

# Syntactic Distribution of the Semantic Classes of Dative Verbs in English and Cantonese: A Crosslinguistic Perspective

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## Abstract

This paper examines the distribution of the semantic classes of dative verbs in syntactic constructions, focusing on data from English and Cantonese. While both languages have two dative constructions, the prepositional dative construction (PDC) and the double object construction (DOC), they differ as to the extent they extend these constructions to major dative verb classes. This paper proposes a unifying analysis of the syntactic distribution of the semantic classes of dative verbs in English and Cantonese. On the basis of a closer examination of semantic properties of dative verbs and constructions in the two languages, we argue that verb distribution in these languages can be accounted for in a unified way by general constraints on semantic compatibilities between verbs and constructions and the choice of cut-off points on an implicational hierarchy of ditransitive verbs.

## 1 Introduction

Dative verbs—verbs that take agent, recipient, and theme arguments—have received considerable attention in recent years from various theoretical and empirical perspectives. Previous studies of these verbs have made significant contribution to the study of the nature of verb meaning, constructional meaning and the relation between these two (Pinker 1989, Goldberg 1997, Harley 2002, Krifka 2004, Levin 2004, Rappaport Hovav & Levin 2008, Bruening 2010, Lee 2020). This paper examines the syntactic distribution of major semantic classes of dative verbs in English and Cantonese, and explores its implications for the study of crosslinguistic variation in verb distribution

in ditransitive constructions.

Dative verbs in English such as *give*, *send* and *throw* allow both argument realization options, as is illustrated with *give* in (1).

- (1) a. Ann gave Beth the key. (DOC)  
b. Ann gave the key to Beth. (PDC)

English is in sharp contrast to Cantonese, a language in which the DOC is lexically restricted to the verb *bei*<sup>2</sup> meaning ‘give’. While all Cantonese dative verbs may be found in the PDC where *bei*<sup>2</sup> functions as a dative marker, only the verb *bei*<sup>2</sup> ‘give’ may also be found in the DOC, as in (2) (Xu & Peyraube 1997, Tang 1998, Chan 2003, 2010, Chin 2010, 2011, among others).<sup>1</sup>

- (2) a. Ngo<sup>5</sup> bei<sup>2</sup> zo<sup>2</sup> jat<sup>1</sup> zi<sup>1</sup> bat<sup>1</sup> keoi<sup>5</sup> (DOC).  
I give Perf one Cl pen 3sg  
‘I gave her/him a pen.’  
b. ?Ngo<sup>5</sup> bei<sup>2</sup> zo<sup>2</sup> jat<sup>1</sup> zi<sup>1</sup> bat<sup>1</sup> bei<sup>2</sup> keoi<sup>5</sup>. (PDC)  
I give Perf one Cl pen Dat 3sg  
‘I gave a pen to her/him.’

The verb *bei*<sup>2</sup> contrasts with other *give*-type verbs such as *sung*<sup>3</sup> ‘give (as a present)’ and *zoeng*<sup>2</sup> ‘award’ as well as verbs of sending and throwing, which are found in the PDC only, as shown in (3) and (4).

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<sup>1</sup> In this paper, Cantonese examples are transcribed orthographically in the JyutPing romanization system developed by the Linguistic Society of Hong Kong. Tones are marked numerically (1: high level, 2: high rising, 3: mid level, 4: low falling, 5: low rising and 6: low level), and the following abbreviations are used in the glosses: Adj ‘adjective’, Cl ‘classifier’, Dat ‘dative marker’, Dir ‘directional marker’, Mood ‘mood marker’, Perf ‘perfective aspect marker’, 3sg ‘third person singular pronoun’, VC ‘Verb complement’.

- (3) a. ??\*N<sub>go</sub><sup>5</sup> s<sub>ung</sub><sup>3</sup> z<sub>o</sub><sup>2</sup> j<sub>at</sub><sup>1</sup> b<sub>un</sub><sup>2</sup> s<sub>yu</sub><sup>1</sup> k<sub>ei</sub><sup>5</sup>. (DOC)  
 I give Perf one CI book 3sg  
 ‘I gave her/him a book (as a present).’  
 b. N<sub>go</sub><sup>5</sup> s<sub>ung</sub><sup>3</sup> z<sub>o</sub><sup>2</sup> j<sub>at</sub><sup>1</sup> b<sub>un</sub><sup>2</sup> s<sub>yu</sub><sup>1</sup> b<sub>ei</sub><sup>2</sup> k<sub>ei</sub><sup>5</sup>. (PDC)  
 I give Perf one CI book Dat 3sg  
 ‘I gave a book to her/him (as a present).’
- (4) a. \*S<sub>iu</sub><sup>2</sup>m<sub>ing</sub><sup>4</sup> g<sub>ei</sub><sup>3</sup> z<sub>o</sub><sup>2</sup> j<sub>at</sub><sup>1</sup> f<sub>ung</sub><sup>1</sup> s<sub>eon</sub><sup>3</sup> n<sub>go</sub><sup>5</sup>. (DOC)  
 Siu-Ming send Perf one CI letter me  
 ‘Siu-Ming sent me a letter.’  
 b. S<sub>iu</sub><sup>2</sup>-m<sub>ing</sub><sup>4</sup> g<sub>ei</sub><sup>3</sup> z<sub>o</sub><sup>2</sup> j<sub>at</sub><sup>1</sup> f<sub>ung</sub><sup>1</sup>  
 Siu-Ming send Perf one CI  
 s<sub>eon</sub><sup>3</sup> b<sub>ei</sub><sup>2</sup> n<sub>go</sub><sup>5</sup>. (PDC)  
 letter Dat me  
 ‘Siu-Ming sent a letter to me.’

The syntactic distribution of *give*-type verbs and *send-/throw*-type verbs in English and Cantonese is summarized in (5).

(5) a. English

Verb classes	Syntactic distribution	
<i>give</i> -type verbs	√DOC	√PDC
<i>send-/throw</i> -type verbs	√DOC	√PDC

b. Cantonese

Verb classes	Syntactic distribution	
<i>bei</i> <sup>2</sup> ‘give’	√DOC	??PDC
other <i>give</i> -type verbs	??/*DOC	√PDC
<i>send-/throw</i> -type verbs	*DOC	√PDC

Thus, Cantonese dative verbs do not show a “dative alternation” as their translation equivalents do in English. Cantonese *give*-type verbs other than *bei*<sup>2</sup> ‘give’ and verbs of sending and throwing show a single realization. *Bei*<sup>2</sup> ‘give’, in contrast, does show a form of “dative alternation” only under certain conditions where the theme argument is heavy or in the focus of the sentence, as illustrated in (6) (Yuan et al. 1960, Peyraube 1981, Matthews and Yip 1994, Tang 1998, Chan 2003).

- (6) N<sub>go</sub><sup>5</sup> b<sub>ei</sub><sup>2</sup> z<sub>o</sub><sup>2</sup> g<sub>o</sub><sup>2</sup> b<sub>un</sub><sup>2</sup> h<sub>ou</sub><sup>2</sup> j<sub>au</sub><sup>5</sup>j<sub>ung</sub><sup>6</sup>  
 I give Perf that CI very useful  
 g<sub>e</sub><sup>3</sup> s<sub>yu</sub><sup>1</sup> b<sub>ei</sub><sup>2</sup> g<sub>o</sub><sup>2</sup> s<sub>an</sub><sup>1</sup> t<sub>ung</sub><sup>4</sup> s<sub>i</sub><sup>6</sup>. (PDC)  
 Adj book Dat CI new colleague  
 ‘I gave that very useful book to a new colleague.’

An often-proposed view of the dative constructions illustrated in (2)-(4) is that the DOC is derived from the PDC by means of the deletion or ellipsis of the

dative marker *bei*<sup>2</sup>, which is historically derived from the phonologically identical verb *bei*<sup>2</sup> ‘give’ (Xu & Peyraube 1997, Tang 1998, Chin 2010, 2011). Instantiations of such a derivational approach take the deletion of the dative marker to be driven by a general economy constraint which prohibits doubling of an identical form. A consequence of this approach is that the DOC will be a preferred realization pattern of *bei*<sup>2</sup> ‘give’ as it does not incur violation of identity avoidance. This can explain why the PDC example in (2b) is not fully felicitous. It can further account for the unacceptability of the DOC examples in (3a) and (4a) as cases of violation of derivational economy. The derivation of (3a) and (4a) is more costly and thus expected to be deviant since in these cases deletion is not required to satisfy any principles of grammar such as PF interface conditions, of which avoidance of phonological identity is a specific instance.

Derivational approaches put forth by Tang (1998), Chan (2010) and others are theoretically attractive in that they account for properties of the DOC and the PDC in terms of an independently motivated economy condition. However, as will be shown in section 3.2, there are meaning differences between the two dative constructions in Cantonese that are problematic to any approaches which take the DOC to be an elliptical counterpart of the PDC. Another challenge for derivational approaches to the Cantonese dative constructions is the fact that many languages with a dative marker distinct from a verb meaning ‘give’ exemplify the same pattern of verb distribution in dative constructions as Cantonese (Kittilä 2006, Malchukov, Haspelmath & Comrie 2010). This motivates a more general account of verb-construction relationships that can explain verb distribution patterns attested consistently within and across languages.

This paper develops an alternative, semantic analysis of dative verbs and constructions in English and Cantonese which provides a unified explanation for verb distribution patterns observed in and across languages. In sections 2 and 3, we analyze the meanings of dative verbs and dative constructions in English and Cantonese we focus on in this paper. In section 4, we show that verb distribution in the two dative constructions in English and Cantonese can be accounted for in a unified way by general constraints on semantic compatibilities between verbs and constructions proposed by Lee (2020). Building on Levin (2004, 2008b) and Lee (2020), we argue that crosslinguistic variation in verb

distribution may be modeled by the choice of cut-off points on an implicational hierarchy which ranks verbs in terms of the degree of the compatibility with a caused possession event type. Section 5 concludes the paper by discussing theoretical and empirical implications of the present study.

## 2 The Meanings of Dative Verbs and Constructions in English

In this section, we examine the meanings of major semantic classes of English dative verbs and the two English dative constructions. Our starting point is Rappaport Hovav & Levin's (2008) 'verb sensitive' approach to argument realization of three-participant verbs. This approach factors the argument realization problem in two parts: associations between verb meanings and event types and associations between event types and morphosyntactic frames. Our goal in this and the following sections is to show that English and Cantonese are similar in verb-event type associations but differ in morphosyntactic realizations available to event types. As we will show in section 4, uncovering these similarities and differences yields insights into a possible locus of crosslinguistic variation in the syntactic distribution of dative verbs.

### 2.1 The Core Meanings of English Dative Verbs

In their influential paper on the English dative alternation, Rappaport Hovav & Levin (2008) recognize two major semantic classes of dative verbs: verbs of giving in (7) and verbs of sending and throwing in (8)<sup>2</sup>.

- (7) *give*-type verbs: *assign, give, hand, lend, loan, offer, pass, promise, rent, sell, ...*
- (8) a. *send*-type verbs: *forward, mail, send, ...*  
 b. *throw*-type verbs: *flip, kick, throw, toss, ...*

The meanings of these verbs have been analyzed in terms of two distinct but related causative events in (9): caused possession and caused motion (Pinker 1989, Krifka 2004, Rappaport Hovav & Levin 2008).

<sup>2</sup> A major reason for focusing on these verb classes is that their members can describe the caused possession of physical objects (though they can describe certain abstract forms of caused possession). In this paper, we will largely ignore verbs involving communicative acts, such as *teach* and *tell*, and verbs found in the DOC with a benefactive first object, such as *bake* and *build*.

- (9) a. Caused possession: [[x ACT] CAUSE [y HAVE z]]  
 b. Caused motion: [[x ACT] CAUSE [z GO TO y]]

In this paper, we refer to verbs that lexicalize caused possession as *caused possession verbs*, and verbs that lexicalize caused motion as *caused motion verbs*<sup>3</sup>. Among caused possession verbs, we can distinguish those that lexicalize just caused possession and those that lexicalize transfer of possession. Following Beavers (2011), we refer to the former type as *pure caused possession verbs* and the latter as *transfer of possession verbs*. Pure caused possession verbs (e.g., *give, grant, offer, pay, promise, etc.*) encode events of caused possession that do not necessarily involve transfer of possession from one possessor to another. This point is illustrated in examples in (10) discussed by Rappaport Hovav & Levin (2008) and Levin (2010): when a court gives or grants a parent visiting rights, the court is not the initial possessor of the right; it simply causes the parent to have it. Similarly, abstract entities such as hope or self-confidence in example (10b) need not be possessed by the giver or even exist prior to the event.

- (10) a. The court gave a parent visiting rights.  
 b. John gave Mary hope/self-confidence.  
 (Rappaport Hovav & Levin 2008: 140)

Transfer of possession verbs (e.g., *bequeath, hand, lend, pass, rent, sell, etc.*) necessarily involve a transfer of possession from an original possessor to a new possessor. For these verbs, not only does the recipient come to receive the theme, the causer is the initial possessor and loses the theme. Following Beavers (2011) and Lee (2020), we can thus assume that these verbs lexicalize two results: loss of possession by the causer as well as receiving by the recipient.

In contrast, caused motion verbs such as *send*- and *throw*-type verbs do not lexicalize caused possession. They basically lexicalize caused motion, inherently describing causing a theme to move to a spatial goal.

The distinction between the two verb types--caused possession verbs and caused motion verbs--are not readily apparent in English because they

<sup>3</sup> A verb's lexicalized meanings refer to core meaning components of a verb entailed in all uses of a verb, regardless of context (Rappaport Hovav & Levin 2008).

show the same options for expressing their arguments, as illustrated in (1), (11) and (12).

- (11) a. Ann sent Beth a package. (DOC)  
 b. Ann sent a package to Beth. (PDC)
- (12) a. Ann threw Beth the ball. (DOC)  
 b. Ann threw the ball to Beth. (PDC)

Rappaport Hovav & Levin (2008) show, however, that several linguistic phenomena allow the two types of verbs to be teased apart. Evidence for this is found in the inability of caused possession verbs to take a purely spatial goal. As often noted, with *give*-type verbs, unlike *send*-/*throw*-type verbs, the preposition *to* only takes animate complements and not inanimate complements that designate places (Goldsmith 1980; Green 1974):

- (13) a. I gave the package to Maria/\*London.  
 b. I sent/threw the package to Maria/third base.

Transfer of possession verbs contrast to caused motion verbs and pattern with pure caused possession verbs such as *give* and *offer* in that they can take an inanimate location which is reinterpretable as able to possess but are incompatible with a purely spatial goal, as shown in (14).

- (14) a. I sold the car to that shop/\*that room.  
 b. He handed food to the office/\*the desk.

This difference between caused possession verbs and caused motion verbs would follow if the former is associated only with the caused possession event type and take recipients in both the double object and prepositional dative constructions, while the latter are associated with the caused motion event type and take spatial or possessional goals.

The core or lexicalized meanings of the three verb classes discussed in this section can be represented as in (15)-(17) (see Lee (2020) for more discussion). Adopting the neo-Davidsonian representation proposed by Krifka (2004), the core meanings of the verb *give* can be schematized as in (15a), where we represent CAUSE as a relation between a causing event and a possessive result state. Following Tham (2004) and Levin (2008b, 2010), we further assume a primitive predicate HAVE, associated with verbs inherently signifying possession, and an additional ontological type, '<POSS[SESSION]-TYPE>', which

indicates the type of possession involved. Other pure caused possession verbs contribute additional information, as schematized in (15b). For example, *rent* and *lend* elaborate on the kind of possession involved, i.e., temporary possession. In contrast, future having verbs such as *offer*, *owe* and *promise* specify possession that is prospective and need not obtain. Following Koenig & Davis (2001), Rappaport Hovav & Levin (2008) and Beavers (2011), the prospective nature of possession can be accommodated by assuming a sublexical modality. In particular, we adopt Beaver's (2011: 10) proposal, associating to the lexical semantic representation of verbs encoding prospective possession a modal or temporal operator '◇', which restricts the possible worlds in which possession holds, as in (15b) and (16).

(15) Pure caused possession verbs

- a. *give*:  
 $\exists e \exists s [\text{Agent}(e, x) \wedge \text{Theme}(e, z) \wedge \text{CAUSE}(e, s) \wedge s: \text{HAVE}(y, z)]$   
 'There is an event *e*, with *x* the agent of *e*, such that *e* causes a state *s*, where *s* is a state of *y* having *z*.'
- b. other verbs:  
 $\exists e \exists s [\text{Agent}(e, x) \wedge \text{Theme}(e, z) \wedge \text{CAUSE}(e, s) \wedge s: \diamond \text{HAVE}(y, z)]$   
 'There is an event *e*, with *x* the agent of *e*, such that *e* causes a state *s*, where *s* is a state of *y* prospectively having *z*.'

Transfer of possession verbs further add loss of possession by the causer. The complex result states encoded by these verbs can be represented as in (16), where we represent CAUSE as a relation between a causing event and two result states: a state of there being a prospective loss and another state of there being a prospective possession.

(16) Transfer of possession verbs

- $\exists e \exists s \exists s' [\text{Agent}(e, x) \wedge \text{Theme}(e, z) \wedge \text{CAUSE}(e, (s/s') \wedge s: \diamond \neg \text{HAVE}(x, z) \wedge s': \diamond \text{HAVE}(y, z)]$   
 'There is an event *e*, with *x* the agent of *e*, such that *e* causes state *s* and *s'*, where *s* is a state of *x* prospectively not having *z* and *s'* is a state of *y* prospectively having *z*.'

Caused motion verbs differ from transfer of possession verbs in that they add a caused event (a movement event), not a possessive result. The primitive predicate MOVE represents the motion

event caused by the acting event described by the caused motion verbs:

(17) Caused motion verbs

$\exists e \exists e' [\text{Agent}(e, x) \wedge \text{CAUSE}(e, e') \wedge \text{MOVE}(e') \wedge \text{Theme}(e', z) \wedge \text{Goal}(e', y)]$

‘There is an event *e*, with *x* the agent of *e*, such that *e* causes another event *e'*, where *e'* is a movement event with *z* being the theme and *y* being the goal.’

In summary, we have proposed a classification of English dative verbs based on their association with the event type they inherently encode. In section 2.2, we discuss the syntactic expression of these event types.

## 2.2 Verb Sensitivity of the English Dative Alternation

The caused possession and caused motion event types discussed in section 2.1 above have also been employed to explain the relation between the two dative alternation variants. The predominant view of this relation is what Rappaport Hovav & Levin (2008) refer to as the uniform multiple meaning approach. This approach takes all alternating verbs to have two meanings, a caused possession meaning realized by the DOC and a caused motion meaning realized by the PDC (e.g., Pinker 1989, Goldberg 1995, Hale & Keyser 2002, Beck and Johnson 2002, Krifka 2004, among others), as summarized in (18).

(18) The uniform multiple meaning approach:

	DOC	PDC
All dative verbs	Caused possession	Caused motion

In contrast, Rappaport Hovav & Levin (2008) argue that the relation between the two event types and their syntactic expression is more complex than the uniform multiple meaning approach takes it to be: the caused possession event type may be realized by both the DOC and the PDC, while the caused motion event type is realized only by the PDC. The assumption of this approach is summarized in (19).

(19) The verb-sensitive approach:

	DOC	PDC
<i>give</i> -type verbs	Caused possession	Caused motion
<i>send/throw</i> -type verbs	Caused possession	Caused motion or caused possession

On both approaches the DOC is only associated with a caused possession meaning, but on the verb-sensitive approach the PDC is associated with both caused motion and caused possession meanings. Furthermore, *send/throw*-type verbs may show either meaning in the PDC, while *give*-type verbs show only the caused possession meaning. Rappaport Hovav & Levin (2008) support their verb-sensitive approach through a close examination of differences between the *to* phrase found with *give*- and *send/throw*-type verbs and the use of *give* in the PDC. For instance, the *to* phrase with *give*-verbs cannot be questioned by the locative *wh*-word (Levinson 2005), but the *to* phrase with *send/throw*-type verbs may be:

- (20) a. \*Where did you give the ball?  
b. Where did you throw/send the ball?

Another piece of evidence for the verb-sensitive approach is found in the use of *give* in the PDC such as those in (21). This use does not involve a transfer of possession from one possessor to another since the theme does not exist prior to the event, and thus argues against the proposal that *give*-type verbs in the PDC are associated only with a caused motion meaning.

- (21) Give a fresh coat of paint to the front door.  
(Rappaport Hovav & Levin 2008: 139)

Rappaport Hovav & Levin (2008) further support the verb-sensitive approach through a close examination of the PDC. When a *send/throw*-type verb is used to describe an instance of caused motion that does not also involve a transfer of possession, it has a purely spatial goal, and it is only found in the PDC:

- (22) a. Smith threw the ball to the first base.  
b. \*Smith threw the first base the ball.  
(Rappaport Hovav & Levin 2008: 144)

When these verbs are used in the DOC, they may express the caused possession event:

- (23) a. Smith threw the ball to the first baseman.  
b. Smith threw the first baseman the ball.  
(Rappaport Hovav & Levin 2008: 144)

According to Rappaport Hovav & Levin (2008), this is possible because causing a change in an entity's location may result in its having a new possessor. Thus, these verbs are also found in the DOC. In summary, a close examination of differences between the *to* phrase found with *give-* and *send-/throw-* type verbs and the use of *give* and other verbs in the PDC shows that these phenomena do not support the uniform multiple meaning approach and can be better explained by the verb sensitive approach.

### 3 The Meanings of Dative Verbs and Constructions in Cantonese

In this section, we first examine the association of semantic classes of Cantonese dative verbs with event types, proposing that a three-way distinction among dative verbs discussed in section 2.1 extends to Cantonese. We then analyze the meanings of the two Cantonese dative constructions and argue for a nonderivational analysis which treats the DOC and the PDC as independent constructions having a different but related basic sense.

#### 3.1 Major Semantic Classes of Cantonese Dative Verbs

As discussed in section 2.1, we can distinguish among caused possession verbs those that lexicalize just caused possession and those that lexicalize transfer of possession. Members of the former class in Cantonese include *bei<sup>2</sup>* 'give', *baan<sup>1</sup>* 'award', and *tai<sup>4</sup>gung<sup>1</sup>* 'offer'. These verbs encode events of caused possession that do not necessarily involve transfer of possession from one possessor to another. Examples in (24) illustrate pure caused possession uses of the verb *bei<sup>2</sup>* 'give'. Comparable examples with other pure caused possession verbs are given in (25).

- (24) a. Lou<sup>5</sup>sai<sup>3</sup> bei<sup>2</sup> zo<sup>2</sup> go<sup>3</sup> lam<sup>4</sup>si<sup>4</sup> jam<sup>4</sup>mou<sup>6</sup> ngo<sup>5</sup>.  
 boss give Perf Cl temporary mission me  
 'The boss gave me a temporary mission.'  
 b. Gung<sup>1</sup>si<sup>1</sup> bei<sup>2</sup> zo<sup>2</sup> go<sup>3</sup> gei<sup>1</sup>wui<sup>5</sup> keoi<sup>5</sup>.  
 company give Perf Cl chance 3sg  
 'The company gave him/her a chance.'

- (25) a. Zing<sup>3</sup>fu<sup>2</sup> zeon<sup>2</sup>bei<sup>2</sup> tai<sup>4</sup>gung<sup>1</sup> zik<sup>7</sup>jip<sup>9</sup>pu<sup>4</sup>fan<sup>3</sup>  
 government ready offer job-training  
 fo<sup>3</sup>cing<sup>4</sup> bei<sup>2</sup> go<sup>2</sup>di<sup>1</sup> sat<sup>7</sup>jip<sup>9</sup> ge<sup>3</sup> jan<sup>4</sup>.  
 course Dat those unemployed Adj. person  
 'The government plan to offer job-training  
 courses to those who are unemployed.'

- b. Din<sup>6</sup>si<sup>6</sup>toi<sup>4</sup> baan<sup>1</sup> zo<sup>2</sup> go<sup>3</sup>  
 TV-station award Perf Cl  
 gin<sup>3</sup>ji<sup>6</sup>jung<sup>5</sup>wai<sup>4</sup>zoeng<sup>2</sup> bei<sup>2</sup> John.  
 bravery-award Dat John  
 'The TV station awarded an Award for Bravery to John.'

Cantonese verbs of transfer of possession include *dai<sup>6</sup>* 'pass', *gaau<sup>1</sup>* 'hand', *ze<sup>3</sup>* 'lend', *zou<sup>1</sup>* 'rent', *maai<sup>6</sup>* 'sell', *sung<sup>3</sup>* 'give (a present)', etc. Like most members of pure caused possession verbs, these verbs are not found in the DOC and can occur in the PDC only in contemporary Cantonese, as shown in (3) above.

Following Rappaport Hovav & Levin (2008) and Lee (2020), we assume that the two sub-classes of caused possession verbs are associated only with the caused possession meaning, lacking a (possessional or spatial) path constituent: concomitantly, these verbs select a recipient and cannot add a spatial goal. Support for this proposal can be found in the inability of caused possession verbs to take a purely spatial goal. As noted by Rappaport Hovav & Levin (2008), only verbs that lexicalize or strongly imply a change in physical location can license a PP with a locational or directional meaning. Therefore, Cantonese *send-/throw-* type verbs can take a non-possessional goal or a spatial goal marked by *heoi<sup>3</sup>*, which denotes the direction 'to, toward, (heading) for', as in (26b).

- (26) a. Ngo<sup>5</sup> gei<sup>3</sup> zo<sup>3</sup> go<sup>3</sup> baau<sup>1</sup>gwo<sup>2</sup> bei<sup>2</sup> keoi<sup>5</sup>.  
 I send Perf Cl package Dat 3sg  
 'I sent a package to her/him.'  
 b. Ngo<sup>5</sup> gei<sup>3</sup> zo<sup>3</sup> go<sup>3</sup> baau<sup>1</sup>gwo<sup>2</sup> heoi<sup>3</sup> leon<sup>4</sup>deon<sup>1</sup>.  
 I send Perf Cl package Dir London  
 'I sent a package to London.'

Unlike verbs of sending and throwing, both pure caused possession verbs and transfer of possession verbs in Cantonese cannot take a *heoi<sup>3</sup>* phrase:

- (27) Pure caused possession verb  
 a. \*Ngo<sup>5</sup> bei<sup>2</sup> zo<sup>2</sup> go<sup>3</sup> baau<sup>1</sup>gwo<sup>2</sup> heoi<sup>3</sup> leon<sup>4</sup>deon<sup>1</sup>.  
 I give Perf Cl package Dir London  
 'I gave a package to London.'  
 b. \*Din<sup>6</sup>si<sup>6</sup>toi<sup>4</sup> baan<sup>1</sup> zo<sup>2</sup> go<sup>3</sup> zoeng<sup>2</sup>heoi<sup>3</sup> leon<sup>4</sup>deon<sup>1</sup>.  
 TV-station award Perf Cl prize Dir London  
 'The TV station awarded a prize to London.'

- (28) Transfer of possession verb  
 a. \*Ngo<sup>5</sup> gaau<sup>1</sup> zo<sup>2</sup> di<sup>1</sup> je<sup>5</sup>sik<sup>9</sup> heoi<sup>3</sup> go<sup>2</sup> gaan<sup>1</sup> uk<sup>7</sup>.  
 I hand Perf Cl food Dir that Cl house  
 'I handed food to that house.'

- b. \*N<sup>go</sup>5 maai<sup>6</sup> zo<sup>2</sup> bou<sup>6</sup> che<sup>1</sup> heoi<sup>3</sup> go<sup>2</sup> gaan<sup>1</sup> uk<sup>7</sup>.  
 I sell Perf Cl car Dir that Cl house  
 ‘I sold a/the car to that house.’

This difference between the Cantonese caused possession verbs and the caused motion verbs would follow if the former is associated only with the caused possession event type and take recipients, while the latter are associated with the caused motion event type and take spatial or possessional goals. Thus, the evidence from the (in)ability to take a purely spatial goal provides support for the distinction between caused possession verbs and caused motion in Cantonese. The classification of Cantonese dative verbs we have proposed in this section is shown in (29).

(29) Semantic classes of Cantonese dative verbs

Caused possession verbs	Pure caused possession verbs	<i>bei</i> <sup>2</sup> ‘give’, <i>baan</i> <sup>1</sup> ‘award’, <i>tai</i> <sup>4</sup> <i>gung</i> <sup>1</sup> ‘offer’, etc.
	Transfer of possession verbs	<i>dai</i> <sup>6</sup> ‘pass’, <i>gaau</i> <sup>1</sup> ‘hand’, <i>ze</i> <sup>3</sup> ‘lend’, <i>zou</i> <sup>1</sup> ‘rent’, <i>lau</i> <sup>4</sup> ‘leave’, <i>maai</i> <sup>6</sup> ‘sell’, <i>sum</i> <sup>3</sup> ‘give (a present)’, etc.
Caused motion verbs		<i>gei</i> <sup>3</sup> ‘send’, <i>chyun</i> <sup>4</sup> ‘deliver’, <i>paai</i> <sup>3</sup> ‘deliver’, <i>yau</i> <sup>4</sup> ‘mail’, <i>deng</i> <sup>3</sup> ‘throw’, <i>paau</i> <sup>1</sup> ‘toss’, <i>tek</i> <sup>3</sup> ‘kick’, etc.

### 3.2 The Meanings of the Two Cantonese Dative Constructions

There are three major patterns of dative verbs in Cantonese: the DOC in the verb-theme-recipient order, the DOC in the verb-recipient-theme order, and the [verb-theme-*bei*<sup>2</sup>-recipient] dative construction (PDC). In this paper, we focus on the DOC in the verb-theme-recipient order and the PDC, and will not discuss the DOC in the verb-recipient-theme order, which is used only with verbs of communicated messages and information such as *ceng*<sup>2</sup> *gaau*<sup>3</sup> ‘inquire’, *gaau*<sup>3</sup> ‘teach’, *haau*<sup>2</sup> ‘test’, *kaau*<sup>4</sup> ‘request’ and *man*<sup>6</sup> ‘ask’.

A predominant view of the relation between the DOC (in the verb-theme-recipient order) and the PDC is a derivational approach which takes the former construction to be derived from the latter by means of the deletion or ellipsis of the dative marker *bei*<sup>2</sup>, which is phonologically identical to the verb *bei*<sup>2</sup> ‘give’ (Xu & Peyraube 1997, Tang 1998, Chin 2010, 2011; cf. Gu 2011). A consequence of this approach is that the DOC will be a preferred realization pattern

of *bei*<sup>2</sup> ‘give’ as it does not incur violation of identity avoidance. As noted in section 1, this can explain why the prepositional dative realization of arguments of the verb *bei*<sup>2</sup> ‘give’ is not fully felicitous. It can further account for the unacceptability of the double object patterns of other dative verbs as cases of violation of derivational economy.

However, a closer look at meaning differences between the two dative constructions suggests that the DOC cannot be regarded as an elliptical counterpart of the PDC. This is evidenced by differences in event types and possessive relations encoded by the two constructions. It has been assumed in the literature on the English dative alternation that the notion of possession encoded in caused possession predicates is the same as that encoded by the verb *have* (e.g., Harley 2002, Beavers, Ponvert & Wechsler 2009, Beavers 2011, Harley & Jung 2015). Evidence for this comes from the systematic polysemy of *have* discussed by Tham (2004). She argues that *have* can express at least four concrete possession relations as well as abstract possession relations, as illustrated in (30).

- (30) a. John has a daughter. (inalienable possession)  
 b. John has a car. (alienable possession—ownership)  
 c. John has the car (for the weekend).  
 (control possession)  
 d. John has the cars (to deliver). (focus possession)  
 e. John has hope/self-confidence. (abstract possession)

Through careful examination, we argue that the [V-T-*bei*<sup>2</sup> -R] PDC can express the four subtypes of concrete possession illustrated in (30a-d), although individual verbs may differ in the types of possessive relations that they can express:

- (31) a. Lily saang<sup>1</sup> zo<sup>2</sup> go<sup>3</sup> nei<sup>5</sup> bei<sup>2</sup> keoi<sup>5</sup>.  
 Lily give-birth-to Perf Cl daughter Dat 3sg  
 ‘Lily gave birth to a daughter for him.’  
 (inalienable possession)  
 b. Lily sung<sup>3</sup> zo<sup>2</sup> jat<sup>1</sup> bun<sup>2</sup> syu<sup>1</sup> bei<sup>2</sup> keoi<sup>5</sup>.  
 Lily give Perf one Cl book Dat 3sg  
 ‘Lily gave a book to her/him(as a present).’  
 (alienable possession—ownership)  
 c. Lily ze<sup>3</sup> zo<sup>2</sup> bou<sup>6</sup> che<sup>1</sup> bei<sup>2</sup> Mary  
 Lily lend Perf Cl car Dat Mary  
 jung<sup>6</sup> loeng<sup>2</sup> go<sup>3</sup> lai<sup>5</sup> baai<sup>3</sup>.  
 use two Cl week  
 ‘Lily lent the car to Mary for two weeks.’  
 (control possession)

- d. Lily chyun<sup>4</sup> zo<sup>2</sup> fan<sup>6</sup> gou<sup>2</sup> bei<sup>2</sup> Mary faan<sup>1</sup>jik<sup>9</sup>.  
 Lily deliver Perf Cl draft Dat Mary translate  
 ‘Lily sent a draft to Mary to translate.’  
 (focus possession)

The Cantonese DOC may felicitously express only the subsets of concrete possession described by the PDC, as shown in (32).

- (32) a. Lily bei<sup>2</sup> zo<sup>2</sup> bou<sup>6</sup> che<sup>1</sup> Mary.  
 Lily give Perf Cl car Mary  
 ‘Lily gave Mary a car.’  
 (alienable possession--ownership)  
 b. Lily bei<sup>2</sup> zo<sup>2</sup> bun<sup>2</sup> syu<sup>1</sup> Mary tai<sup>2</sup>.  
 Lily give Perf Cl book Mary read  
 ‘Lily gave Mary a book to read.’  
 (focus possession)

Notice that abstract possession uses of bei<sup>2</sup> ‘give’ are compatible only with the DOC, as shown in (33).

- (33) a. John wui<sup>5</sup> bei<sup>2</sup> dou<sup>3</sup> hang<sup>6</sup>fuk<sup>7</sup> keoi<sup>5</sup>.  
 John will give VC happiness 3sg  
 ‘John will give happiness to her.’  
 b. Bei<sup>2</sup> di<sup>1</sup> seon<sup>3</sup>sam<sup>1</sup> zi<sup>6</sup>gei<sup>2</sup> la<sup>1</sup>!  
 give some confidence self Mood  
 ‘Give yourself confidence.’  
 (Intended: ‘You should trust yourself.’)

The associations of the dative constructions with type of possessive relations observed in Cantonese are summarized in (34). The difference is unexpected under derivational approaches which take the DOC with the verb *bei<sup>2</sup>* to be an elliptical counterpart of the PDC with the same verb.

(34) Associations of constructions with possessive relations

Types of possessive relations	DOC	PDC
inalienable possession	*	√
alienable possession	√	√
control possession	*	√
focus possession	√	√
abstract possession	√	*

In this paper, we assume a nonderivational relation between the DOC and the PDC in Cantonese which takes them to be independent constructions related by constructional links as proposed by Goldberg (1995).

As shown in (31)-(33), both constructions are polysemous, with their sense depending on the particular verb that appears: the PDC has caused motion as the basic sense and causation of concrete possession as the extended sense. The associations that hold between verbs and the meanings available to them in the PDC are summarized in (35). Here, we notate the ‘have’ relations that involve concrete possession as the predicate HAVE<sub>C</sub>.

(35) The meanings associated with the PDC

- a. Caused motion verbs:  
 $\exists e \exists e' [Agent(e, x) \wedge CAUSE(e, e') \wedge MOVE(e') \wedge Theme(e', z) \wedge Goal(e', y)]$   
 (causation of motion to a goal)  
 b. Pure caused possession verbs:  
 $\exists e \exists s [Agent(e, x) \wedge Theme(e, z) \wedge CAUSE(e, s) \wedge s: \diamond HAVE_C(y, z)]$   
 (causation of prospective, concrete possession)  
 c. Transfer of possession verbs:  
 $\exists e \exists s \exists s' [Agent(e, x) \wedge Theme(e, z) \wedge CAUSE(e, (s \wedge s') \wedge s: \diamond HAVE(x, z) \wedge s': \diamond HAVE(y, z))]$   
 (causation of transfer of prospective, concrete possession)

In contrast, the DOC has causation of alienable or focus possession as the basic sense and abstract possession as the extended sense. These senses are represented as in (36). For convenience, we notate the possessive relations that involve alienable or focus possession as the predicate HAVE<sub>A/F</sub>, and the one that involves abstract possession as HAVE<sub>ABS</sub>.

(36) The meanings associated with the DOC *bei<sup>2</sup>* ‘give’:

- $\exists e \exists s [Agent(e, x) \wedge Theme(e, z) \wedge CAUSE(e, s) \wedge s: HAVE_{A/F}(y, z)]$   
 (causation of actual possession (alienable or focus possession)) or  
 $\exists e \exists s [Agent(e, x) \wedge Theme(e, z) \wedge CAUSE(e, s) \wedge s: HAVE_{ABS}(y, z)]$   
 (causation of abstract possession)

Having characterized the semantic relation between the two realization patterns of dative verbs in English and Cantonese, we turn to the question of how differences between the two languages in verb distribution in these constructions can be accounted for in section 4.



## 4 Accounting for Verb Distribution in English and Cantonese

It has been observed that many languages with two realization schemes for ditransitives, one in which the non-theme argument is a direct argument, and another in which it is oblique, tend to place restrictions on the direct argument scheme (Kittilä 2006, Levin 2004). This section proposes an analysis of dative constructions in English and Cantonese which provides a unified explanation for verb distribution patterns observed in the two languages, while at the same time accounting for the systematic variation attested across languages.

### 4.1 Ditransitive Hierarchy and Verb-Construction Compatibility

Crosslinguistic studies by Croft et al. (2001) and Levin (2004, 2008b) suggest that the variation in verb distribution in ditransitives takes the form of an implicational hierarchy of dative verbs: a language only shows the direct argument scheme with a verb at a given point on the hierarchy if it allows it for verbs to its left. Building on this idea, Lee (2020) proposes that the semantic classes of dative verbs form a refined implicational hierarchy which ranks verbs in terms of the degree of compatibility with the caused possession event type, along with three criteria to take variation into consideration as well as to explain the hierarchy, as in (37).

- (37) ‘give’ > other pure caused possession (PCP) verbs > transfer of possession (TOP) verbs > verbs of sending > verbs of throwing
- (i) The verb should at least inherently entail the meaning of the construction (caused possession);
  - (ii) The fewer meaning components a verb elaborates or adds, the more compatible it is with the construction;
  - (iii) Verb class whose members only refine on what is entailed in the caused possession event is more directly associated with the event type and thus more compatible with the construction.

Hence, the most compatible verb is ‘give’: it entails the caused possession event type without contributing anything beyond what is already encoded in it. The second most compatible verbs are other verbs of pure caused possession, verbs which entail the caused possession event type and elaborate on it. The third

most compatible verbs are transfer of possession verbs: they are less compatible with the caused possession event type than verbs of pure caused possession as they contribute more meaning components and the nature of their contribution is addition, not elaboration. The fourth most compatible verbs are *send*-type verbs: these verbs do not meet the first criterion of compatibility and add a caused motion event which is not encoded in the caused possession event type. The least compatible verbs are *throw*-type verbs as they do not meet the first criterion of compatibility and add a greater number of meaning components than *send*-type verbs.

Languages differ as to the extent they extend the construction to verbs that form a hierarchy in (37). In the following section, we show that the variation may be modeled by the choice of the cut-off point on the hierarchy.

### 4.2 Accounting for Crosslinguistic Patterns in Verb Distribution

Cantonese exemplifies a language in which only the verb that is most compatible with the caused possession event type, i.e., ‘give’ is found in the direct argument scheme. On the present account, verb distribution in the Cantonese DOC is understood as resulting from choosing the cut-off point at the highest end of the verb hierarchy in (37):

#### (38) Verb distribution in the DOC

‘give’ > other PCP > TOP > ‘send’ > ‘throw’  
 Cantonese:  $\longrightarrow$   
 English:  $\longrightarrow$

Variation in verb distribution in the PDC may be modeled in the same way. English chooses the cut-off point at the highest end of the hierarchy, admitting all verb classes in the PDC including the verb least compatible with the PDC, i.e., *give*, whereas Cantonese disallows the least compatible verb in the PDC:

#### (39) Verb distribution in the PDC

‘give’ > other PCP > TOP > ‘send’ > ‘throw’  
 Cantonese:  $\longleftarrow$   
 English:  $\longleftarrow$

Why do languages differ in the way they are? Typological studies suggest that a major source for this variation is differences in the morphosyntactic resources available for expressing recipients and goals in a given language. Levin (2008a, 2008b) argues that languages differ in morphosyntactic

realizations of caused motion and caused possession event types because they differ in the inventories and semantic domain of case markers and adpositions expressing recipients and spatial goals. For example, English *to* may express 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 the English PDC encodes both the caused motion and the caused possession event types, whereas the Russian PDC exclusively encodes the caused motion event type.

Like the English PDC, the Cantonese PDC may express the two event types, but it differs from the English PDC in that it does not admit a verb meaning ‘give’. As discussed in sections 1 and 3.2 above, this peculiarity of the Cantonese PDC has been ascribed to avoidance of phonological identity. Concomitantly, Cantonese needs a distinct realization option to accommodate *bei*<sup>2</sup> ‘give’, and has developed a construction, i.e., a DOC, which is dedicated to expressing causation of actual possession. This explains why in Cantonese the distribution of *bei*<sup>2</sup> and other dative verbs do not overlap (in pragmatically neutral contexts).

A final, related question is why in English, unlike in Cantonese, the distribution of the major dative verb classes overlaps. Rappaport Hovav & Levin (2008: 161-162) suggest that English shows such a pattern because it has developed two options for marking recipients, the first object in the DOC and the *to* phrase in the PDC, under pressure to fulfill the function of variable word order in languages with flexible word order.

In sum, we have shown that English and Cantonese differ systematically as to the extent they extend the two dative constructions to verbs that form a ditransitivity hierarchy and that this variation may be modeled by the choice of the cut-off point on the ditransitivity hierarchy. We have also suggested that a more thorough crosslinguistic exploration of argument realization patterns of dative verbs must be accompanied by a deeper investigation of diachronic factors as well as the morphosyntactic devices available for argument realization in and across languages.

## 5 Conclusion

This paper has examined verb distribution in the two dative constructions in English and Cantonese. While both languages have the prepositional dative construction (PDC) and the double object construction (DOC), they

differ as to the extent they extend these constructions to major dative verb classes. We have proposed a unifying analysis of the syntactic distribution of major semantic classes of dative verbs in English and Cantonese. On the basis of a closer examination of semantic properties of dative verbs and constructions in English and Cantonese, we have argued that verb distribution in the two languages can be accounted for in a unified way by general constraints on semantic compatibility between verbs and constructions and the choice of cut-off points on an implicational hierarchy of ditransitive verbs.

The present study has implications for cross-linguistic studies of argument realization. Most importantly, our investigation of similarities and differences between English and Cantonese that have been unobserved in previous studies provides strong support for approaches to argument realization which factor the argument realization problem into two parts: an association of core verb meanings with event types and an association of event types with morphosyntactic realizations. As we have shown, the major semantic classes of dative verbs have the same associations with the caused possession and the caused motion event types in English and Cantonese. Despite such similarities, the two languages differ (i) in the morphosyntactic realization of the caused possession and the caused motion event types and (ii) in the extent they extend dative verbs into the two dative constructions. These similarities and differences can best be described by factoring the argument realization problem into two parts along the lines of the verb-sensitive approach to argument realization put forth by Rappaport Hovav & Levin (2008).

Furthermore, the finding that the major dative verb classes in English and Cantonese show the same associations with event types but differ in their syntactic distribution highlights the importance of integrating this grammatical dimension in language instruction. This paper contributes to ongoing investigation of construction learning by clarifying the nature of abstract patterns of verb-construction associations that require explicit instruction to promote construction learning. Nevertheless, this paper has an important empirical limitation in that it does not account for verb distribution in the Cantonese DOC in the verb-recipient-theme order. A full explanation of this issue would require a better understanding of the relation among the three patterns of Cantonese dative verbs and their interaction with the idiosyncratic and event-structural meanings of a wider range of verbs.

## Acknowledgments

We would like to thank anonymous reviewers for their useful comments. Any errors and misinterpretation are our own.

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