A Triplet View on the Double Object Construction in English: Its Syntax, Phonology, and L2 Acquisition

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1. Introduction

This paper analyzes the grammar of double object construction in English from syntactic, phonological, and second language (L2) acquisition perspectives. Our analysis is done in the framework of the Minimalist Program (henceforth MP; Chomsky 1995 et seq.), and as MP incorporates phonological aspects into it theoretical refinement, we include prosodic features in the analysis. Using a survey targeting English learners whose first language (L1) is Japanese, we also investigate how the double object construction is learned in L2.

This paper deals with English double object construction (DOC). For instance, (1a) looks as if *gave* took two objects in a row. Of the two objects, *John* is an indirect object (IO), and *the book* is a direct object (DO). (1a) can be paraphrased into the (prepositional) dative construction (DC) in (1b), where *gave* takes one object *the book*, and the recipient is referred to by *to John*. Similar verbs that allow DC-DOC alternation like this include *send, pass, bring, buy, bake, find* etc.

(1) a. Mary gave John the book. DOC
b. Mary gave the book to John. DC

The sequence of ditransitive verbs plus IO and DO has been a center of focus in the literature of syntax. There are a number of questions to answer about English DOC. For example, what is the structure that allows ditransitive verbs to license IO and DO at the same time? Does any syntactic operation apply to IO and DO equally? In addition, how is the DOC sequence pronounced and learned? These questions are considered to discover the grammatical characteristics of English DOC from multiple linguistic angles.

The remainder of this paper is organized as follows. Section 2 briefly describes the model of grammar hypothesized in MP and MP-based L2 studies. Section 3 outlines three aspects of English DOC by reviewing related previous studies, and then the remaining puzzles are discussed in section 4. Section

5 presents a small-sized L2 survey based on the previous studies, and lastly section 6 concludes the paper.

2. Theoretical background

An essential function of grammar is to put words together to form phrases and sentences. Here's a brief description of how grammar works in the MP framework.

Words are stored in the *lexicon*. They are taken out one by one, and then merged to form phrases. *Merge* is a fundamental structure-building operation in human language: it takes two syntactic objects α and β, and forms {γ {α, β}}. γ is a label for a new syntactic object. Consider the a simple case below. As Figure 1 shows, when *send* (V) and *a letter* (D) merge, V's selectional D-feature is deleted, which assures V of becoming a label of a phrase *send a letter* (V).

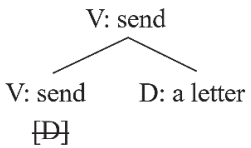


Figure 1. Merge

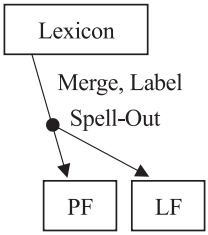


Figure 2. Derivational steps

As Merge applies step by step, some prepared chunks (called *phases*) are sent (Spell-Out) to the sound/meaning components (Phonetic/Logical Form, PF/LF). Pronunciation and word order are fixed at PF, and at LF, for example, reference of pronouns is determined guided by the structural relation. Quantifiers like *every* and *some* are also calculated here. Figure 2 is a simplified model of the steps so far.

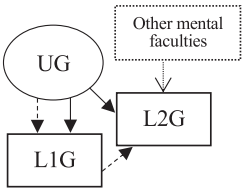


Figure 3. UG-based L2 acquisition model

The L2 acquisition model based on the above approach is shown in Figure 3. It assumes Universal Grammar (UG), innate linguistic knowledge with Merge as its essential part. UG enables us to acquire L1 grammar (L1G), and some scholars consider that it gives a direct access to L2 grammar (L2G) (indicated by →), while others argue only for an indirect access to L2G (indicated by ⇢).[1)]

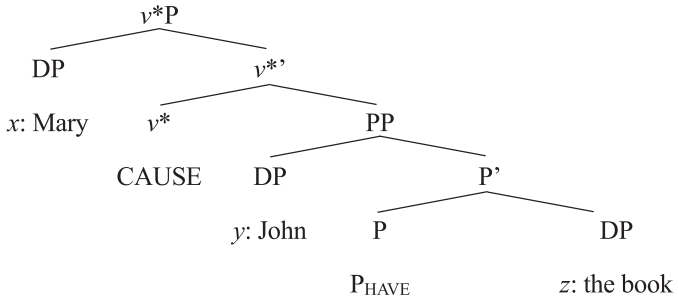
3. Previous studies

In this section, we will review some previous studies about English DOC to look at the construction from multiple viewpoints of syntax, phonology, and L2 acquisition. Each of these perspectives will be discussed in the following subsections in turn.

3.1. Double object complements as small clauses

It has been proposed in the literature that the structure of English DOC like (1a) involves a small clause (Harley 2002 and Harley and Jung 2015, to name a few). This idea involves the merger of IO and DO to form a small clause. The point is that IO and DO are merged through the intermediation of P_{HAVE}, an abstract preposition denoting prospective possession (i.e., who is going to own what), and as a result, the whole PP ($P_{HAVE}P$) becomes a complement of *v**.[2] The small-clause analysis of *v**P in (1) is diagramed in (2).

(2)



The underlying meaning of ditransitive verbs such as *give*, *bring*, and *throw* is prospective possession such that '*x* causes *y* to have *z*'.[3] It appears that the semantics is directly mapped onto the argument structure represented in (2).

Harley and Jung (2015; hereafter H&J) provide several arguments in favor of the P_{HAVE} approach to DOC. One of such arguments is from asymmetric quantifier scope between DC and DOC. In DC, the universal quantifier *every* in the lower PP can scope over an existential quantifier *a* in the higher DP. In DOC, in contrast, the scope follows the word order with $a_{\exists}$ over $every_{\forall}$, and not vice versa.

(3) a. Maria gave a bottle to every baby. DC $\exists > \forall, \forall > \exists$
b. Maria gave a baby every bottle. DOC $\exists > \forall, *\forall > \exists$
(H&J 2015: 719)

Interestingly, the inverse scope seems frozen in (3b) due to the reversed recipient-theme order compared to (3a).[4] The inverse scope reading is usually captured by Quantifier Raising (QR) at LF, roughly schematized as [*every*-N_1 [*a*-N_2 [Mary gave t_2 (to) t_1]]], with $every_{\forall}$ raised above to outscope $a_{\exists}$. What blocks this QR to cause the scope freezing? We will return to this question in section 4.

For the QR puzzle discussed later, let us look at Omune's (2018) set-Merge-based analysis of English DOC. As (4) shows, DO and IO sharply contrast in the extractability for *wh*-movement.

(4) a. What did Mary give John?
b. *Who did Mary give the book? (Omune 2018: 281)

Adopting H&J's argument structure of the DOC, Omune assumes the following derivation by Merge for the *v**P of (1), 'Mary gave John the book'.

(5) a. $\{$Mary, $\{\{v, \{v, \sqrt{\text{give}}\}\}, \{_{\delta}$ John, $\{_{\gamma}$ P_{HAVE}, the book$\}\}\}\}$
b. $\{$Mary, $\{\{v, \{v, \sqrt{\text{give}}\}\}, \{_{<\varphi, \varphi>}$ John, $\{_{PHAVEP}$ P_{HAVE}, the book$\}\}\}\}$
[uφ] AGREE [Obl]

The derivation proceeds as follows: (i) P_{HAVE} merges *the book* and assigns an oblique case to it. (ii) Labeled as $P_{HAVE}P$, γ is then merged with *John*. Since this is an XP-YP configuration, a label of δ cannot be determined at this moment. (iii) When *v**P is formed, *v**'s unvalued φ-feature [uφ] is inherited to P_{HAVE}, and the valuation of φ- and Case features takes place through the agreement between P_{HAVE} and *John*. With the same φ-value shared, δ gets labeled as <φ, φ>.[5]

Then, here's how (4b) is ruled out. A recipient $DP_{[+wh]}$ moves out of δ to SpecCP by way of the edge of *v**P, leaving its copies. The problem is that the moved DP remains unvalued for φ and Case. When *v**P is formed with the DP on its edge, P_{HAVE} inherits *v**'s feature, but it cannot agree with the DP's invisible copy. The complement of *v** gets transferred (indicated by a shaded line below), but the derivation crashes in the end because of the DP being uninterpreted.

(6) [$_{CP}$ Who did Mary [$_{v^*P}$ ~~DP$_{[+wh]}$~~ [~~Mary~~ v^*-give [~~DP$_{[+wh]}$~~ P$_{HAVE}$ the book]]]?
[uφ] ----------*----------

Omune's approach not only applies H&J's P$_{HAVE}$ analysis into labeling algorithm but makes a theoretical contribution by simplifying syntactic operations without independently postulating pair-merge and Rizzi's (2015) maximality principle.[6] We will later return to the syntax of DOC and consider how Omune's approach can account for asymmetric QR in (3), comparing his with other scholar's related proposals.

3.2. Phonological factors in DOC

Besides the above syntactic constraints, the word order of objects in English DC and DOC is known to be subject to prosody. One such phonology-sensitive rule includes Heavy NP Shift, which allows an object to move rightward to the end of a sentence.

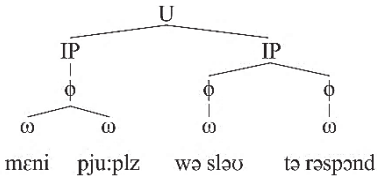


Figure 4. A sample prosodic hierarchy

According to Gussenhoven and Jacobs (2005; hereafter G&J), the moved object must consist of at least two phonological phrases (ϕ), a rhythmic unit made up of a group of prosodic words (ω). Figure 4, a prosodic hierarchy for the utterance (U) 'Many pupils were slow to respond', shows that ω corresponds to a chunk around a stressed syllable and ϕ consists of one or two ωs, pronounced as broader units of intonational phrases (IP).[7]

When Heavy NP Shift is applied to DC, the object with two ϕs in (7a) can be placed in the sentence-final position, while the one with a single ϕ in (7b) cannot.

(7) a. Mary gave t to Susan $_{\phi}$(that repórt)$_{\phi}$ $_{\phi}$(on Dukákis)$_{\phi}$
b. *Mary gave t to Susan $_{\phi}$(that repórt on him)$_{\phi}$
(G&J 2005: 225; some symbols added)

However, things are different in the case of DOC. The IOs modified by relative clauses in (8) and (9) obviously consist of multiple ϕs, but unlike DC in (7), they cannot be shifted to the end of sentences.

(8) a. I loaned a man who was watching the race my binoculars.
b. *I loaned my binoculars a man who was watching the race.
(Ross 1967: 59)

(9) *Charlie baked t_i that cake [the girl who lives next door]$_i$
(Emonds and Whitney 2006: 94)

Since (8) as well as (9) do not exhibit the same pattern as (7), Heavy NP Shift in DOC appears to be conditioned more strictly, presumably due to other factors rather than the phonological weights of moved phrases.

Based on their extensive literature review, Emonds and Whitney (2006) represent the consensus view that "further movement of a 'promoted' indirect object NP unmarked by a P or dative case to a non-argument position is ungrammatical" (p. 130). They mean by "promoted" that in an underlying structure such as [$_{VP}$ send a message [$_{PP}$ (to) James]], a recipient NP *James* can be raised adjacent to V as if it got a promotion to the same status as V's direct object *a message*, illustrated as [$_{VP}$ send James$_i$ a message [(to) t_i]]. The ban on moving the promoted object further is not an ad hoc rule only applied to Heavy NP Shift in DOC, but seems to generalize over A'-movement of the object, evidenced as *wh*-movement in (4b), relative clauses, and raising to subject in (10).

(10) a. *This is the friend$_i$ (that) Carolyn baked t_i that cake.
b. *Kids$_i$ are always easy to buy t_i presents.
(Emonds and Whitney 2006: 94)

Emonds and Whitney's structure of ditransitive verbs plus promoted indirect objects is supported by intonational phrasing. In the examples below, the symbol % indicates an intonational phrase (IP) boundary, which means grammar-related pauses characterized by final lengthening and/or deliberate insertion of silence (Taglicht 1998: 183). IP boundaries are suggestive of constituency because ϕs, which make up IPs, tend to correspond to syntactic phrases. (11) shows that % can lie between IO and DO, but not between the verb and IO.

(11) a. [[Give] [your friend] % [a book]] %
b. *[[Give] % [your friend] [a book]] %

(Taglicht 1998: 187-188)

Interestingly, a similar pattern is found for the small clause complement in (12) and the ECM (Exceptional Case Marking) construction in (13).

(12) a. We [[consider] [Mary] % [an excellent judge]] %
b. *We [[consider] % [Mary] [an excellent judge]] %
(13) a. We [[consider] [Mary] % [to be an expert]] %
b. *We [[consider] % [Mary] [to be an expert]] %

(Taglicht 1998: 193)

As Dobashi (2020) points out, based on Taglicht's data, it is inferred that the inner structure of DOC is similar to that of the small clause construction and ECM, and thus the IO *your friend* within the lower XP moves to its specifier position and ends up being placed adjacent to the verb *give*, just like the derivation of the ECM subject *Mary* in (13).

3.3. L1 transfer effects

Lastly in this section, we will briefly look at English DOC in the context of second language acquisition. Oh and Zubizarreta (2005) focused on the prepositional/ditransitive alternation of goal/benefactive DOC (e.g., 'Charlie baked {a cake for Mary / Mary a cake}') and conducted some experiments to see if Japanese and Korean learners' L1 influenced their acquisition of English DOC.

The experiments revealed that Japanese and Korean verbal morphology, *ageru* and *cwu-*, played a significant role in acquiring the benefactive DOC. Both *ageru* and *cwu-* are used not only as lexical verbs, but also as light verbs as (14) shows. Suffixed to lexical verbs, they express an event taking place for the benefit of someone. Note that unlike *ageru*, Korean *cwu-* allows double accusative objects.

(14) a. Jon-ga Mari-ni/*o e-o kaite-ageta.
b. John-i Mary-eykey/lul kulim-ul kuly-e cwu-ess-ta.
J.-NOM M.-DAT/ACC picture-ACC draw-gave
'John drew Mary a picture.'

((14b) from Oh and Zubizarreta 2005: 194)

Table 1. Types of surveyed verbs

		X to/for Y	YX
G1	*send*	✓	✓
G2	*explain*	✓	*
B1	*draw*	✓	✓
B2	*finish*	✓	*

Table 1 summarizes four types of the surveyed verbs and the availability of prepositional and ditransitive alternation for each type. The learners tended to reject the ditransitive form with benefactive verbs (B1/B2-YX) more strongly than that with goal verbs (G1/G2-YX). The researchers assumed that this was due to the lack of beneficial verb morphology in English similar to *ageru* and *cwu*-, by which the beneficial object (e.g., *Mary-eykey/lul* in (14b)) is thought to be licensed in Japanese/Korean.

Oh and Zubizarreta concluded that a transfer-based account was better than a frequency-based view to explain the asymmetric judgment of goal and benefactive ditransitive forms. Although it is clear in (14) that a Korean light verb *cwu*- can license the beneficial object even in accusative case, it seems doubtful whether *ageru* in Japanese can be analyzed in the same way because it differs from *cwu*- in terms of case assignment. This issue will be further discussed in section 5 on our survey along the lines of Oh and Zubizarreta (2005).

4. Discussion

In this section, we will discuss the remaining problems in the previous section, especially the following QR puzzle: What blocks the inverse scope reading in DOC, contrary to DC? We have observed that (3a) allows an inversed ∀-over-∃ reading, while (3b) does not. Based on the syntactic and phonological insight from the previous studies reviewed in 3.1 and 3.2, we will discuss how to solve the puzzle, especially focusing on the position of IOs.

4.1. Den Dikken's (2018) analysis

Along the lines of his own analysis of *like* in colloquial speeches like 'The

children seem *like* they're sick', Den Dikken (2018) proposes that the examples in (15) have the predication structure (16) mediated by Relator (Rel), which can be lexically realized as *like*. Thanks to the Relator, the higher DP binds the lower pronoun, and then the embedded CP becomes qualified as a predicate for the DP.

(15) a. We still consider　　him　　like　　he's a rookie.
　　b. They regard　　John　　like　　he is a fool.
(16)　[V={consider/regard/…}　$[_{RP}$ DP_i　$[_{R'}$ Rel　$[_{CP}$ PRN_i …]]]

(Den Dikken 2018: 90, 92)

Keeping the Relator in mind, let us observe (17). (17a) and (b) only differ in having *to be* or not as part of the complement. Surprisingly, (17a) allows both ∃-over-∀ and ∀-over-∃ readings, but (17b) without *to be* only allows ∃-over-∀, not ∀-over-∃. (17c) shows the same result as (17b), whether *being* is present or not.

(17) a. Someone considers every Congressman to be a liar.　　∃ > ∀, ∀ > ∃
　　b. Someone considers every Congressman　　a liar.　　∃ > ∀, *∀ > ∃
　　c. Someone regards　every Congressman as (being) a liar.
　　∃ > ∀, *∀ > ∃

(Den Dikken 2018: 100)

Notice that the same pattern of scope interaction is found in (17b) and (3b). Since (17a) has *to be* between *every Congressman* and *a liar*, the complement of *consider* must be an infinitival TP headed by *to*. Clearly, neither (17b) nor (17c) is analyzed to have TP in the complement. Thus, the complement in (17b) should be a small clause lacking T. These two distinct structures can be captured in parallel using Den Dikken's Rel(ator) mediating two phrases, as (18) shows.

(18) a. … considers $[_{RP(=TP)}$ every Congressman $[_{R'}$ $to_{Rel(=T)}$ $[_{VP}$ be a liar]]]
　　b. … considers $[_{RP}$　every Congressman $[_{R'}$ $Ø_{Rel}$　$[_{DP}$ a liar]]]

4.2. Asymmetric QR in DOC

So, how is TP related to QR? T is a special functional head: it needs some element in the specifier (SpecTP) to satisfy the EPP, and also agrees with

the specifier to value its φ-feature.[8] Den Dikken calls SpecTP *structural subject position,* where arguments are 'licensed', in other words, agreed with Relator heads. For example, nominative case is assigned to DP in return for φ-agreement between T and DP (e.g., the boy$_{[NOM]}$ run-s$_{[\varphi: 3, SG]}$). On the other hand, no agreement is found in RPs like (18b), so small clauses seem to lack a structural subject position.

An unlicensed DP escapes from RP in search of a place where it gets licensed. It reaches the complement position of a verb in the main clause and gets licensed as an object.[9] Being licensed, it stays there, and no further movement applies. Scope is frozen there, and as a result, only ∃-over-∀ reading becomes available. These steps are summarized in (19a). If SpecTP is available like (19b), things go easier: an NP in SpecTP is licensed via agreement with T, so nothing prevents it from moving at LF. That makes the inverse scope reading possible in (17a).

(19)

a. [[$_{TP}$ *some*-N [$_{VP}$ consider *every*-N [$_{RP}$ ~~*every*-N~~ [$_{R'}$ …

LF mvt. Licensed Unlicensed

b. [[$_{TP}$ *some*-N [$_{VP}$ consider [$_{TP}$ *every*-N [$_{T'}$ to$_{[EPP]}$ …

LF mvt. Licensed

AGREE

Turning to DOC, H&J's P_{HAVE} can be treated as a covert realization of a Relator head mediating IOs and DOs. Then, let us consider whether this approach better accounts for the syntactic nature of DOC. With P_{HAVE} treated as a Relator head, the structure of the double object complement of *give* is illustrated in (20).

(20) [$_{v^*P}$ give-v* [$_{RP(=PHAVEP)}$ IO [$_{R'}$ Rel(=P_{HAVE}) [$_{DP}$ DO ⋯

If we follow Den Dikken's account, the IO must move up to *v**P to get licensed because SpecRP is not a structural subject position. In Omune's account, on the other hand, the IO cannot move out of RP because it agrees with P_{HAVE} in φ-feature inherited from *v** to label RP as <φ, φ>. If it moves, the derivation will crash due to the absence of the IO for P_{HAVE} to agree with. The *v**P structure based on the two approaches is illustrated in (21a) and (21b), respectively.

(21) a. [$_{v^*P}$ give-v^* IO [$_{RP}$ ~~IO~~ [$_{R'}$ Rel [$_{DP}$ DO …
Licensed Unlicensed

b. [$_{v^*P}$ give-v^* [$_{RP<\varphi,\ \varphi>}$ IO [$_{R'}$ Rel [$_{DP}$ DO …
[uφ] INHERIT AGREE

Now recall (3b) 'Mary gave a baby *every* bottle', where there are two quantifiers in its small clause structure and only ∃-over-∀ reading is allowed. The IO 'a baby' moves out of RP and get licensed in *v**P, according to Den Dikken, and then its scope is frozen there. The DO 'every bottle' could undergo LF movement past the IO to allow ∀-over-∃ reading, but as (22) shows, I consider that it is blocked by the licensed IO, yielding a superiority effect.[10)]

(22) [$_{v^*P}$ give-v^* IO$_{\exists}$ [$_{RP}$ ~~IO~~$_{\exists}$ [$_{R'}$ Rel [$_{DP}$ DO$_{\forall}$ …

Superiority effects are generally observed when two or more operators interact, so another kind of operator movement, namely *wh*-movement, should be tested along the lines of Den Dikken's analysis. (22) guides us to predict that if IO and DO are questioned, *wh*-movement of DO over IO must be blocked. This reasoning is correct, as evidenced by (23a). (23b) is also important because it shows that IO can actually move in multiple *wh*-questions. However, as we saw in (4) (repeated as (24)), it cannot move in single *wh*-questions. Although Omune's account in (21b) correctly rules out the IO's *wh*-fronting in (24b), it incorrectly rules out the multiple *wh*-question (23b) as well. The data clearly show that there is a contrast between QR and overt *wh*-movement as to whether to raise IOs or not.[11)] We will leave how to deal with this contrast in a more detailed structure of DOC for a future investigation.

(23) a. *What did you give who?
b. Who did you give what?
(Williams 1994: 191)

(24) a. What did Mary give John? (=(4a))
b. *Who did Mary give the book? (=(4b))

4.3. Further evidence

Let us consider a little more about the adequacy of each researcher's analysis of

give and its small clause complement. According to Omune, IO cannot be a target of syntactic operations (e.g., *wh*-movement) for not being maximal in terms of labeling (see Note 6 as well). The maximal projection is an RP ($P_{HAVE}P$) labeled as <φ, φ> via agreement between the IO and Rel (P_{HAVE}). So, the question is: being maximal, can the RP be a target of movement? (25a, b) show pseudo-cleft sentences emphasizing *a book* and *Mary a book*, respectively. DP *a book* can be clefted in (25a), while *Mary a book* corresponding to $RP_{<\varphi, \varphi>}$ cannot. If the ungrammaticality comes from constituency, Den Dikken's analysis might be better because *Mary a book* forms a discontinuous constituent in his structure.

(25) a. What John gave Mary was a book.
b. *What John gave was Mary a book. (Bošković 1997)

Further evidence confirms IO is linked closely to the verb, not belonging to RP on the surface level. (26) is an example of VP-preposing, and it shows that 'give John' can consist of a movable constituent in the original sequence 'you may give John a large donation'. In Den Dikken's analysis, IO must move to *v**P to get licensed, so the verb-IO order is guaranteed. This constituency is observed on a phonological level as the placement of intonational boundaries, as we saw in (11) (repeated as (27) below).

(26) Give John though you may a large donation, you will still find him a pretty elusive guy.
Retrieved from: https://gawron.sdsu.edu/syntax/lectures/lec6.htm

(27) a. [[Give] [your friend] % [a book]] %
b. *[[Give] % [your friend] [a book]] %

In summary, although both Omune's and Den Dikken's DOC structures have a small clause in common, we have seen that the latter approach can account for a wider range of facts as far as QR, *wh*-movement, and the constituency tests are concerned. As every theory does, even an approach like Den Dikken's has some questions to pursue: for example, how can the contrast between QR and overt *wh*-movement be captured? Why does IO have to stay in *v**P once licensed? These questions will be explored in further research.

5. L2 survey

To investigate how English DOC is acquired by L2 learners and to what extent light verbs in L1 influence their L2 knowledge, a grammaticality judgment survey was conducted. The survey focuses on prepositional/ditransitive (DC/DOC) alternation of four types of goal/benefactive verbs in 3.3, and it also examines whether a light verb *ageru* in Japanese causes L1 transfer.

Sixty college students taking the author's linguistics courses participated in the survey. Their L1 is all Japanese, and they have studied English as L2 for several years. In the survey, they were asked to judge whether each DC/DOC sentence was correct and matched a given Japanese translation. There were four Japanese sentences expressing actions to do something to/for someone, and each sentence was followed by a pair of DC/DOC sentences to be judged by the participants.[12)]

The four pairs in the survey are shown in (28) and (29). The sentences paired in (28) are *to*-DC/DOC alternation samples, and those in (29) are *for*-DC/DOC alternation samples. These samples were ordered as randomly as possible on the survey sheet. Note that some samples are ill-formed, as shown in (28b-ii) and (29b-ii): only the prepositional DC counterpart is allowed after *explain* and *keep*.

(28) a.	(i)	Can you send two tickets to me?	DC1
	(ii)	Can you send me two tickets?	DOC1
b.	(i)	Can someone explain the process to me?	DC2
	(ii)	*Can someone explain me the process?	DOC2
(29) a.	(i)	I'll find a new book for you.	DC3
	(ii)	I'll find you a new book.	DOC3
b.	(i)	I kept the seat for you.	DC4
	(ii)	*I kept you the seat.	DOC4

Figure 5 and 6 show the judgment rates of each test sample listed in (28) and (29). The results indicate a contrastive tendency that *for*-DC is preferred to its DOC counterpart, while the preference depends on verbs in *to*-DC/DOC pairs. Although the ungrammatical sample (29b-ii) appears to be rejected correctly (76.8%), this guess is actually ungrounded because the grammatical sample (29-ii) is incorrectly judged to be ungrammatical by two-thirds of the participants (65.1%). Similarly, the relatively high rate of the correct judgment

of (28b-ii) (56.4%) does not guarantee their acquisition of *to*-DC/DOC because more than 40% of them wrongly rejected the correct DC sample (28a-i).

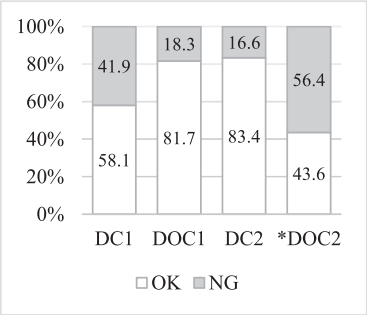


Figure 5. *to*-DC/DOC

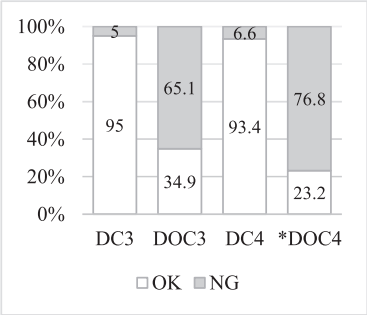


Figure 6. *for*-DC/DOC

To see the L1 light verb effect at the same time, half of the students were given the survey with *ageru* added to Japanese translation for (29), and another half given the same survey without *ageru*. We do not take the view in 3.3 that IO is licensed by *ageru* like Korean *cwu*-, but we assume instead that the beneficial meaning conveyed by *ageru* is overtly mapped to *for*-phrases. To prove the assumption, a two-tailed, unpaired *t*-test was used for comparing the two groups' judgment. Table 2 summarizes the results of the statistical analysis.

Table 2. *T*-test results for judgment rates of (29)

	With *ageru* (N=30)		No *ageru* (N=30)			
	M	SD	M	SD	*t* (58)	*p*
DC3	0.96	0.03	0.93	0.06	0.58	0.56
DOC3	0.36	0.24	0.33	0.22	0.27	0.79
DC4	0.96	0.03	0.90	0.09	1.03	0.31
DOC4	0.13	0.12	0.33	0.22	-1.85	0.07

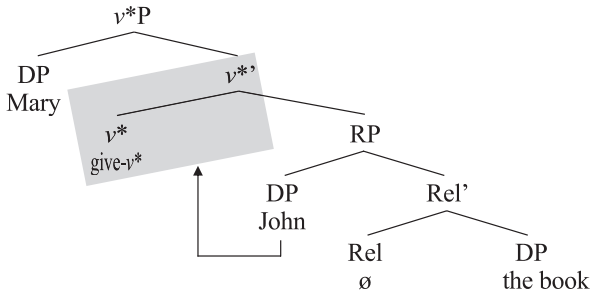
No significant difference is found in DC3, DOC3, or DC4. Although, not being statistically significant ($p < 0.1$), the result of DOC4 shows a certain trend of linking *ageru* to *for*-phrases, resulting in the low mean (0.13). Interestingly, DOC3 shows no similar trend. This can be because DOC4 was harder to judge, so *ageru* in the translation helped the students with their judgment. Although our assumption of the L1 light verb effect is not clearly

proven, the findings so far indicate that for the students (intermediate L2 learners), DC/DOC alternation largely depends on verbs, and the knowledge has not been fully acquired yet.

6. Concluding Remarks

This paper has explored English DOC such as 'John gave Mary the book' from a multi-perspective of syntax, prosody, and L2 acquisition. After reviewing H&J's P_{HAVE} analysis and its recent adaptation to labeling by Omune, we have found that these analyses can be reframed in Den Dikken's Relator Phrase (RP). Based on RP analysis of the consider complement, the asymmetric QR will be explained more promisingly than other approaches. (30) is our tentative answer. Although there is no room to describe the landing site in detail here, we assume that IO moves out of RP to a shaded area in *v**P in order to get it licensed by *v** (see Note 9 for other possibility of the landing sites). We have seen that this structure is prosodically evidenced by intonation phrasing as well.

(30)



As for L2 acquisition of English DOC, the survey of goal/benefactive DC/DOC alternation in section 5 suggests that this knowledge is still not fully acquired by intermediate learners. A statistical analysis of the aforementioned test shows that they might be misled by an L1 light verb *ageru* into rejecting beneficial DOC. A pedagogical implication from our findings is that intermediate learners need to learn more about the DC/DOC usage of basic English verbs (e.g., *send, draw, find* etc.) and L1 light verbs might affect their L2 grammar when providing L1 translation.

Notes

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1) The influential hypotheses include Full Transfer/Full Access Hypothesis for a direct access of UG to L2G and Fundamental Difference Hypothesis for its inaccessibility. In addition, there is a third view that some features of L2 instantiated in L1 are only accessible to UG. See Hawkins (2019), especially Chapter 11, for an extensive theoretical overview of the role of UG in L2 acquisition.

2) The readers may refer to Bruening (2010) for an alternative account against Harley's P_{HAVE} structure.

3) While DOC is associated with prospective possession, its DC variant is credited with caused motion such that '*x* causes *z* to go to *y*', where each variable stands for Agent, There, and Goal, respectively. The alternation between the two variants was analyzed by Pinker (1989), then it was further formalized by Krifka (1999). For example, (i-a) and (i-b) below show the contrast between 'Ann gives the box to Beth' (DC) and 'Ann gives Beth the box' (DOC) represented in the neo-Davidsonian event semantics (here, *e* and *s* stand for *event* and *state*, respectively).

(i) a. ∃e∃e'[AGENT(e, Ann) ∧ THEME(e, box) ∧ CAUSE(e, e') ∧ MOVE(e') ∧ THEME(e', box) ∧ GOAL(e', Beth)]
b. ∃e∃s[AGENT(e, Ann) ∧ THEME(e, box) ∧ CAUSE(e, s) ∧ s: HAVE(Beth, box)]
(Krifka 1999: 265)

4) Given *m* for an individual *Maria* and *x, y* for argument variables, the logical form of (3b) is represented as follows:

(ii) a. ∃y[baby(y) ∧ ∀x[bottle(x) → gave(m, x, y)]] ∃ > ∀
b. ∀x[bottle(x)→∃y[baby(y) ∧ gave(m, x, y)]] ∀ > ∃

The difference in meaning can be captured as follows: (ii-a) is paraphrased as 'Every bottle was given to a possible different baby' while (ii-b) as 'There was a specific bottle which was given to every baby'.

5) Note that √*give* stands for a lexical root with no categorial information. In order to specify its category, √Root must merge with functional heads like *n* or *v*. In (5), (set-)Merge is applied to *v* and √*give*, and then *v* internally Merges {*v*, √give} to derive an ordered set of {*v*, {*v*, √give}}.

6) According to Rizzi's maximality principle, only maximal objects with a given label can be moved. Under this principle, being a (categorically) XP does not guarantee that it becomes a target of movement. In (5), for example, DP *John* has φ-feature shared with P_{HAVE}, but it is not maximal in terms of φ because there is another object labeled with the same φ above it, namely <φ, φ>, which is maximal of course.

7) Figure 4 is cited from Gussenhoven and Jacobs (2005), on page 217.

8) For example, *there* cannot be omitted in 'We consider [*there*/*ø [$to_{[EPP]}$ [be a man in the room]]]', and the form of a finite *be* must match the subject as in 'The $problem_{[SG]}$ $is_{[SG]}$/*$are_{[PL]}$

wires in the attic' and 'Wires[PL] in the attic *are*[PL]/**is*[SG] the problem'.

9) As for this escape, Den Dikken implies that the landing site of a licensed DP can be SpecVP or within an aspectual projection between *v* and VP (p. 106, fn. 16).

10) For example, it is assumed in Bruening (1999) that multiple QR targets Spec-*v**P positions with the original hierarchical relationship preserved. I will not show the more detailed derivation here, but further investigations are necessary of course.

11) In his extensive discussion on the *v*P structure, Poole (2011) similarly points out that embedded subjects in the ECM context move to *v*P overtly, but not covertly at LF.

12) In the survey, each Japanese translation with the two corresponding English samples were presented like below.

Watashi-ni 2-mai chiketto-o okutte kure-masu-ka? [written in Japanese] (lit.: to-me, 2 tickets, send, can-you-please?) 1 Can you send me two tickets? [ ] OK [ ] NG 2 Can you send two tickets to me? [ ] OK [ ] NG

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