

Lexical Representations and the Nature of the Dative Alternation

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1. Setting the Stage

The Dative Alternation involves the variation between the double object (DO) construction and the prepositional object (PO) construction:

- (1) a. DO construction: *Ann gave Beth the car.*
NP₀ V NP₁ NP₂
- b. PO construction: *Ann gave the car to Beth.*
NP₀ V NP₂ to NP₁

What is the nature of this relationship? (Cf. Rappaport Hovav & Levin (2001)):

View 1: Monosemy -- The verb in DO and PO means the same

View 1a: DO and PO are related by syntactic transformations

Cf. Larson (1988), Aoun & Li (1989):

- (2) a. Larson 1988: PO basic, DO derived like passive
(promotion of *Beth* to embedded subject, demotion of *the car* to adjunct)
[_v give₁[_{VP} *the car* [_v t₁[_{PP} to *Beth*]]]] [_vgive₁[_{VP} *Beth*₂ [_v[_v t₁ t₂] *the car*]]]]
- b. Aoun & Li (1989): DO basic, PO derived
[_{VP} give [_{SC} *Beth* [_{VP} e *the car*]]] [_{VP} give [_{SC} *the car*₁ [_{VP} [_{VP} e t₁] to *Beth*]]]]

View 1b: DO and PO are possible argument expressions of the same verb meaning

Cf. Butt, Dalrymple & Frank (1997).

- (3) -roles of verb: *give* (AGENT, THEME, GOAL)
Possible realization of -roles: THEME: (SUBJ), OBJ, OBJ_{THEME};
GOAL: (SUBJ), OBJ, OBL_{GOAL}
Ranking of grammatical functions: (SUBJ) > OBJ > {OBJ, OBL}
Grammatical functions in DO and PO constructions:
send [*Mary*]OBJ [*a letter*]OBJ_{THEME}, *send* [*a letter*]OBJ [*to Mary*]OBL_{GOAL}
Both constructions are ranked equal, as OBJ and OBL are ranked equal.

Problems of View 1:

Numerous **lexical restrictions** (cf. Green (1974), Oehrle (1976), Gropen, Pinker, Hollander, Goldberg, & Wilson (1989), Pinker (1989), Levin (1993), Pesetsky (1995)).

- (4) a. PO, but not DO:
Ann pulled the cart to Beth / **Ann pulled Beth the cart.*
- b. DO, but not PO:
Ann denied Beth the ice cream. / **Ann denied the ice cream to Beth.*

Meaning differences between both constructions:

- (5) *Ann sent a package to London.* / **Ann sent London a package.*

The dative alternation was discussed extensively as a model problem of **language acquisition**: How do children learn the various restrictions to this construction (Braine (1971), Baker (1979), Gropen et al. (1989), Snyder & Stromswold (1997).

View 2: Polsemy -- The verb in DO and PO has systematically different meanings

Cf. the above and Jackendoff (1990), Speas (1990), Goldberg (1995), Harley (1997))

- (6) a. Pinker (1989):
DO: [_{EVENT} give [*Ann Beth* [_{STATE} HAVE *Beth the car*]]]
PO: [_{EVENT} give [*Ann the car* [_{EVENT} GO *the car* [_{PATH} to [_{PLACE} *Beth*]]]]]]
- b. Speas (1990)
PO: *Ann* CAUSE [*the car* TO COME TO BE AT (POSSESSION) *Beth*]
DO: *Ann* CAUSE [*Beth* TO COME TO BE IN STATE (OF POSSESSION)]
BY MEANS OF [*Ann* CAUSE [*the car* TO COME TO BE AT (POSS) *Beth*]]
- c. Pesetsky (1994); null preposition G
DO: [*give* [_{NP} *Beth*]GOAL [_{PP} G [*the car*]THEME]
PO: [*give* [_{NP} *the car*]THEME [_{PP} to [*Beth*]GOAL]]

The truth conditions of many verbs are similar in both constructions, which explains the apparent alternation. But in certain contexts meaning differences appear, and certain verbs may be compatible with only one of the construction, due to their inherent meaning.

View 3: The two constructions differ in their information structure

The DO/PO-alternation allows for shift of **focused** or **heavy constituents** to the right, satisfying a universal, functionally motivated tendency (cf. Erteschik-Shir (1979), Arnold, Wasow, Losongco, & Ginstrom (2000)):

- (7) A. *Who did he give the book?*
B. *He gave the book to Beth.* / dispreferred: *He gave Beth the book.*
- (8) a. dispref.: *Chris gave a bowl of Mom's traditional cranberry sauce to Terry.*
b. *Chris gave Terry a bowl of Mom's traditional cranberry sauce.*

This view is easily compatible with Views (1.a,b), which specify possible ways of how the word-order differences come about.

But it is also compatible with Views (2): Many verbs allow for both constructions with little if any truth-conditional difference; this can be exploited by universal principles of information structure.

Goals of the talk

I will defend view (2) by explaining

- why certain verbs are restricted to the PO construction (cf. Krifka 1999);
- why certain verbs are restricted to the DO construction;
- why in many situations the truth conditions of the two constructions are similar or even identical.

2. Lexical Restrictions for Dative Alternation

2.1 Possession

The DO construction involves a proposition of NP₁ **possessing** NP₂ after the verb event. NP₁ (the possessor) must satisfy the **selectional restrictions** for possession:

- (9) a. *Ann sent a package to London.*
b. **Ann sent London a package.* (London does not **have** the package)
(o.k. if *London* is a metonym for an organization)

The relevant notion of possession includes possession of **information**:

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

The relevant notion of possession also includes **future** possession:

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

2.2 Movement

In the PO construction NP₂ must undergo **movement**:

- (12) a. *The explosion gave Beth a headache.*
b. **The explosion gave a headache to Beth.*
- (13) a. *His behavior gave Beth an idea.*
b. **His behavior gave an idea to Beth.*

But this may be overturned by informational structure (cf. Snyder (2001), after Rappaport Hovav & Levin (2001)):

- (14) *Nixon's behavior gave an idea for a book to every journalist living in New York City in the 1970s.*

2.3 Continuous imparting of force

In the DO construction the verb must not express a **continuous imparting of force** or **control** (cf. Pinker 1989):

- (15) a. *Ann kicked the ball to Beth.* (cf. also *hit, throw, fling*)
b. *Ann kicked Beth the ball.*
- (16) a. *Ann pulled the box to Beth.* (cf. also *push, lower, haul*)
b. **Ann pulled Beth the box.*
- (17) a. *Ann rode the horse to Beth.* c. *Ann walked the dog to Beth.*
b. **Ann rode Beth the horse.* d. **Ann walked Beth the dog.*

It is the situation-specific use that matters. E.g., *push* in soccer (Baker (1992)):

- (18) a. *Pelé pushed the ball to Maradona.*
b. *Pelé pushed Maradona the ball.*

Possible problem cases: *bring, carry* (Green (1974)):

- (19) a. *Ann brought the roses to Beth.* c. *Ann carried the roses to Beth.*
b. *Ann brought Beth the roses.* d. *%Ann carried Beth the roses.*

2.4 Communication verbs

Verbs of **manner of speaking** do not allow for the DO construction:

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

This is in contrast with many other **verbs expressing speech acts**:

- (21) 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 construction, and require a different word order for PO (Gropen et al. (1989)):

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

The exception to that is *tell* when embedding a clause:

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

Verbs referring to **means of communication** allow for both constructions:

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

2.5 Verbs of prevention of possession

Verbs that express prevention of possession only occur in DO variant:

- (25) a. *Ann denied Beth the icecream.*
b. **Ann denied the icecream to/(from/of) Beth.*

- (26) a. *Ann spared Beth the embarrassment.*
 b. **Ann spared the embarrassment to Beth.*

- (27) a. *The car cost Beth five thousand dollars.*
 b. **The car cost five thousand dollars to Beth.*

2.6 Morphophonological restrictions

Latinate verbs, often borrowed via French, often do not allow for the DO construction.

- (28) a. *Beth gave the sofa to the museum. / Beth gave them the sofa.*
 b. *Beth donated the sofa to the museum. / *Beth donated them the sofa.*
 (cf. also *report, explain, distribute, illustrate, recite, transport*)

But not all Latinate verbs follow this pattern, cf. *promise, offer*.

Notice that French lacks the DO construction; hence this is likely a vestige of the influence of French on English.

- (29) a. *Anne a donné la voiture à Beth.*
 b. **Anne a donné Beth la voiture.*

Grimshaw & Prince (1986) propose a **phonological** criterion: the DO construction 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 semantically motivated exception: Verbs that express a future possession allow for the DO construction (e.g., *bequeath, guarantee, reserve, assign, allot; refer, recommend, offer, promise*). Also, he finds that the Latinate verbs are typically more complex semantically (p. 123), cf. *give* vs. *donate, explain* vs. *tell, show*, etc.).

2.7 Semantic differences between DO and PO

DO often imparts a sense of **completion** that may be lacking with PO:

- (30) a. *Beth taught French to the students.* [possibly with no effect]
 b. *Beth taught the students French.* [the students learned it; Green (1974)].

- (31) a. *Ann threw the ball to Beth.* [possibly Beth didn't get it.]
 b. *Ann threw Beth the ball.* [Beth got it]

But Rappaport Hovav & Levin (2001) observe that even DO does not strictly entail completion:

- (32) *Ann threw Beth the ball, but it didn't reach her because of the strong wind.*

But this may be due to a general possible conative interpretation of telic verbs, marginally possible in English but less marginal in many other languages:

- (33) (?) *Ann copied the manuscript, but she didn't finish it.*

DO entails **existence** of NP₁:

- (34) a. *Ann told her sorrows to God.* [could be uttered by an atheist]
 b. *Ann told God her sorrows.* [implies that God exists]

3. Explaining the Restrictions: Previous Attempts

3.1 Pinker (1989)

Pinker (1989) assumes **two semantic representations**, roughly:

- (35) DO: NP₀ CAUSES NP₁ to HAVE NP₂
 PO: NP₀ CAUSES NP₂ to GO TO NP₁

These structures explain:

In DO: NP₁ must satisfy the selectional restriction for possession (cf. (9))

In PO: NP₁ undergoes a change of location (cf. (12), (13))

In DO: the intended goal is achieved, i.e. NP₁ possesses NP₂ (cf. (30), (31))

In DO: NP₁ exists (the existence of possessors, but not of goals, is presupposed) (cf. (34)).

If the verb explicitly stresses possession (e.g., for future possession), then this favors the DO construction (cf. exception to Latinate verbs, e.g. *reserve*).

But Pinker has to assume in addition a variety of **narrow-range rules**:

If speech act verbs contain a manner component, DO is not an option:

- (36) a. **Ann shouted Beth the news.* b. *Ann shouted the news to Beth.*

If causing event and moving event are simultaneous, DO is not an option:

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

But for *bring*, and for some speakers for *carry*, DO is possible again (cf. (19)).

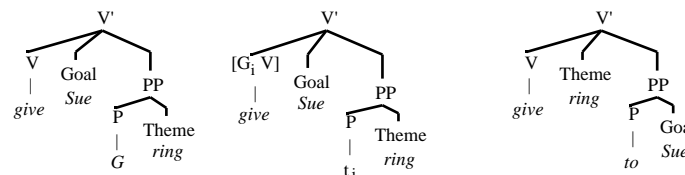
It is unclear how these additional rules are motivated by the proposed representation.

3.2 Pesetsky (1994)

Pesetsky (1995) analyzes the DO construction assuming a hypothetical preposition G which is incorporated into the verb and which alternates with *to* in PO:

- (38) *Bob gave Sue the ring.*

Bob gave the ring to Sue.



Pesetsky explains several restrictions of the dative alternation:

The meaning of G excludes verbs “of continuous imparting of force”, similar to overt *at* (cf. *throw the box at Sue / *pull the box at Sue*). (stipulative)

Verbs expressing the communication of a proposition (*say, assert, claim*) involve “a communicative act that is supervised (or accompanied) by the speaker”, which is similar to verbs expressing a continuous imparting of force.

Manner-of-speaking verbs (*whisper*) are similar to verbs that communicate a proposition: it is relevant to render the information that is expressed literally.

Problem:

- (39) *Ann whispered to Beth that she wanted to leave.*
(O.k. if she actually said: “Let’s go!”)

Harley (2000) interprets G as HAVE (expressing possession).

4. An Explanation for *DO

Krifka (1999) proposes an explanation for a large class of verbs that do not allow for the DO construction.

4.1 Lexical representation in event semantics

Proposed semantic representation:

Neo-Davidsonian semantics with events and states that are related to participants by thematic roles (cf. Krifka (1992) for telicity phenomena).

Decompositional semantics that distinguishes between causation events and caused eventualities (cf. Dowty (1979), Jackendoff (1990))

Schematic verb meanings of DO pattern and PO pattern:

- (40) DO: *Ann VERBed Beth the car.*
 e s[AGENT(e , Ann) THEME(e , car) CAUSE(e , s)
 s: HAVE(Beth, car)]

PO: *Ann VERBed the car to Beth.*
 e e [AGENT(e , Ann) THEME(e , car) CAUSE(e , e')
 MOVE(e) THEME(e , car) GOAL(e , Beth)]

Particular verb meanings are expressed by specifications of these schemes.

4.2 Verbs of continuous imparting of force

I follow Pinker’s explanation of (37). The crucial property that distinguishes *pull* from *throw*: For *pull*, but not for *throw*, **the causing event coincides with the moving event**.

The representation of the **manner** of *pull* needs a **specification of the causing event and the movement event**:

- (41) 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 ,
 such that there is a homomorphic mapping between e and e' .

The notion of **homomorphic mapping** can be spelled out as follows:

- (42) If MANNER(*pull*)(e , e'), then for all x , $x' \in e$ und y , $y' \in e'$:
 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*)($x = x'$, $y = y'$)

(a) Distinct parts of the moving event correspond to distinct parts of the causing event. (: part relation).

(b) The sum of two parts of the causing event corresponds to the sum of two parts of the moving event (: sum operation).

Such homomorphic mappings are important to express other lexical properties such as incremental themes (cf. Dowty (1991), Krifka (1989), Krifka 1992).

In contrast, representing the manner of *throw* **only requires a specification of the causing event**:

- (43) MANNER(*throw*)(e):
 e : an event in which the agent of e imparts force to the theme of e with the hands and then releases it.

This explains why *throw* is fine but *pull* is excluded for the DO construction. To specify the manner of *pull*, we **must refer to a movement event**, but the DO construction does not provide for that.

- (44) 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)]

- (45) 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.)

4.3 Indexical verbs: Bring and Carry

The verb *bring* does not express a manner of the causing event and/or the moving event. Rather, it expresses a property of the causing event: It is a moving event of the agent during which the location of the theme is the same as the location of the agent and which ends at the location of the other participant. As this is a property of the causing event only, *bring* occurs in both the PO and the DO pattern.

- (46) a. PLACE(e)(x) = the place (path) of x during the event e.
 b. END(e): The final part of the event e.
- (47) a. *Ann brought the box to Beth.*
 $e \ e \ [AGENT(e, Ann) \ \ THEME(e, box) \ \ CAUSE(e, e) \ \ MOVE(e) \ \ THEME(e, box) \ \ GOAL(e, Beth) \ \ MOVE(e) \ \ \forall e'' \leq e [PLACE(e'')(box) = PLACE(e'')(Ann)] \ \ PLACE(END(e), Ann) = PLACE(END(e), Beth)]$
- b. *Ann brought Beth the box.*
 $e \ s \ [AGENT(e, Ann) \ \ THEME(e, box) \ \ CAUSE(e, s) \ \ s: HAVE(Beth, box)] \ \ \wedge \ MOVE(e) \ \ \wedge \ \forall e'' \leq e [PLACE(e'')(box) = PLACE(e'')(Ann)] \ \ PLACE(END(e), Ann) = PLACE(END(e), Beth)]$

For speakers that accept *carry* in the DO pattern, this verb in addition expresses a property of the causation event.

- (48) a. MANNER(*carry*₁)(e):
 the Agent of e keeps the Theme of e from separating from the agent, typically by using some force or attention.
- b. MANNER(*carry*₂)(e, e):
 the Agent of e causes the Theme to undergo the movement e by moving along e and keeping the Theme from separating from the agent, typically by using some force or attention, such that there is a homomorphic mapping between e and e.

4.4 Verbs of communication

Manner-of-speech verbs occur in an intransitive use in which they specify a manner of speech production.

- (49) *Ann yelled.*
 $e \ [MANNER(yell)(e) \ \ AGENT(e, Ann)]$

In their transitive use, they are like *pull*: There is a homomorphism between speech production (e.g., the activity of yelling) and the transfer of information.

- (50) MANNER(*yell*)(e, e):
 e: an event in which the agent of e exerts his articulatory organs with great intensity
 e: an event in which information (the theme of e) moves to the goal of e, caused by e,
 such that there is a homomorphic mapping between e and e.

This predicts that these verb only occur in the PO pattern:

- (51) 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).

Speech act verbs like *tell, read, quote, recite* do not express any particular manner, but introduce selectional restrictions for NP₂ (also for *show*). Hence they occur in both DO and PO construction. In the following representation, ACTIVATE_INFO(e) indicates that e is an event in which the agent of e activates the information present in the theme of e.

- (52) a. *Ann read the news to Beth.*
 $e \ e \ [AGENT(e, Ann), \ \ THEME(e, news) \ \ CAUSE(e, e) \ \ MOVE(e) \ \ THEME(e, news) \ \ GOAL(e, Beth) \ \ ACTIVATE_INFO(e) \ \ \wedge \ WRITTEN_TEXT(news)]$
- b. *Ann read Beth the news.*
 $e \ s \ [AGENT(e, Ann) \ \ THEME(e, news) \ \ CAUSE(e, s) \ \ s: HAVE(Beth, news) \ \ ACTIVATE_INFO(e) \ \ \wedge \ WRITTEN_TEXT(news)]$

Verbs that identify a **means of communication** do not involve a homomorphism between the causing event and the movement event, but refer to the initial phase of the information transfer (similar to *kick*):

- (53) a. *Ann faxed Beth the results. Actually, Beth's secretary got the fax, and he e-mailed them to Beth.* [no contradiction]
 b. *Ann e-mailed Beth the result. Actually, she faxed them to Beth's secretary, and he e-mailed them to Beth.* [contradiction].
- (54) 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.*
 $e \ s \ [AGENT(e, Ann) \ \ MANNER(fax)(e) \ \ THEME(e, news), \ \ CAUSE(e, s), \ s: HAVE(Beth, news)]$

- (55) MANNER(*fax*)(e):
 e: an event in which the agent of e puts the theme of e into a fax machine and sends it.

With *phone*, the DO form is preferred; (54.b) is possible if Ann left a message on an answering machine:

- (56) a. *Ann phoned Beth the news.*
 b. **Ann phoned the news to Beth.*

Explanation: *phone* normally expresses instantaneous communication, that is, the addressee immediately “possesses” the message.

Verbs expressing **utterance of a proposition** (*say, assert, claim*) can be assimilated to manner of speech (Pesetsky's notion of ‘supervised’ communicative acts).

- (57) *Ann said to Beth that she came home at eight and watched the news on TV.*

Each part of the *saying* activity corresponds to a part of the movement of the proposition ‘she came home at eight and watched the news on TV’.

Alternatively, notice that these verbs do not guarantee that the intended recipient actually understands or accepts the proposition, which is a necessary property for the meaning component HAVE in the DO construction.

- (58) a. *Ann said Beth that it was raining.
not: [...s: HAVE(Beth, that it was raining)...]

The verb *tell*, when subcategorizing a proposition, expresses that the addressee of the reported act of communication actually understood the proposition (i“possesses” it); hence it occurs in the DO construction, cf. (23), which implies change of possession.

5. Transfer of Possession and Verbs of Deprivation

5.1 Verbs of transfer of possession

For the core verbs of **transfer of possession** (*give, sell, lend, promise...*) it seems natural to assume that the **DO frame is basic**. In particular, *give* arguably represents the pure scheme of DO (cf. (40)):

- (59) *Ann gave Beth the car.*
e s[AGENT(e, Ann) THEME(e, car) CAUSE(e, s) s: HAVE(Beth, car)]

Why do all verbs of transfer of possession (with the morphophonologically motivated exception of Latinate verbs) also allow for the **PO frame**, with no truth-conditional difference?

Reason: Every transfer of possession entails an abstract **movement event** in the dimension of possession spaces.

- (60) s: ¬HAVE(x, y) and s : HAVE(x, y), and s follows s immediately
iff e[MOVE_{POSS}(e) THEME(e, y) GOAL(e, x)]

This supports the PO frame for verbs of possession transfer:

- (61) *Ann gave the car to Beth.*
e e [AGENT(e, Ann) THEME(e, car) CAUSE(e, e)
MOVE_{POSS}(e) THEME(e , car) GOAL(e , Beth)]

See Krifka (1998) for a generalization of the notion of movement and path.

Exception to equivalence of change of possession and movement in possession space: idiomatic uses like *give an idea, give a headache* (cf. (12), (13)) in which the theme does not just change possession but comes into existence. This is compatible with the DO frame but not with the PO frame, which requires that the theme first was somewhere else:

- (62) a. *Ann’s behavior gave Beth this idea.*
e s[Ann’s behaviour(e) CAUSE(e, s) s: HAVE(Beth, this idea)]
b. **Ann’s behavior gave this idea to Beth.*
e e [Ann’s behaviour(e) CAUSE(e, e)
MOVE_{POSS}(e) THEME(e , this idea) GOAL(e , Beth)]

The path of movements in possession spaces is degenerated and consists of two points only (Source, Goal), which explains why path-referring adverbials are out:

- (63) a. *Ann kicked the ball halfway to Beth.*
b. **Ann gave the ball halfway to Beth.*

5.2 Verbs of prevention of possession

Verbs of **prevention of possession** do not allow for the PO pattern:

- (64) a. *Ann denied Beth the icecream.*
b. **Ann denied the icecream to Beth.* (also *spare, cost(?)*)

Representation, general scheme: Negation of possession clause.

- (65) *Ann VERBed Beth the car.* (for verbs of prevention of possession)
e s[AGENT(e, Ann) THEME(e, car) CAUSE(e, s) s: ¬HAVE(Beth, car)]

Prevention of possession does not correspond to a movement in possession space. But shouldn’t we expect a frame in which such a movement is negated?

- (66) *Ann VERBed the car to Beth.* (for verbs of prevention of possession)
‘Ann caused that the car did not move to Beth’

If the relevant notion of CAUSE is one that relates two events (cf. (40)), then this cannot be expressed, as ‘the car did not move to Beth’ is not an event.

6. Conclusion, and Final Issues

6.1 Representational polysemy

The emerging pattern from the discussion above:

A verb that occurs in a DO pattern differs in its semantic representation from the same verb that occurs in a PO pattern. (Either the verb itself is polysemous, or the constructions contribute their own meaning to a uniform verb meaning.)

The two semantic representations often similar, and sometimes identical, truth conditions.

Therefore the Dative Alternation can be used for purposes of information structure in many (but not all) cases.

6.2 Basic and derived forms?

The view developed here is at odds with the idea that one form is derived (syntactically, semantically) from the other.

But it is compatible with the idea that one form is more basic than the other. There is evidence for:

Verbs that are basically causative movement verbs which occur in the PO frame but also allow for DO (e.g., *kick, send, e-mail*).

Verbs that are basically causative verbs of change of possession which occur in the DO frame but also allow for PO (e.g., *give, promise, show*).

Evidence for this may come forward with verb-specific acquisition data.

6.3 Mapping to syntactic functions

We have assumed two distinct semantic representations for DO and PO:

- (67) DO: e s[AGENT(e, Ann) THEME(e, car) CAUSE(e, s)
s: HAVE(Beth, car)]
PO: e e [AGENT(e, Ann) THEME(e, car) CAUSE(e, e)
MOVE(e) THEME(e, car) GOAL(e, Beth)]

What are the principles of argument realization (for 'Beth' and 'the car')?

Linking for PO:

'the car' surfaces as direct object (it is the theme of both events).

'Beth' surfaces as *to*-phrase (this is the default realization of goals)

Linking for DO:

Two competing arguments for a primary grammatical function (subject):
'the car' is a theme; 'Beth' is animate.

In languages with a third primary grammatical function (dative),
'the car' is realized as direct object because it is a theme,
'Beth' is realized as indirect object because it is animate.

- (68) *Ann gab der Beth den Wagen.*
Ann gave the.DAT Beth the.ACC car

In English (only two primary functions):

'Beth' is realized as direct object (primary object) because it is definite,
'the car' is realized as secondary object.

Rappaport Hovav & Levin (2001): 'Across languages, in the double object variant the recipient often usurps coding properties of objects, i.e., word order, case marking, agreement markers' (cf. Dryer (1986)).

This peculiar objecthood shows up in restricted object properties (cf. Baker (1997)). Several processes appear to be restricted to themes, not objects:

- (69) a. Nominalization:
the giving of gifts to the homeless / **the giving of the homeless of gifts.*
b. Compound formation:
book-reading to children / **child-reading of books*
c. Secondary predication:
I gave the meat to Mary raw. / **I gave Mary the meat hungry.*

But others select for grammatical objecthood:

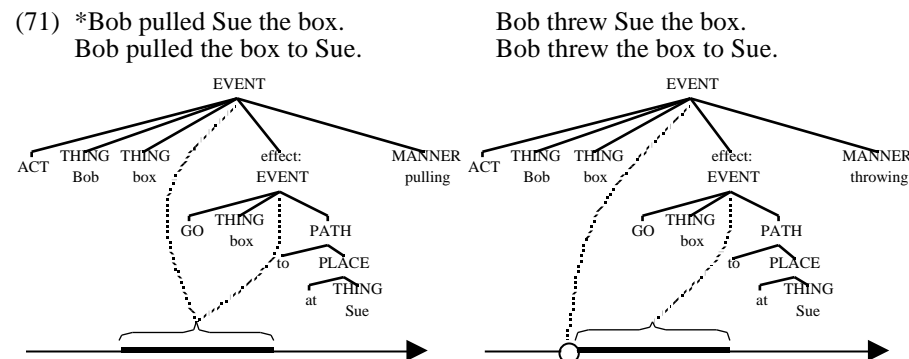
- (70) a. Passive:
Beth was given the car. / *The car was given to Beth.*
b. Topichood (cf. Jackendoff 1990 for data)
What Ann did for Beth was give her the car / ?*give the car to her.*
What Ann did with the car was give it to Beth. / **give Beth it.*

7. Appendix: 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.

7.1 Pinker's Representation

This relation cannot be expressed in **purely syntactic representations**. For example, Pinker has to resort to an ad-hoc representation dimension (mapping of events to an axis representin time):

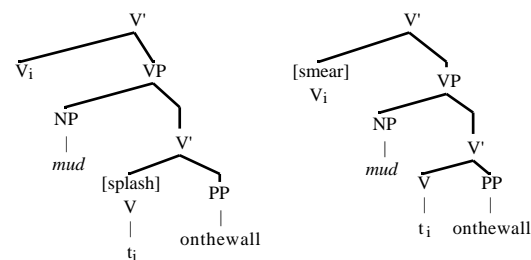


7.2 Hale & Keyser

Hale & Keyser (1992, (1997; Hale & Keyser (1993) develop a **syntactic** representation of lexical information. Lexical arguments are identified as positions in syntactic trees. This allows for simple rules for the mapping argument structure — syntax: argument structure **is** syntax.

Question: Can we express our findings in the theory of Hale & Keyser? They did not deal with the dative alternation directly. But see their explanation of certain restrictions for the **causative alternation** (*splash* vs. *smear*):

- (72) *splash mud on the wall* *smear mud on the wall*



Splash verbs: The manner specification concerns an internal property of the movement of water, independent of the agent, which has to be expressed at the lower V.

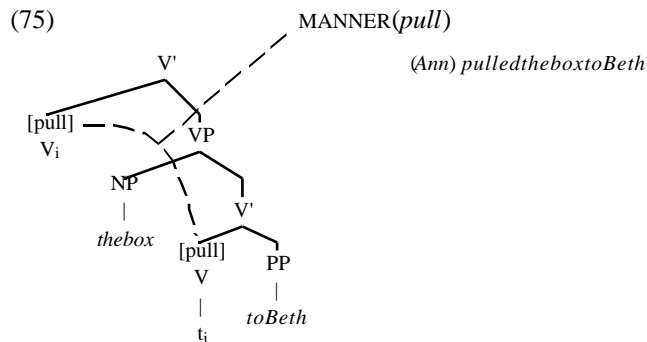
Smear verbs: The manner specification concerns a particular type of activity of the agent, which has to be expressed at the upper V node.

If the upper V node is missing, as in the inchoative form (b), the feature [*smear*] cannot be expressed:

- (73) a. *The pigs splashed mud on the wall.*
 b. *Mud splashed on the wall.*

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

Could we express the restrictions for dative alternation in a similar way? Problem: manner for verbs like *pull* would have to be expressed at two distinct nodes:



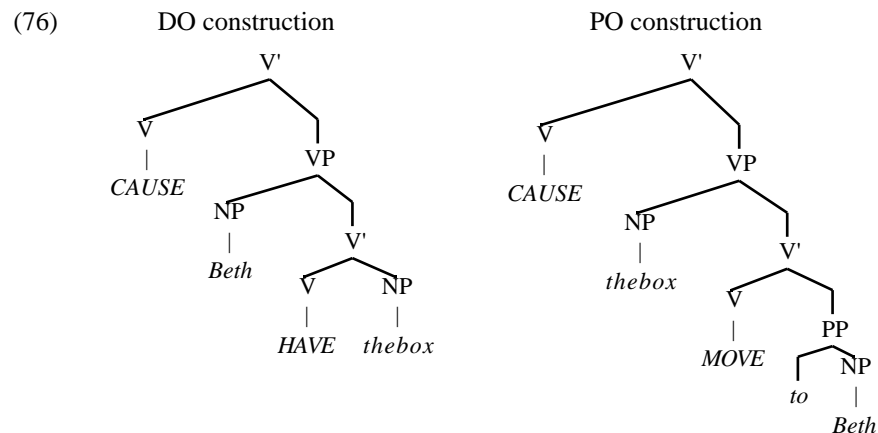
It appears that syntactic representations are not appropriate to express the manner component of verbs like *pull*.

Cf. also Kiparsky (1997), who argues 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 (e.g., Bierwisch (1986), Wunderlich (1997)).

7.3 Making Sense of Hale & Keyser

We can work with Hale & Keyser-style representations when we assume that they are **interpreted** (suggestion by Rajesh Bhatt). The upper V node in (75) can have access to the lower V node.

Assume the following basic representations:



Properties:

- Trees are structurally similar, but have categorically different nodes (NP vs. PP)
- V-nodes dominate primitives like *CAUSE*, *HAVE*, *MOVE*.

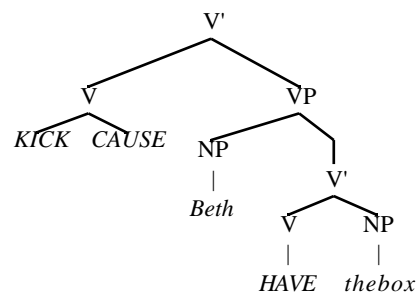
The semantic primitives are interpreted as follows (variables *v* stand for **eventualities**, generalizing over events *e* and states *s*).

- (77) a. *CAUSE*: $P \ x \ e \ v[e:CAUSE(x, P(v))]$,
 where “ $e:CAUSE(x, \)$ ” stands for: *e* is the event of *x* causing *P*.
 b. *MOVE*: $y \ z \ e[e:MOVE(z, y)]$,
 where “ $e:MOVE(z, y)$ ” stands for: *e* is an event of *z* moving along the path *y* (which is specified by the preposition and its argument).
 c. *HAVE*: $y \ z \ s[s:HAVE(z, y)]$,
 where “ $s:HAVE(z, y)$ ” stands for: *s* is a state of *z* having *y*.

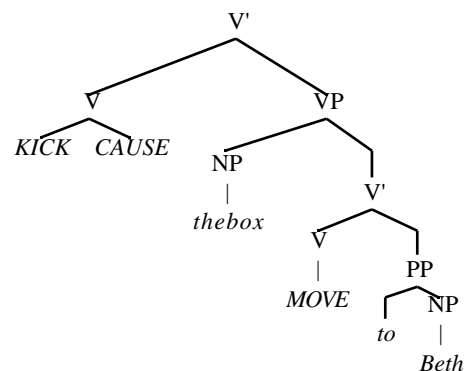
A particular verb specifies a general pattern in characteristic ways. In principle, the specification can happen in the lower V node or in the higher V node, depending which piece of information is modified (cf. *splash* / *smear*). The manner components we are interested in are always specified at the high node.

- (78) a. *KICK*: $R \ P \ x \ e \ v[MANNER(kick)(e) \ R(P)(x)(e)(v)]$
 b. *PULL*: $R \ P \ x \ e \ e [MANNER(pull)(e, e) \ R(P)(x)(e)(e)]$

(79) *kick Beth the box*



kick the box to Beth



Interpretation:

- (80) a. KICK(CAUSE)(HAVE(BETH)(THE BOX))
 = x e s[MANNER(*kick*)(e) e:CAUSE(x, s:HAVE(BETH)(THE BOX))]
 b. KICK(CAUSE)(MOVE(THE BOX)(TO(BETH)))
 = x e e [MANNER(*kick*)(e) e:CAUSE(x, e :MOVE(THE BOX)(TO(BETH)))]

x is filled by the subject argument; the eventuality variables are typically bound by existential closure.

Impossibility of **pull Mary the box*: Conflicting subcategorization restrictions, HAVE subcategorizes for state, MANNER(*pull*) subcategorizes for event:

- (81) a. *PULL(CAUSE)(HAVE(BETH)(THE BOX))
 = x e s[MANNER(*pull*)(e)(s) e:CAUSE(x, s:HAVE(BETH)(THE BOX))]
 b. KICK(CAUSE)(MOVE(THE BOX)(TO(BETH)))
 = x e e [MANNER(*pull*)(e)(e) e:CAUSE(x, e :MOVE(THE BOX)(TO(BETH)))]

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