEME(e, box)
PLACE(e)(box) = PLACE(e)(Ann)]
CAUSE(e, e′) MOVE(e′) THEME(e′, box) GOAL(e′, Beth)]

b. Ann brought Beth the box.
e s[AGENT(e, Ann) THEME(e, box)
PLACE(e)(box) = PLACE(e)(Ann)]
CAUSE(e, s) s: HAVE(Beth, box))]

Another verb that occurs in both constructions is *give*. Again, this is possible because *give* does not express a particular manner, let alone one that imposes restrictions on a movement event. It just expresses that the object given is in the possession of the recipient at the end of the causing event. In (35), END(e) stands for the time of the end of the event e, respectively, and HAVE(t, x, y) stands for the proposition that x has y at t.

(35) a. Ann gave the box to Beth.
e e′[AGENT(e, Ann) THEME(e, box)
HAVE(END(e), Beth, box)
CAUSE(e, e′) MOVE(e′) THEME(e′, box) GOAL(e′, Beth)]

b. Ann gave Beth the box.
e s[AGENT(e, Ann) THEME(e, box)
HAVE(END(e), Beth, box)
CAUSE(e, s) s: HAVE(Beth, box))]

One might perhaps also want to require that the Ann possesses the box at the time of the starting event. While this is certainly typically the case, it does not seem a strict requirement. Ann can give Beth things that do not belong to Ann, and the reading of *Ann gave Beth an idea* discussed for (20.a), where *Ann* is not an agent but a causer, also suggests this.

In (35.b), possession is expressed twice, once by virtue of the DO frame, and then by the particular semantics of *give*. This does not constitute a problem, as the specific contribution of *give* is compatible with the meaning of the DO frame.

4.3 Verbs of Communication

Let us now turn to the various classes of verbs expressing communicative acts. We start with **manner of speech** verbs, like *yell, shout, whisper*. They are quite similar to *pull*, insofar as they express a homomorphism between the causing event (the exerting of one's articulatory organs in a particular manner) and the movement of information from the speaker to the addressee. They cannot be just expressed as a condition of the causing event

itself. Consider the following situation: Ann and Beth that are invited to a party agree that whispering is a sign that one should leave soon. Ann, in a conversation about wine, whispers *That's a good one*, and Beth understands this as a signal to leave. We cannot report this by saying, *Ann whispered to Beth that one should leave*, which should be possible if only the manner of the causing event is at stake. The problem is that in this scenario, different parts of the whispering do not correspond to different parts of the information transfer. This suggests the following analysis for the manner of a speech verb like *yell*:

(36) MANNER(*yell*)(e, e′):
e: an event of exerting one's articulatory organs with great intensity
e′: an event in which information moves from a speaker to a hearer, caused by e.
Condition: Each part of e corresponds to a part of e′ and vice versa.

As linguistic information is embedded in time, parts of the movement correspond to parts of the content of information, hence parts of the yelling activity correspond to parts of the information. This specification of the manner of *yell* predicts that it does not allow for the DO frame:

(37) a. Ann yelled the news to Beth.
e e′[AGENT(e, Ann), **MANNER(*yell*)(e, e′)**, THEME(e, news), CAUSE(e, e′), MOVE(e′), THEME(e′, news), GOAL(e′, Beth)]

b. *Ann yelled Beth the news. (No movement event).

We turn now to verbs expressing the **utterance of a proposition**, like *say, assert,* and *claim*. We can follow Pesetsky's notion of 'supervised communicative acts' and explain why they do not allow for the DO frame in the same way as we did with manner-of-speech verbs. To supervise a communicative act means that the parts of the causing act (the utterance event that happened under the cognitive control of the speaker) must be mapped to the parts of the information transfer.

But why, then, is *tell* different? Notice that *say, assert* and *claim* do not guarantee that the intended recipient actually understands the proposition. This means that the recipient does not necessarily "have" the proposition, which is a necessary meaning component expressed by HAVE in the DO frame. However, the verb *tell*, when subcategorizing for a proposition, expresses that the addressee of the reported act of communication actually understood the proposition (i.e., "possesses" it); hence it occurs in the DO frame, which expresses this explicitly.

What about verbs like *read* and *quote*, and also *tell* (when subcategorizing for an NP) and perhaps also *show*, which occur in both constructions? We can analyze them as not expressing any particular manner, but rather as introducing selectional restrictions for NP_2 — written text for *read*, text uttered previously for *quote*, spoken text for *tell*, and visually observable objects for *show*. Consider the following analysis of *read*:

(38) a. Ann read the news to Beth.
e e′[AGENT(e, Ann), THEME(e, news), **WRITTEN_TEXT(news)**, CAUSE(e, e′), MOVE(e′), THEME(e′, news), GOAL(e′, Beth)]

b. Ann read Beth the news.
e s[AGENT(e, Ann), THEME(e, news), **WRITTEN_TEXT(news)**, CAUSE(e, s), s: HAVE(Beth, news)]

Verbs that identify a **means of communication** like *fax* and *phone* also occur in both constructions. They express a manner, but if the theory developed here is right, they cannot involve a homomorphism between the causing event and the movement event. Indeed, they probably only express a restriction for the causing event, and hence are similar to verbs like *throw*. The following examples show that they refer just to the initial phase of information transfer, and not necessarily to the whole transfer process:

(39) a. Ann faxed Beth the results. Actually, Beth's secretary got the fax, and he phoned them to Beth.

b. #Ann phoned Beth the result. Actually, she faxed them to Beth's secretary, and he phoned them to Beth.

(39.a) is not contradictory, but (b) is. This predicts that verbs of manner of communication occur in both constructions:

(40) a. Ann faxed the news to Beth.
e e′[AGENT(e, Ann), **MANNER(*fax*)(e)**, THEME(e, news), CAUSE(e, e′), MOVE(e′), THEME(e′, news), GOAL(e′, Beth)]

b. Ann read Beth the news.
e s[AGENT(e, Ann), **MANNER(*fax*)(e)**, THEME(e, news), CAUSE(e, s), s: HAVE(Beth, news))]

In this section, then, we have seen that a proper understanding of the semantic contribution of the DO frame and the PO frame, together with the right analysis of the specific semantic contributions of verbs, leads to a predictive account of the verbs that undergo the Dative Alternation. Let us now turn to consequences of this analysis for lexical representation.

5 Some Consequences for Lexical Representations

We have argued that important restrictions for the Dative Alternation follow from the fact that certain verbs (like *pull*, *yell*) involve a condition that relates the causing event and the movement event. This relation could be expressed in semantic representations like (33) because the manner component of *pull* occurred in the scope of existential quantifiers for the causing event and the movement event, and so it could access them both.

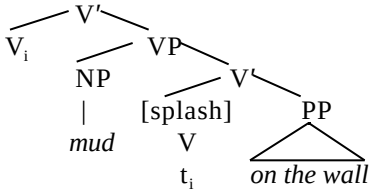
Many frameworks for the representation of lexical information are inspired by models of syntactic representation, and the question is whether the conditions for the Dative Alternation discussed in Section 4 can be dealt with in such frameworks as well. In any case, this has not been done so far. For example, Pinker (1989: 218) has to resort to an ad-hoc representational dimension in order to express the contrast between *pull* and *throw*.

Perhaps the most ambitious project to express lexical semantics in syntactic terms is due to Hale & Keyser (1993). They did not deal with the Dative Alternation itself. But consider their analysis of the inchoative alternation with verbs like *splash* and *smear* that, in their transitive form, describe the application of substance to an object.

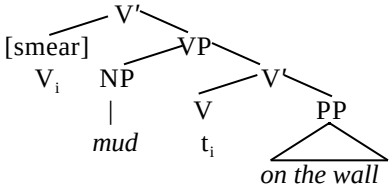
(41) a. Ann smeared mud on the wall.
b. Beth splashed mud on the wall.

Hale & Keyser analyze these verbs as implying Larsonian VP-shell structures. The agent argument is c-commanded by the upstairs V′ node, whereas the theme argument is c-commanded by the downstairs V′ node, which also dominates the goal. The upstairs V′ represents the activity expressed by the verb, i.e. what the agent is doing; the downstairs V′ represents the path that the object is taking. Now, there is a difference between *splash* and *smear*. For *splash*, the manner specification concerns an internal property of the movement of the mud, independent of the agent. Hence this manner has to be specified with the downstairs V. For *smear*, the manner specification concerns a particular type of activity of the agent, which has to be expressed at the upper V node.

(42) splash mud on the wall



smear mud on the wall



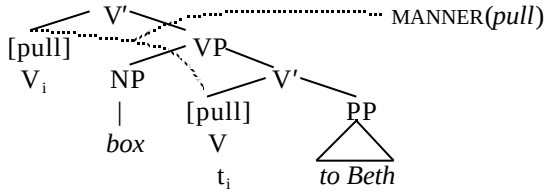
This representation has interesting consequences for the inchoative alternation. For the inchoative form, the agent argument is missing (e.g., *Ann opened the door – the door opened*). In Hale & Keyser's representation, the upper V′ node is removed. It follows that manner specifications that were specified at the upper V cannot be expressed anymore. And this is exactly what we find:

(43) a. The pigs splashed mud on the wall.
b. Mud splashed on the wall.

(44) a. We smeared mud on the wall.
b. *Mud smeared on the wall.

Could we express the restrictions for the Dative Alternation in a similar way? I do not think so. The problem is that manner for verbs like *pull* would have to be expressed at two distinct nodes:

(45) (Ann) pulled the box to Beth



The only way to express components like the manner of a verb is by anchoring them at a particular syntactic node. By this, the analysis of the restrictions for the Dative Alternation developed in Section 4 cannot be transplanted to a syntactic theory of lexical representation.

See Kiparsky (1997) for other arguments that lexical meaning cannot be captured by syntactic representations , but rather belong to a level of description of Semantic Form that follow regularities that are special to this level (cf. Bierwisch & Schreuder (1992), Wunderlich (1997)). We have seen that one important property on this level could be formulated in terms of a homomorphism (cf. (30)); there is evidence for homomorphisms in lexical semantics in other areas, like aspectual composition (Krifka 1992) and resultative constructions (Rappaport-Hovav & Levin 1998).

6 Conclusion

I have argued in this article that the restrictions for the Dative Alternation follow more smoothly from the semantic representation of the DO and PO constructions than previously thought. One task at this point is to investi-

gate whether other transitivity alternations can be explained in similar ways. For example, the two constructions also occur for the benefactive alternation (*carve a toy for Ann / carve Ann a toy*), and we would assume that the DO construction implies possession in both cases, whereas the PO does not, but rather expresses, by the preposition *for*, a goal-like notion.

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