

The Crosslinguistic Study of Dative Alternations: A Verb Sensitive Perspective

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1 Introduction: The origins of the dative alternation

Studies of English “dative” verbs and their counterparts in other languages typically focus on whether a language shows two morphosyntactic argument realization options for these verbs—a DATIVE ALTERNATION—and, if so, what these options are (e.g., Dryer 1986, Haspelmath 2004a, Margetts & Austin 2007).

For instance, in English verbs taking agent, recipient (possessional goal), and theme arguments, such as *give*, *send*, and *throw*, show such a dative alternation.

- (1) a. Terry gave Sam an apple. (double object construction)
b. Terry gave an apple to Sam. (*to* construction)
- (2) a. Martha sent Myrna a package.
b. Martha sent a package to Myrna.
- (3) a. Leigh threw Lane the ball.
b. Leigh threw the ball to Lane.

QUESTIONS: What gives rise to the dative alternation? Why is it that these verbs—or in some languages, a subset of them—have two argument realization options? And why is it that not all languages have the alternation?

PROPERTIES OF MOST PREVIOUS ANALYSES (particularly of English):

- provide a uniform analysis of all dative verbs
- focus on the association of the verb with certain morphosyntactic frames

RH&L (2008) argue that fine-grained semantic distinctions among different classes of dative verbs need to be taken into account for a satisfactory analysis of the alternation.

In their “verb sensitive” account, they distinguish among three types of representation:

- a verb’s core meaning
- the event types this meaning can be associated with
- the morphosyntactic frames that realize these event types

Most previous work does not adequately distinguish among these representations: it often treats the relation between a verb and an event type or an event type and a morphosyntactic frame as trivial.

PROPERTIES OF THE VERB SENSITIVE ACCOUNT:

- identifies two parts to the argument realization problem with dative verbs
 - associations between verbs and event types: (core) verb (meaning) \Rightarrow event type
 - associations between event types and morphosyntactic frames:
 - event type \Rightarrow morphosyntactic frame
- allows for different analyses for different verbs

We suggest more insight into crosslinguistic variation is possible by taking a comparable perspective with other languages, keeping these three representations and the relations among them in mind.

This perspective allows for two loci of crosslinguistic variation in the treatment of dative verbs:

— (i) in the associations between verb meanings and event types (see also Croft et al. 2001)

— (iii) in the associations between event types and morphosyntactic frames

- Understanding (i) requires distinguishing the core meaning components lexicalized by a verb from the meanings of the larger event descriptions the verb appears in.
- Understanding (ii) involves determining how languages exploit morphosyntactic means at their disposal in realizing the event participants (and, thus, the arguments of dative verbs).

GOALS OF THIS TALK:

— To present some results of studies of several languages from a verb sensitive approach.

— To show this approach yields insights into possible crosslinguistic differences and their sources.

— To stimulate further investigations of other languages that take into account verb sensitivity.

2 The verb sensitive approach to the English dative alternation

Like many others, RH&L (2008) take two event types to figure in the analysis of the alternation:

- (4) a. CAUSED POSSESSION: ‘x cause y to have z’ (y is a recipient)
b. CAUSED MOTION: ‘x cause z to be at y’ (y is a spatial goal)

In previous work, these two event types figure in the analysis of the alternation as follows:

all dative verbs ⇒	caused motion	and	causation of possession
	↓		↓
	to construction		double object construction

RH&L (2008) suggest that the mapping is more intricate, proposing a two-part analysis:

• VERB ⇒ EVENT TYPE:

— *give*: caused possession **only**.

— *throw* and *send*: caused motion and, for some argument choices, caused possession.

Each verb is representative of a larger set of verbs:

- (5) a. *give*-type verbs: *give, hand, lend, loan, rent, sell, ...*
b. *send*-type verbs: *mail, send, ship, ...*
c. *throw*-type verbs: *fling, flip, kick, lob, slap, shoot, throw, toss, ...*

NOTE: Unlike much previous work, this approach doesn’t take ALL dative verbs to have two distinct meanings (cf. Beck & Johnson 2004, Harley 2003, Krifka 1999, 2001, Oehrle 1976, Pinker 1989).

• EVENT TYPE ⇒ MORPHOSYNTACTIC FRAME IN ENGLISH:

— CAUSED POSSESSION: double object construction **and** *to* construction.

— CAUSED MOTION: *to* construction only.

NOTE: Unlike much previous work, this approach does not take the caused possession event type to be associated ONLY with the double object construction.

(6) A summary characterization of the verb sensitive approach:

	<i>to</i> construction	Double object construction
<i>give</i> verbs:	caused possession	caused possession
<i>throw</i> verbs:	caused motion or caused possession	caused possession
<i>send</i> verbs:	caused motion or caused possession	caused possession

THE UPSHOT: The English dative alternation does not have the same source with all verbs.
(See also Jackendoff 1990 for a similar analysis.)

2.1 Dative verb ⇒ event type

KEY ASSUMPTION: Verb meanings are bipartite: they consist of an association between:
 — one of a small set of event types (possibly defined in terms of primitive predicates)
 — one of an open-ended set of “roots” representing a verb’s core lexicalized meaning.
 (Grimshaw 2005, Hale & Keyser 2002, Jackendoff 1983, 1990, Marantz 1997, Mohanan 1994, Mohanan & Mohanan 1999, Pesetsky 1995, Pinker 1989, Rappaport Hovav & Levin 1998)
 (This association could be viewed in lexical or constructional terms.)

LEXICALIZATION refers to the components of meaning that are implicated in all uses of a verb, regardless of context.

THE MAJOR DIVISION:

CORE DATIVE VERBS: inherently lexicalize causing a change of possession,
 i.e. lexically select a recipient: e.g. (4a).

NONCORE DATIVE VERBS: do not lexicalize caused possession;
 many, but not all, are said to lexically select a spatial goal, e.g., (4b).
 (Will ignore verbs involving the communication of a message.)

• CORE DATIVE VERBS

Their meanings could be schematized as in (7), assuming a primitive predicate HAVE, inherently signifying possession, whether stative (e.g., English *have*, *own*) or not (e.g., English *give*, *sell*).

(7) [[x ACT] CAUSE [BECOME [y HAVE<POSS-TYPE> z]]]

— *Give*: As made explicit in Goldberg (1995, 2006), this verb’s root does not contribute anything beyond what is already encoded in the caused possession event type in (7).

— OTHER VERBS OF GIVING: Their roots are associated with further meaning components which refine on what is encoded in the caused possession event type: e.g., *rent* and *lend* specify that the possession is temporary in some sense. The annotation ‘poss[ession]-type’ on HAVE in (7) is intended to represent these additional meaning components.

• NONCORE DATIVE VERBS

— *send*-TYPE VERBS: Their meaning inherently involves causing a theme to move to a spatial goal.

— *throw*-TYPE VERBS: These are described as “verbs of instantaneous causation of ballistic motion” (Pinker 1989) or “verbs of setting something in motion” (Jackendoff 1990). They basically describe two-participant events in which one entity instantaneously imparts a force on a second entity, the force recipient. They differ in the manner in which the force is imparted or in the instrument used to impart the force.

The roots of *throw*-type verbs are associatable with the caused motion event type presumably because events of imparting force may cause the force recipient to move along a path to a goal.

(8) [[x ACT_{<THROW>}] CAUSE [y GO [PATH z]]]

Both *send*- and *throw*-type verbs have roots which may also be associated with the caused possession event type in English (Croft et al. 2001, Jackendoff 1990, Levin 2004; see also section 4).

(9) [[x ACT_{<THROW>}] CAUSE [y HAVE z]]

NOTE: Since in most relevant respects *send*- and *throw*-type verbs pattern together, we primarily focus on the latter in discussing ‘event type ⇒ morphosyntactic frame’.

2.1.1 Event type ⇒ morphosyntactic frame

KEY PROPOSAL: English *give*-type verbs are not associated with the caused motion event type, though many other accounts assume the contrary (e.g., Goldberg 1995, Harley 2003):
i.e. *give* verbs \nrightarrow caused motion event type

WHAT IS THE SIGNIFICANCE OF EXPRESSING THE RECIPIENT IN A *to* PHRASE?

TYPICAL ASSUMPTION: This possibility suggests *give*-type verbs select a spatial goal argument:
i.e. *to* is taken as an indication of ‘verb ⇒ event type’.

OUR PROPOSAL: Presence of *to* is NOT a reason to say English *give*-type verbs select a spatial goal.

WHY? There is no evidence that such verbs select such an argument, even in the *to* construction.

As shown by Jackendoff (1990) and RH&L (2008), in this construction, *give*-type verbs lack basic properties of *throw*-type verbs: when they appear in the *to* construction, the latter instantiate the caused motion event type, and, thus, select a spatial goal. A selection of the evidence presented by RH&L follows:

(10) Ability to select spatial prepositions beside *to*:

- a. Fred threw/kicked the ball under the porch/behind the tree/over the fence.
- b. *Fred gave the ball at/behind/over Mary.

(11) Ability to question the *to*-phrase with *where* (Levinson 2005):

- a. To whom/where did you throw the ball?
- b. To whom/*where did you give the ball?

2.1.2 Why do *give*-type verbs show two argument realization options in English?

QUESTION: If *give*-type verbs are only associated with the caused possession event type, why do they show the dative alternation?

PROPOSAL: With these verbs, the dative alternation reflects alternate realizations of the caused possession event type due to the availability of two realizations for recipients.

WHY ARE TWO REALIZATIONS OF THE RECIPIENT AVAILABLE?

Recipients meet the semantic characterizations associated with two syntactic realizations.

- THE FIRST OBJECT IN THE DOUBLE OBJECT CONSTRUCTION: It is dedicated to the expression of a “projected possessor” (Goldsmith 1980:429; see also Goldberg 1995, Green 1974, Oehrle 1976, Pinker 1989). A recipient, as a generally animate entity capable of possession, can be expressed as the first object.

- THE OBJECT OF *to*: It is much less semantically restricted than the first object and indicates a wide range of argument types, broadly falling under semantic categories covered by the dative and allative cases in other languages, including recipients, spatial goals, and some arguments with less clear categorizations (e.g., *yield to*, *submit to*, *surrender to*, *subject to*).

Recipients may be realized as spatial goals are—as objects of the allative preposition *to*—since by the Localist Hypothesis (Gruber 1965, Jackendoff 1972, 1983) they may be seen as a kind of goal.

ASIDE—A CONSEQUENCE: The first object is compatible with a subset of argument types found with *to*: arguments that can be realized as first object can appear as object of *to*, but many arguments that can appear as object of *to* cannot appear as first object: e.g., a purely spatial goal.

(12) We sent the package to the border/*We sent the border the package.

WHY DOES ENGLISH HAVE THESE ALTERNATE OPTIONS FOR EXPRESSING RECIPIENTS?
(After all, many languages have a single option and, consequently, lack a dative alternation.)

English surface word order has two functions: encoding argument realization and encoding information structure, with given information preceding new information.

THE CONSEQUENCE: English needs two constructions: one where the recipient precedes the theme and one where the theme precedes the recipient. The double object and *to* constructions fill this need.

Studies of texts confirm the distribution of the constructions is largely governed by information structure considerations, interacting with heaviness considerations (e.g., Davidse 1996, Erteschik-Shir 1979, Givón 1984, Polinsky 1996, Ransom 1979, Snyder 2003, Thompson 1990, 1995, Wasow 1997, 2002).

3 (Un)attested patterns of event type ⇒ morphosyntactic frame

The association between the two event types and morphosyntactic frames is a possible locus of crosslinguistic variation as the available frames depend on the resources of particular languages.

STARTING POINT: Assume that the same associations of dative verb types and event types hold across languages; we return to crosslinguistic variation in this association in section 4.

THE ASSOCIATION OF VERBS WITH EVENT TYPES:

— *give*-type verbs: caused possession only

— *throw/send*-type verbs: caused motion and caused possession

This assumption gains support from a study of Hebrew and Russian, which reveals that these languages parallel English in ‘verb type \Rightarrow event type’ (Levin 2007).

We now examine some instances of ‘event type \Rightarrow morphosyntactic frame’.

3.1 Distinct morphosyntactic frames for the two event types

THE MORPHOSYNTACTIC PATTERN: A language has one morphosyntactic frame for the caused motion event type and a second frame for the caused possession event type, i.e. it has distinct markers for spatial goal and recipient.

PROPOSAL: Russian exemplifies such a language.

— The dative case marks recipients in the caused possession event type.

— The preposition *k* marks animate goals in the caused motion event type.

(Other prepositions may also be used to indicate spatial goal-like notions, particularly with inanimates.)

• *give*-type verbs may express their recipient using the dative case, but not with another case marker or adposition, such as the allative preposition *k*, used elsewhere with animates as spatial goals.

(13) Ja dal Ivanu knigu.
I.NOM gave Ivan.DAT book.ACC
‘I gave Ivan a book.’

(14) *Ja dal knigu k Ivanu.
I.NOM gave book.ACC K Ivan.DAT
‘I gave a book to Ivan.’ (intended meaning)

As these verbs are only associated with the caused possession event type, this suggests that the dative case is used to express recipients, but *k* is not.

• Although *k* may be found with animates, there is clear evidence that *k* is a spatial goal marker and NOT a recipient marker.

EVIDENCE: Animate goals that are not also recipients are marked by *k* and not by the dative case.

BACKGROUND: Animate goals are found with *send* and its translation equivalents: when such verbs take an animate theme, there is typically no possessive relation between the theme and the other non-agent argument; hence, only the caused motion event type is available.

AN EXAMPLE: If a teacher sends some children to the principal, the principal does not, as a result, have the children, while if someone sends the principal a letter, he does, as a result, have the letter.

- (15) a. The teacher sent the children to the principal.
 b. * The teacher sent the principal the children.
 c. * The principal got the children.

- (16) a. The teacher sent the letter to the principal.
 b. The teacher sent the principal the letter.
 c. The principal got the letter.

The unavailability of (15b) in English shows that *the principal* is a spatial goal and not a recipient.

Turning back to Russian, the dative is not found when *poslat'* 'send' takes an animate theme.

- (17) *Ja poslal učenikov direktoru.
 I.NOM sent students.ACC director.DAT
 'I sent the children to the director.'

To express the intended meaning the allative preposition *k* is used, consistent with the proposal that there is only a caused motion sense and no recipient is involved.

- (18) Ja poslal učenikov k direktoru.
 I.NOM sent students.ACC K director.DAT
 'I sent the children to the director.'

• Russian counterparts of *throw*, such as *brosat'* and *kinut'*, should be associated with both the caused motion and caused possession event types, and these verbs show a range of argument realization options.

— They may take a PP expressing a spatial goal, as expected given their association with the caused motion event type.

- (19) Ja kinul mjač v korzinku.
 I.NOM threw ball.ACC in basket.ACC
 'I threw the ball into the basket.'

— They may occur with a dative NP expressing a recipient, as expected given their association with the caused possession event type.

- (20) Ja kinul mjač Ivanu.
 I.NOM threw ball.ACC Ivan.DAT
 'I threw Ivan a ball.'

3.2 One morphosyntactic frame for the caused possession event type and a second open to both event types

THE MORPHOSYNTACTIC PATTERN: A language has one morphosyntactic frame dedicated to the caused possession event type and a second that may be used for either event type.

PROPOSAL: English exemplifies such a language.

— The first object expresses recipients in the caused possession event type.

— The preposition *to* marks spatial goals in the caused motion event type and recipients in the caused possession event type.

3.3 One morphosyntactic pattern for the caused motion type and a second open to both types

THE MORPHOSYNTACTIC PATTERN: Such a language would be a “mirror image” of English, with:
— one morphosyntactic frame dedicated to the caused motion event type
— a second morphosyntactic frame used for either event type.

EXAMPLE? We have not found any clear instances of this option; see section 3.6 for discussion.

3.4 A hybrid option: A split in the treatment of pronominals

THE MORPHOSYNTACTIC PATTERN:

- Pronominals show the Russian pattern.
- Nonpronominals show the “mirror image” of the English pattern.

PROPOSAL: This option is instantiated by Hebrew.

(The Hebrew discussion draws on Botwinik-Rotem 2003, Francez 2002, 2006.)

- Hebrew has a clitic *le-*, sometimes called a dative marker, with the following distribution:
 - it can appear with *give*-type verbs, which have the caused possession event type only, and, thus, select only recipients and not spatial goals,
 - it can appear with motion verbs, which select spatial goals, but not recipients.

(NOTE: In the examples, the Hebrew marker *le-* and a second, contrasting marker, the preposition *el*, are glossed as LE and EL, respectively.)

(21) Yosef natan tapuax le-dana.
Yosef gave apple LE-Dana
'Yosef gave an apple to Dana.'

(22) Yosef halax la-xeder.
Yosef walked LE.the-room
'Yosef walked into the room.'

- The distribution of Hebrew *le-* might seem reminiscent of English *to*, but the facts are more complicated: the “pronominal” form of *le-* has a distribution like the English first object or the Russian dative.

In Hebrew when the object of *le-* is pronominal, it occurs in an “inflected” form, e.g.:

- *le-* takes the form *lo* with a third person masculine singular object.
- *le-* takes the form *la* with a third person feminine singular object.

Crucially, the pronominal form of *le-* is only found with recipients and not with spatial goals: it is found with a *give*-type verb, but not a motion verb.

(23) Yosef natan la tapuax.
Yosef gave LE.3.f.sg apple
'Yosef gave her an apple.' (*give*-type verb—recipient)

(24) *ha-xeder_i Se Yosef halax lo_i
the-room that Yosef walked LE.3.m.sg
'the room that Yosef walked into.' (motion verb—spatial goal)

- There is a way of expressing the intended meaning of (24). Motion verbs can also be found with the preposition *el* replacing *le-*, without a change in meaning: compare (22) and (25).

(25) Yosef halax el ha-xeder.
 Yosef walked EL the-room.
 ‘Yosef walked into the room.’

- Returning to (24), its intended meaning is expressible using the pronominal form of *el*.

(26) ha-xeder_i Se Yosef halax elav_i
 the-room that Yosef walked EL.3.m.sg
 ‘the room that Yosef walked into.’

- The preposition *el*, however, can never replace *le-* with a *give*-type verb, and, as expected, pronominal *el* is not found with *give*-type verbs.

(27) *Yosef natan el Dana tapuax.
 Yosef gave EL Dana apple
 ‘Yosef gave Dana an apple.’

(28) *Yosef natan eleha tapuax.
 Yosef gave EL.3.f.sg apple
 ‘Yosef gave her an apple.’

- These observations support the more general proposal that *give*-type verbs take recipients, but not spatial goals.

A DISTRIBUTIONAL GENERALIZATION FOR HEBREW:

le- marks both recipients and spatial goals, while *el* is exclusively a marker of spatial goals.

A SECOND DISTRIBUTIONAL GENERALIZATION FOR HEBREW:

Only recipient uses of *le-* can be pronominalized; spatial goal uses cannot be:
 these are the characteristics of the first object in the English double object construction.

NOTE: The generalizations receive further support from *Salax* ‘send’ (Francez 2006, Levin 2007).

(29) A summary of the Hebrew data:

	pronominal <i>le-</i>	pronominal <i>el-</i>	nonpronominal <i>le</i>	nonpronominal <i>el</i>
<i>give</i> -type verbs:	caused possession	—	caused possession	—
<i>throw</i> -type verbs:	caused possession	caused motion	caused possession or caused motion	caused motion

3.5 A single morphosyntactic frame expresses both event types

THE MORPHOSYNTACTIC PATTERN: A language has a single morphosyntactic frame for the two event types as a consequence of having a single marker for both spatial goal and recipient.

EXAMPLE? We have not found any clear instances of this option.

NOTE: Finnish might appear to have this pattern: its allative case is used for goals and recipients. But actual distributional pattern is sensitive to the animacy of the non-theme, non-agent argument: the allative case is found predominantly with (extended) animate recipients and to some degree with inanimate—and not animate—goals (Kittilä 2007).

3.6 Discussion of crosslinguistic variation in ‘event type ⇒ morphosyntactic frame’

The attested patterns schematized:

(30)		Russian	English
	caused possession	A	A B
	caused motion	B	B
(31)		Hebrew pronominals	Hebrew nonpronominals
	caused possession	A	A
	caused motion	B	A B

3.6.1 Sources of the different patterns

THE MAJOR SOURCE: The morphosyntactic options available for expressing recipients and goals.

- Variation in case and adposition inventories, including the “semantic domains” of case markers or adpositions expressing recipients and spatial goals (Blansitt 1988).

EXAMPLE: English *to* covers both recipients and spatial goals, while the Russian preposition *k* is reserved for certain spatial goals, with the dative case being used for recipients, but never for purely spatial goals. The result is that in Russian, the caused motion event type has a morphosyntactic realization distinct from that of caused possession, contrasting with English, where it does not.

- The availability of a double object construction.

EXAMPLE: English has such a construction, which is dedicated to expressing caused possession.

NOTE: Levin (2006) argues that dative case-marked NPs are comparable to the first object in a double object construction, drawing on Siewierska (1998) and Gerdtz (1993). This approach is consistent with repeated observations that despite surface similarities with direct objects, recipients in the double object construction lack many direct object properties (e.g., Baker 1997, Hudson 1992, Maling 2001, Marantz 1993, Polinsky 1996, Ziv & Sheintuch 1979).

3.6.2 Insights that emerge from this way of laying out the data

- These studies show two sources for a dative alternation:
 - A verb may be associated with two event types, each with its own morphosyntactic realization (e.g., Russian)
 - An argument type specific to an event type may have two realizations (e.g., the recipient with English *give*)

A language may have one or both forms of the alternation: English has both; Russian only the first. WHY? As Russian has fairly free word order, unlike English, it allows either order of recipient and theme NPs without needing two realizations of the recipient.

- It is probably not an accident that when a language treats full NPs and pronominals distinctly, the pronominals pattern like Russian, rather than English.

Even in English, pronominals show a distribution that is reminiscent of the Russian pattern: pronominal recipients are overwhelmingly realized as first objects rather than as the objects of *to* (Thompson 1990, among others).

WHY? A recipient is most likely to take a special form when pronominal because recipients tend to be given in a discourse and pronouns also tend to express given material. So a recipient will probably be expressed as a pronoun more frequently and, following Haspelmath (2004b), frequency contributes to the rise of special forms.

- The apparently unattested hybrid pattern (section 3.3) may be unavailable because potential patterns of change in the semantic domains of cases and adpositions might preclude its emergence.

As Aristar (1996) discusses, markers used to indicate spatial goals may be extended to indicate recipients (presumably, by metaphorical extension); this could result in a language with the Russian pattern turning into a language with the English pattern. The reverse extension in meaning appears not to be found.

- The apparently unattested single-marker pattern (section 3.5) may be unavailable due to an apparent dispreference for necessarily having to rely on a single marker used for both animate goals and animate recipients.

More generally, further investigation is needed of the interactions of animacy considerations with the morphosyntactic realization of the event types.

4 Crosslinguistic variation in ‘dative verb \Rightarrow event type’

QUESTION: Are there differences in how verbs from distinct semantic classes are associated with the caused possession event type across languages?

A review of primary and secondary data from a range of languages suggests that noncore, unlike core, dative verbs, are not associated with the caused possession event type in all languages.

4.1 The starting point: The distribution of verbs in the English double object construction

To begin, consider the English double object construction: as it only expresses the caused possession event type, it can serve as a diagnostic for whether a verb is associated with this event type.

(32) Verbs found in the double object construction (based on Gropen et al. 1989:243-244):

- give-type verbs: give, pass, hand, sell, pay, trade, lend, loan*
- Verbs of future having: advance, allocate, allot, allow, assign, award, bequeath, forward, grant, guarantee, leave, offer, promise*
- send-type verbs: mail, send, ship*

- d. *throw*-type verbs: *fling, flip, kick, lob, shoot, slap, throw, toss*
 - e. Verbs of continuous causation of accompanied motion in a deictically specified direction: *bring, take*
- (33) Verbs not found in the double object construction (based on Gropen et al. 1989:244):
push-type verbs *carry, pull, push, schlep, lift, lower, haul*

(NOTE: “benefactive” and manner of speaking/communication examples are ignored; see Levin 2004 for brief discussion of the latter.)

These data suggest the verbs in (32) are associated with the caused possession event type, but those in (33) are not.

4.2 Beyond English: An implicational hierarchy of semantic verb classes

4.2.1 A first pass at a hierarchy of semantic verb classes

Croft et al. (2001) propose a hierarchy based on three verbs in English, Icelandic, German, Dutch:

- (34) Ditransitivity Hierarchy: ‘give’ < ‘send’ < ‘throw’
- (i) If there are constraints on the distribution of a ditransitive [= double object or dative] construction the construction will be associated with the higher end of the Ditransitivity Hierarchy;
 - (ii) If there are constraints on the distribution of an oblique [= allative] construction, especially a spatial oblique construction, the construction will be associated with the lower end of a Ditransitivity Hierarchy.
- (Croft et al. 2001:2)

(Kittilä (2006:23) can also be read as suggesting something like a ditransitivity hierarchy based on the morphosyntactic frames verbs are found in, with the order of verbs on the hierarchy taken to reflect their distance from a ditransitive prototype.)

The verbs in Croft et al.’s ditransitivity hierarchy are representative of three major classes of verbs that figure in lists of dative verbs across languages.

This hierarchy suggests that there is constrained crosslinguistic variation in ‘verb ⇒ event type’, on the assumption that a verb’s occurrence in the double object or dative construction can be taken as a proxy for its being associated with the caused possession event type.

4.2.2 A refinement of the hierarchy of semantic verb classes

We extend this survey to some other languages and show the additional data confirm (34) and begin to fill out the picture further (see also Levin 2004).

NOTE: The languages surveyed have double object constructions, as in English, or other syntactically comparable constructions: usually, involving a dative NP (Siewierska 1998; see section 3.6.1), but also a clitic doubled dative, as in Spanish (Bleam 2003, Demonte 1995); a genitive NP, as in Greek (Anagnostopoulou 2002); or pronominal *le-* as in Hebrew (see section 3.4).

Here we take these constructions as being dedicated to the caused possession event structure, though in some instances this assumption needs to be substantiated by further study.

	Greek	English Dutch	Warlpiri	Hebrew	Icelandic	Mandarin	Yaqui	Fongbe
<i>Give</i> -type	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Future having	Yes	Yes	ND	Yes	Yes	Yes	ND	ND
<i>Send</i> -type	Yes	Yes	Yes	Yes	Yes	No	No	ND
Bring/take	Yes	Yes	Yes	Y/N	Yes	No	ND	ND
<i>Throw</i> -type	Yes	Yes	Yes	Yes	No	No	No	No
<i>Push</i> -type	No?	No?	No	No?	ND	No	ND	ND

(ND = no data available; data sources: Dutch — Lamiroy (p.c.); Fongbe — Lefebvre (1994:117-118), Lefebvre & Brousseau (2002:472-473); Greek — Anagnostopoulou (2002:12-13); Icelandic — Barddal (2007), Mandarin Chinese — Chung & Gordon (1998:113), Grano (p.c.); Warlpiri — Legate (2003); Yaqui — Guerrero Valenzuela (2002, p.c.).)

(NOTES: In Hebrew, *le-* indicates sources with the verb ‘take’, but recipients with the verb ‘bring’; in Icelandic the theme of *throw*-type verbs is expressed in the dative case.)

The parallel distributional restrictions on the verbs extend to a very fine-grained level of detail: e.g., controversy about whether *push*-type verbs occur in the double object/dative construction.

AN EXAMPLE: Controversy whether *push*-type verbs occur in English double object construction:
YES — Green (1974:80, 85); NO — Pesetsky (1995:137), Pinker (1989:103, 110-111).

Examples occur in very large English text corpora (e.g., the Web; Bresnan & Nikitina to appear):

- (35) a. As player A pushed him the chips, all hell broke loose at the card table.
b. “Well ... it started like this ...” Shinbo explained while Sumomo dragged him a can of beer and opened it for him ...

Anagnostopoulou (2002) notes that intuitions concerning the Greek counterparts are unstable.

4.3 Interpreting the patterns

There is crosslinguistic variation in the distribution of semantic verb classes across the double object and dative constructions and, thus, in their association with the caused possession event type.

THE QUESTION: Why does the variation take the form of an implicational hierarchy?

PROPOSAL: The ordering of semantic verb classes in this hierarchy reflects how naturally the particular semantic verb type can be associated with the caused possession event type.

That is, as we now suggest, the semantic verb classes most often associated with this event type are those necessarily associated with it or most easily construed as fitting it.

A MORE DETAILED VIEW:

- *give*-TYPE VERBS: These verbs are naturally associated with the caused possession event type due to the very meaning they lexicalize:
 - the verb *give* itself simply instantiates the type without contributing additional information;
 - other verbs in this class contribute additional information about the nature of the event.

- **VERBS OF FUTURE HAVING:** Though the data on these verbs is incomplete, overall they pattern like *give*-type verbs. This is consistent with the claim that they also lexicalize caused possession, though modified by a particular “sublexical modality” (Koenig & Davis 2001; also Croft 2003): a modal, negation, or temporal operator.

EXAMPLE: “a promise entails a transfer of possession in models in which the set of circumstances is restricted to those in which people honor their promises” (Koenig & Davis 2001:85).

- ***send*-TYPE VERBS:** These verbs lexicalize caused motion and are naturally associated with the caused motion event type. However, as noted in section 2, these verbs may also be associated with the caused possession event type because, as Goldberg (1997) proposes, verbs may be integrated into event types via a force-dynamic relation—in this instance, a means relation. Presumably, though this option is not exploited in all languages, explaining their placement on the verb class hierarchy.

- ***throw*-TYPE VERBS:** These verbs basically describe two-participant events in which one entity instantaneously imparts a force on a second. As this second entity may be set in motion, these verbs may be associated with the caused motion event type, and, due to this association, also with the caused possession event type just as the *send*-type verbs are.

Presumably, *throw*-type verbs are below the *send*-type verbs in the verb class hierarchy as their association with the caused possession event type is less direct. Furthermore, as *throw*-type verbs lexicalize some manner, they are less likely to focus on the result, whether or not the event includes an intended possessor; in contrast, *send*-type verbs do not lexicalize a manner and so might more easily describe events with an intended possessor.

- ***push*-TYPE VERBS:** These verbs describe “continuous causation of accompanied motion in some manner” (Pinker 1989); like the *throw*-type verbs, they basically describe two-participant events of imparting force and do not lexically select a spatial goal. Again, as they describe events which can set a force recipient in motion, they can be associated with the caused motion event type.

Why, then, are they less likely than the *throw*-type verbs to also be associated with the caused possession event type? The reason might be that here caused motion generally requires the continuous intervention of the agent; unlike the *throw*-type verbs their meanings involves an event-to-event homomorphism (Krifka 1999) in that the action of the agent is reflected in the movement of the theme. This property may make them less likely to be used to describe an event with an intended possessor.

At least some instances of these verbs in the double object construction have properties that might facilitate their association with the caused possession event schema:

In (35a), the pushing event actually does not involve the continuous causation of motion, but rather the force sets the theme in motion, making it an event of imparting force as with a *throw*-type verb.

4.4 Is the ditransitivity hierarchy reflected elsewhere? Possibly

There are repeated observations that in some languages (e.g., some Bantu languages) certain dative verbs must be morphologically “marked” (e.g., by an applicative affix) when used in the double object construction—i.e. presumably when associated with the caused possession event type.

These studies also mention that in such languages the verb ‘give’ belongs to a small set of verbs that do not require the applicative affix to be found in the double object construction.

That is, it appears that such an affix only occurs with verbs lower on the verb class hierarchy.

5 Conclusions

- The inherent meaning of individual dative verbs has a greater contribution to make to the morphosyntactic expression of their arguments in English and other languages than most current accounts typically assume (Jackendoff 1990 being the exception).
- A better understanding of the attested range of crosslinguistic variation is available if there is separate consideration of: ‘verb \Rightarrow event type’ and ‘event type \Rightarrow morphosyntactic frame’.
- Due to their distinct inherent meanings, members of different semantic verb class show distinct associations with event types across languages, with the attested options appearing to support a verb class hierarchy.
- Specifically, *give*-type verbs are associated with the caused possession event type, while *throw*- and *send*-type verbs have caused motion and, in many languages, caused possession event types.
- These distributional similarities are not always immediately obvious because of differences in the morphosyntactic resources of languages.
- It will be important to fully delineate the space of morphosyntactic options found across languages for expressing caused motion and caused possession, in general, and the notions recipient and spatial goal, in particular.

Blansitt’s (1988) typological study of dative, locative, and allative case/adposition syncretisms would provide a productive starting point for doing this.

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