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ON THE APPLICATIVE APPROACH TO THE DOUBLE OBJECT CONSTRUCTION*

1 INTRODUCTION

There have been many arguments and approaches to the double object construction in English as shown in (1), since it has quite a few special properties.

- (1) a. John gave Mary a book.
- b. John gave a book to Mary.

The properties of the double object construction that have been frequently focused on are the following. First of all, the double object construction shows syntactic asymmetries¹ between the two objects. The first NP with a goal theta role, so-called the ‘indirect object’ c-commands the other NP with a theme theta role, so-called the ‘direct object’ asymmetrically. Therefore, as in (2b), the indirect object cannot be a reflexive and the direct object cannot be its antecedent, because the direct object is not able to c-command the indirect object.

- (2) a. I showed Mary herself.
- b. *I showed herself Mary.

Secondly, we can see some semantic differences between the double object construction and its corresponding oblique dative construction as in (1b).

- (3) a. The article gave me a headache.
- b. *The article gave a headache to me.

(Miyagawa and Tsujioka 2004: 2)

One difference is concerned with a causative interpretation of the double object construction. The double object construction (3a) is grammatical. The sentence is

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¹ Other syntactic asymmetries are discussed in Section 2.

“interpreted as my having read the article was responsible for *causing* my headache” (Miyagawa and Tsujioka 2004). On the other hand, the oblique dative construction (3b) is semantically ungrammatical. This implies that the double object construction is different from the oblique dative construction in conveying such a causative reading.

Another semantic difference between the two constructions is a possessive relation between the indirect object and the direct object in the double object construction.

- (4) a. The editor sent Sue the article.
 b. ??The editor sent Philadelphia the article. (Harley 2002: 35)

If the indirect object is animate as in (4a), the sentence is grammatical. When the indirect object is inanimate as in (4b), then the sentence becomes semantically deviant. The example (4b) is semantically acceptable, if and only if the indirect object *Philadelphia* stands for an organization of people. The examples (4) show that there is a possessive relation between the indirect object and the direct object.

Thirdly, the two objects of the double object construction differ in their behaviors on extraction. In (5a), the indirect object cannot undergo *wh*-movement, though the direct object can undergo *wh*-movement as in (5b).

- (5) a. *Who did you give t a book?
 b. What did you give John t? (Oba 2002: 59)

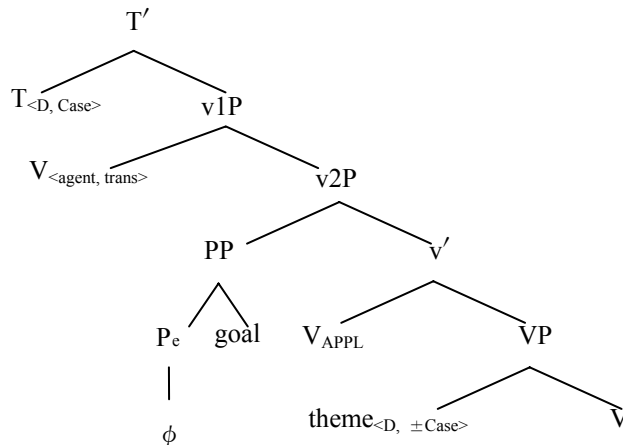
Finally, the two objects are also different in passivization. As in (6a), the indirect object can be a subject of the passive sentence. On the other hand, the direct object cannot passivize as illustrated in (6b).

- (6) a. Mary was sent a letter.
 b. *A letter was sent Mary. (Larson 1988: 362-363)

In order to account for the four properties I have illustrated above, I will analyze the syntactic structure of the double object construction, following the applicative approach advocated by Marantz (1993). I will posit the structure of the double object construction which is based on the structure that Anagnostopoulou (2003) suggests. Anagnostopoulou adopts the structure with the applicative head from Marantz, making a few modifications on it in the framework of the Minimalist Program.

However, her structure is somewhat problematic concerning prohibition on extraction of the indirect object like the example (5) above. Therefore, I will modify the structure of the double object construction with an empty preposition P_e adopted from Kayne (1984). The structure I will propose in this thesis is illustrated in (7). The indirect object occupies the complement of PP whose head is the empty preposition P_e .

(7)



I will further explain differences of behaviors in passivization between *give*-class verbs and *buy*-class verbs as illustrated in (8) and (9)², using the structure with the applicative verb head in (7). I will posit that absorption of P_e is responsible for the differences.

- (8) a. They give good students scholarships.
 b. Good students are given scholarships.
 c. *Scholarships are given good students. (Iwakura 2000: 218)
- (9) a. They buy their children new toys.
 b. *Their children are bought new toys.
 c. *New toys are bought their children.

This article is organized as follows. Section 2 reviews previous analyses of the double object construction. I will have a look at Larson (1988) as a representative of the transformational analyses and Beck and Johnson (2004) as a representative of the small clause analysis. Section 3 examines the structure of the double object construction with the applicative head. Also, I will propose that the indirect object resides inside a PP with the empty preposition P_e. Section 4 deals with the contrast between *give*-class verbs and *buy*-class verbs in passives. Iwakura (2000) is reviewed, and then the alternative analysis will be suggested. Section 5 concludes the article.

2 PREVIOUS ANALYSES

In this section, I will review previous analyses of the double object construction and

² According to Czepluch (1982), there are some native speakers of English who accept all types of passive sentence of the ditransitive verbs in (8) and (9). However, I regard the judgment in (8) and (9) as a normal standard, as (8c), (9b) and (9c) are generally unacceptable.

point out some problems concerned with these analyses. There are two types of analysis that I will deal with. One is Larson (1988). He is a representative of the transformational approach, who argues that the double object construction and the oblique dative construction share the same D-structure. He claims that the double object construction is derived from the oblique dative construction.³ The other is Beck and Johnson (2004). They propose that the two sentences have different D-structures and that they are not transformationally connected with each other.

2.1 Larson (1988)

2.1.1 Larsonian VP shell Larson (1988) proposes the following structure of the double object construction and that of the oblique dative construction, and claims that the former is derived from the latter. His claim is grounded on syntactic asymmetries in c-command shown by Barss and Lasnik (1986) and Uniformity of Theta Assignment Hypothesis (UTAH) advocated by Baker (1988), a hypothesis that maintains that each theta role assigned by a particular predicate has to be structurally associated with a particular syntactic position. I will display the data which shows the syntactic asymmetries in (10).

- | | | |
|---------|--|---------------------------|
| (10) a. | I showed Mary herself. | (anaphor binding) |
| | *I showed herself Mary. | |
| b. | I gave every worker _i his _i paycheck. | (quantifier binding) |
| | *I gave its _i owner every paycheck _i . | |
| c. | Which man _i did you send his _i paycheck? | (weak crossover) |
| | *Whose _i pay did you send his _i mother? | |
| d. | Who did you give which paycheck? | (superiority) |
| | *Which paycheck did you give who? | |
| e. | I showed each man the other's socks. | (each ...the other) |
| | *I showed the other's friend each man. | |
| f. | I showed no one anything. | (negative polarity items) |
| | *I showed anyone nothing. | (Larson 1988: 336-337) |

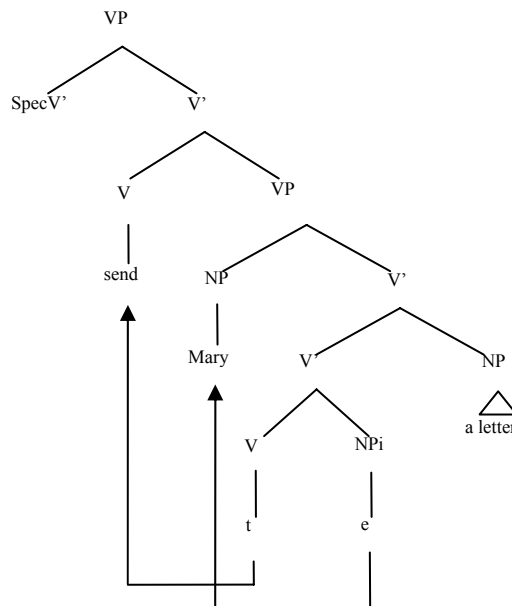
All the phenomena listed above involve c-command relations. (10a) is the example of the reflexives, where the antecedent must c-command its reflexive. (10b) shows an asymmetry regarding quantifier-pronoun binding possibilities. A quantifier has to c-command a pronoun at S-structure. In (10c), you can see a weak cross over asymmetry. It is an asymmetry concerning the so-called 'crossover' effect that a *wh*-phrase in the domain of an NP containing a pronoun cannot be moved over the c-commanding NP if the *wh*-phrase and the pronoun are coreferential. As you see in (10d), the double object construction shows an asymmetry in superiority effects that a

³ There are also some syntacticians in the position of the transformational analysis who claims that not the oblique dative construction but the double object construction is the base form contrary to Larson (Obo 1993, Takano 1998).

wh-phrase cannot be moved over another *wh*-phrase which dominates it. (10e) is concerned with an asymmetry in a reciprocal reading which arises when the *each*-phrase *c*-commands the *other*-phrase. The final one (10f) contains a negative polarity item which must be *c*-commanded by an ‘affective element’ such as negation or a negative quantifier.

(11) [_{VP} [_{V'} [_{VP} [_{NP} [a letter] [_{V'} [_t [_{PP} [to Mary]]]]]]].

(12) a. John sent Mary a letter.
b.



(Larson 1988: 353)

The structure of the oblique dative construction that Larson posits is (11). The verb *sent* and the PP *to Mary* form a VP₄. The object *letter* is in the specifier of the verb phrase. A further verb phrase is projected above the VP, which is called a (Larsonian) VP-shell. The verb *sent* moves to the head of the upper VP in order to assign objective Case to the object.

⁴ Larson shows arguments given in Marantz (1984) to support his claim that the verb and the PP are forming a constituent at D-Structure. Marantz (1984) claims that not a simple verb but a VP does assign a theta role to the matrix subject. Consider the data (ia,b).

(i) a. Beethoven gave the Fifth Symphony to the world.
b. Beethoven gave the Fifth Symphony to his patron.

(ia) and (ib) are similar dative constructions, but they have a rather different meaning. (ia) means that ‘Beethoven created the Fifth Symphony’, while (ib) is synonymous with ‘Beethoven got his patron the Fifth Symphony.’ The object *the Fifth Symphony* is understood as a composition created by Beethoven in (ia) but a physical object to be transferred in (ib). Thus, the semantic role assigned to the direct object seems to depend on the nature of the recipient in the goal argument.

The structure of the double object construction (12) is derived from the structure of the oblique dative construction (11). The preposition *to* is absorbed so that the NP *Mary* cannot be assigned Case by *to* anymore. The NP *a letter* which occupies the specifier of the lower VP is demoted to an adjunct in the right position of the verb. The NP *Mary* has to raise to the specifier of the upper VP so as to be assigned Case. This operation is similar to passivization and is called ‘dative shift’.

Larson solves the problem on Case assignment by positing two kinds of objective Case. He assumes that the indirect object bearing a goal theta role is assigned structural objective Case, and that the direct object bearing a theme theta role is assigned inherent objective Case.

- (13) a. Mary was sent a letter.
 b. *A letter was sent Mary. (Larson 1988: 362-363)

He deals with the two types of passive sentence of the double object construction like (13) in the following way. (13a) is a sentence where the indirect object passivizes, which is called ‘indirect passive’ by Larson. In the derivation of (13a), the preposition *to* is absorbed, so the indirect object moves to spec-IP (the subject position of the sentence) where no theta role is assigned, since it cannot be assigned Case by *to* any more. The indirect object can be assigned Case there finally. On the other hand, the direct object is assigned inherent objective Case, and it remains in the base position. The derivation converges, hence (13a) is grammatical.

In (13b), it is the direct object that raises to the subject of the passive sentence. The preposition *to* is absorbed likewise, thus the indirect object cannot be assigned Case by *to*. However, a passive affix *-en* absorbs structural objective Case, so the indirect object remaining in the base position cannot be assigned Case by the verb, too. The derivation crashes, hence (13b) is deviant.

2.1.2 Problems with Larson (1988) Although Larson gives an attractive explanation that the two sentences share the same D-structures, it has a few problems.

First of all, indeed this analysis can account for the syntactic asymmetries in (10), but it cannot explain the examples in (14) and (15). This problem has already been noticed by Oba (1993), Takano (1998) and so forth.

- (14) a. *I gave/showed each other’s mothers the babies.
 b. ?I gave/showed each other’s babies to the mothers.
 (15) a. *I gave/showed his_i mother every baby_i.
 b. ?I gave/showed her_i baby to every mother_i. (Takano 1998: 823-824)

Although the reciprocal anaphor *each other* cannot precede its antecedent *the babies* in S-structure in the double object construction (14a), the dative sentence (14b), where the reciprocal anaphor precedes its antecedent, becomes more acceptable. In the oblique dative sentence (15b), it becomes better even if the possessive pronoun *her* precedes its antecedent *every mother*, too. On the other hand, (15a) is ungrammatical, where the possessive pronoun *his* precedes the quantifier *every*

mother.

Thus, Larson's structure of the oblique dative construction (11) seems not to be true. It seems to us that the dative PP should c-command the object in the base position. However, a reflexive should not precede its antecedent in S-structure as in (16b). The antecedent must c-command the reflexive asymmetrically in S-structure (16a).

- (16) a. I showed John_i to himself_i (in the mirror).
 b. *I showed himself_i to John_i (in the mirror). (Mihara 2004: 231)

We cannot easily affirm the dative PP to be higher than the direct object in the base position. I will not mention this problem any further.

Secondly, there is a problem concerning Case assignment. As we have already seen, according to Larson, the indirect object is assigned structural Case and the direct object is assigned inherent Case. However, we cannot find any empirical evidence on it, as there is no morphological difference between the direct object and the indirect object in English.

Finally, Larson's analysis cannot explain semantic differences between the double object construction and the oblique dative construction. As I have mentioned in Section 1, (3a) (repeated in (17a)) has the interpretation that reading the article caused me to have a headache. However (3b) (repeated in (17b)) lacks such an interpretation and becomes semantically ungrammatical.

- (17) a. The article gave me a headache.
 b. *The article gave a headache to me.
 (18) a. I sent the boarder/*the border a package.
 b. I sent a package to the boarder/the border.
 (Miyagawa and Tsujioka 2004: 2)

There is another semantic contrast between the double object construction and the oblique dative construction as I have shown in Section 1. In the double object construction (18a), the indirect object should be an animate goal. Thus the NP *the border* cannot be the indirect object, since it is an inanimate goal. Contrastively, a PP with a goal argument does not have to be animate in the oblique dative construction (18b).

As discussed above, Larson's analysis is rather problematic. Thus, we will consider a better analysis, resolving these problems.

2.2 Small Clause Analysis

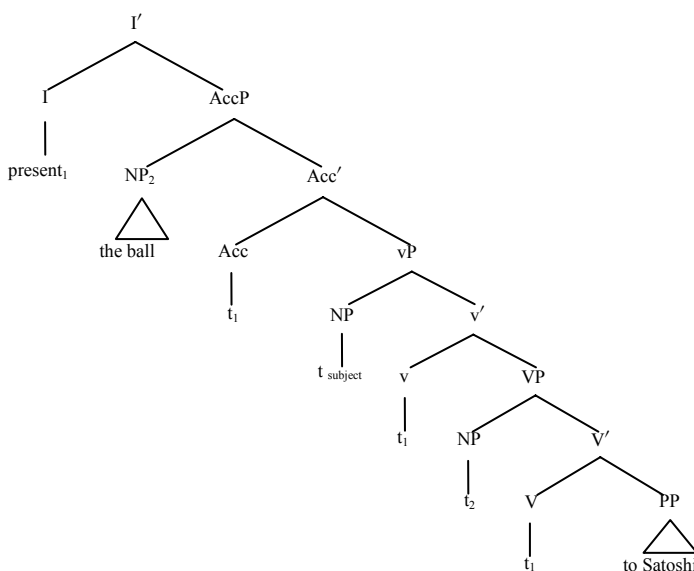
In this section, I will consider the small clause analysis of the double object construction. I will review Beck and Johnson (2004) as a representative of this analysis.

2.2.1 *Beck and Johnson (2004)* Following the proposal of Kayne (1984), Beck and Johnson (2004) posits that the double object construction has such a structure as the indirect object and the direct object form a small clause. On the other hand, the oblique dative construction does not include a small clause. They claim that the latter has a structure based on Larson (1988).

The structure of the oblique dative construction is (19). The direct object *the ball* is based in the specifier of the VP whose head is the verb *present*. The goal PP *to Satoshi* occupies the complement of the VP. Another vP with a covert head verb is projected above the VP.

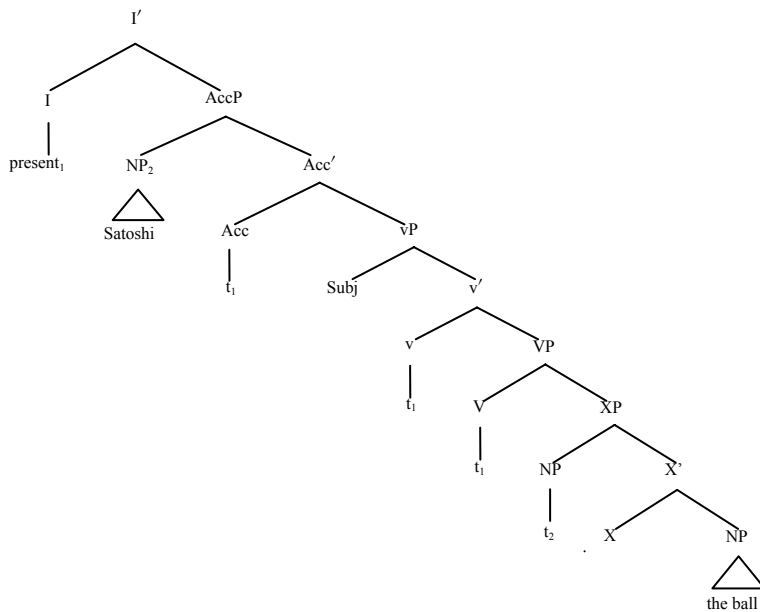
Derivation to the surface form is as follows. The verb *present* undergoes head movement from the base position head- VP to head- vP, then to head- AccP, and finally to head- IP. The NP *the ball* is moved from spec- VP to spec- AccP (Notice that Beck and Johnson assumes an AccP in the structure).

(19) present the ball to Satoshi



(Beck and Johnson 2004: 100)

(20) present Satoshi the ball



(Beck and Johnson 2004: 102)

The structure of the double object construction is (20). In (20), the indirect object and the direct object form a small clause XP which has a covert head X . The small clause XP is a complement of the verb *present*. The indirect object *Satoshi* undergoes movement from spec- XP to spec- $AccP$. The verb *present* moves from the base position head- VP to head- vP in order to assign an agent theta role to a subject. Then, it raises to head- $AccP$, and finally to spec- IP . The derivation converges.

Beck and Johnson claim that the category of the XP is a HAVEP. The reason why they suppose that it is a HAVEP comes from the HAVE (possessive) -relation between the indirect object and the direct object in the double object construction. As seen in (4) in section 1, the indirect object must be the prospective possessor of the direct object, that is why the indirect object should be animate. Beck and Johnson take into consideration this special semantic property of the double object construction.

2.2.2 Evidence for the Small Clause Analysis Beck and Johnson (2004) show that the structure of the double object construction involves the small clause HAVEP as we have seen above. There are some pieces of evidence for their claim.

First, they illustrate deverbal nominalizations as a piece of evidence. Deverbal nominalizations allow the object of the verb to be in the genitive of the resulting NP or inside an *of* phrase. It plays a role in deciding whether a NP after the verb is an argument or not. In (21), the internal argument of the verb *the problem* can surface either as the genitive of the NP *the examination* or inside the *of* phrase.

- (21) examine the problem \Rightarrow
 the examination of the problem
 the problem's examination (Beck and Johnson 2004: 98)

Using this test, the subject of the small clause turns out not to be an argument of the verb. In (22), the subject of the small clause *Thilo* cannot be in the genitive or inside the *of* phrase in deverbal nominalization.

- (22) believe Thilo handsome \Rightarrow
 *the belief of Thilo handsome
 *Thilo's belief handsome (ibid: 99)

Similarly, the indirect object of the double object construction seems not to be an argument of the verb. In (23), the indirect object of the ditransitive verb *present* cannot occupy either the possessive of the deverbal noun *presentation* or the complement of the *of* phrase. We can conclude that the structure of the double object construction has the same small clause as the example (22).

- (23) present Satoshi the ball \Rightarrow
 *the presentation of Satoshi of the ball
 *Satoshi's presentation of the ball (ibid.)

On the other hand, the direct object of the oblique dative construction turns out to be an argument of the verb. The direct object occurs in the genitive of the deverbal noun *presentation* or inside the *of*-phrase as in (24).

- (24) present the ball to Satoshi \Rightarrow
 the presentation of the ball to Satoshi
 the ball's presentation to Satoshi (ibid.)

Secondly, they gave examples of the double object construction about extraction as a piece of evidence.

- (25) a. What did you send a book about to my friend?
 b. *Who did you send a friend of a book? (ibid.: 102)

In the oblique dative construction (25a), an element can be extracted from the object, as the oblique dative construction does not constitute an island. On the other hand, an element cannot be extracted out of the indirect object in the double object construction (25b). It is easy to explain on the small clause analysis, because the subject of a small clause is known to constitute an island effect for extraction.

- (26) a. Who did you visit a friend of yesterday?
 b. *Who did you believe a friend of satisfied? (ibid.)

In the example with an obvious small clause (26b), the subject of the small clause constitutes an island effect, so extraction of the element from the subject of the small clause is forbidden. This is similar to the case of the double object construction. Therefore, Beck and Johnson claim that the double object construction has a small clause.

Finally, the adverb *again*⁵ also proves the small clause analysis. They mention that “*again* operates on a property of events and indicates repetition of events characterized by that property.” The adverb *again* makes the double object sentence (27) ambiguous.

(27) Thilo gave Satoshi the map again. (Beck and Johnson 2004: 113)

One reading that (27) has is a restitutive reading. In this reading, the sentence (27) means that Thilo’s giving the map to Satoshi caused Satoshi to have the map again. The semantic structure is shown in (28) and the semantic interpretation is shown in (29)⁶. This restitutive reading suggests that the adverb *again* adjoins to the small clause *Satoshi HAVE the map*.

- (28) Thilo [give [BECOME [_{HAVEP} [_{HAVEP} Satoshi HAVE the map] again]]]
 (29) $\lambda e. \text{give}_e(\text{Thilo}) \ \& \ \exists e' [\text{BECOME}_{e'}(\lambda e'' . \text{again}_{e''}(\lambda e''' . \text{have}_{e''}(\text{the_map})(\text{Satoshi}))) \ \& \ \text{CAUSE}(e')](e)$ (ibid.: 114)

The other reading is a repetitive reading. In this reading, the sentence (27) assumes that Thilo’s giving of the map to Satoshi happened before. The semantic structure is shown in (30), and the semantic interpretation is shown in (31). The repetitive reading suggests that the adverb *again* adjoins to the vP.

- (30) [_{VP} [_{VP} Thilo [give [BECOME [_{HAVEP} Satoshi HAVE the map]]]]] again]
 (31) $\lambda e. \text{again}_e(\lambda e' . \text{give}_{e'}(\text{Thilo}) \ \& \ \exists e'' [\text{BECOME}_{e''}(\lambda e''' . \text{have}_{e''}(\text{the_map})(\text{Satoshi}))) \ \& \ \text{CAUSE}(e'')(e'))$ (ibid.)

All the three pieces of evidence above seem to prove that the double object construction includes a small clause.

⁵ The semantic representation of *again* is defined as in (i).

(i) $[[\text{again}]](P \langle i, t \rangle)(e) = 1$ iff $P(e) \ \& \ \exists e' [e' < e \ \& \ P(e')]$
 $= 0$ iff $\neg P(e) \ \& \ \exists e' [e' < e \ \& \ P(e')]$ undefined otherwise.

⁶ Beck and Johnson (2004) assume the standard interpretation of BECOME and CAUSE as in (i) and (ii).

(i) $[[\text{BECOME}]](P)(e) = 1$ iff e is the smallest event such that P is not true of the prestate of e but P is true of the result state of e .

(ii) $[[\text{CAUSE}]](e')(e) = 1$ iff e' occurred, e occurred and if e had not occurred, then e' would not have occurred.

See Beck and Johnson for more specific information on semantic interpretations.

2.2.3 *Problems with Beck and Johnson (2004)* Although there is strong evidence supporting their analysis, we can find some problems with the small clause analysis. One problem is that it is doubtful whether the constituent made of the indirect object and the direct object is really a small clause. Consider (32). In the sentence with a typical small clause like (32a), the small clause can be the antecedent of the relative clause. On the other hand, the constituent of the indirect object and the direct object cannot be the antecedent of the relative clause as in (32b).

- (32) a. John considers Bill foolish, which will, however, turn out not be the case.
 b. *John gives Mary a book, which will, however, turn out not to be the case. (Amano 1998: 51)

Similarly, there is another contrast between the construction with a small clause and the double object construction.

- (33) a. John considers Bill probably afraid of snakes.
 b. *John gave Mary probably a book. (ibid.)

In (33a), the adverb *probably* can be inserted between the subject and the predicate of the small clause. However, the adverb cannot be inserted between the indirect object and the direct object in (33b).

Another problem with Beck and Johnson is concerned with a category HAVEP. This category seems to be ad hoc only for the sake of the double object construction. If it were applicable to other types of construction, we could claim that there exists this kind of category.

Therefore, we will analyze the double object construction based on an alternative approach that is better than the small clause analysis, though the small clause analysis can be supported by some strong evidence.

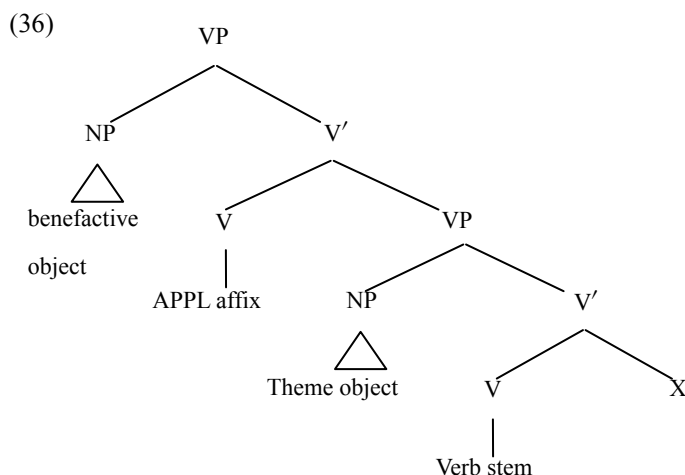
3 ALTERNATIVE ANALYSIS

In this section, I will present the main claim that the double object construction includes the applicative head verb. I will adopt the structure of the double object construction from Anagnostopoulou (2003), which is based on Marantz (1993). Positing this structure enables us to account for three of the properties of the double object construction: syntactic asymmetries, semantic differences from the oblique dative construction, and passivization of the objects. However, the structure cannot solve the problem with prohibition against extraction of the indirect object. In order to solve this problem, I will adopt the empty preposition P_e from Kayne (1984). Finally, I will discuss asymmetrical C-command between the indirect object and the direct object in the structure with the P_e .

This section deals with the applicative approach to the double object construction and shows how that approach can account for the properties of the double object construction.

(34) Elmer baked Hortense some cookies.
 (35) Chicheŵa
 Chitsiru chi-na-gul-ir-a atsikana mphatso.
 Fool SP-pst-buy-APPL-fv girls gift
 ‘The fool bought a gift for the girls.’ (Marantz 1993: 115)

⁷ The applicative construction in Bantu is a construction such that one of the NP is the logical object of the verb while the other object is added with the addition of the applied affix *-ir*.



(Marantz 1993: 124)

(37) affected object \longrightarrow specifier of VP (ibid.: 123)

The verb stem is ‘raised’ to V APPL or it is ‘merged’ into V APPL⁸. As his analysis is not based on the VP internal hypothesis, a subject with an agent argument is placed in the specifier of IP.

On the other hand, the structure of the oblique dative construction is (38). It is almost the same as Larson’s structure of the dative construction. The verb and the dative PP form the V’ , and the direct object with a theme theta role occupies the specifier of the V’ . The main difference from the double object construction is that a VP with an applicative verb head is not projected over the VP.⁹ The subject bearing an agent theta role is placed in the specifier of IP.

⁸ Marantz(1993) says, whether the verb stem raises to the APPLV or moves there is a parametric difference, from the observation of crosslinguistic variations in passives of the double object construction.

⁹ To prove that the double object construction includes two projections of VP and that the oblique dative construction has one projection of VP, Marantz illustrates Aoun and Li’s (1989) data as a piece of evidence.

- (i) a. Elmer gave someone every porcupine.

OK: There’s one guy that got all the porcupines.

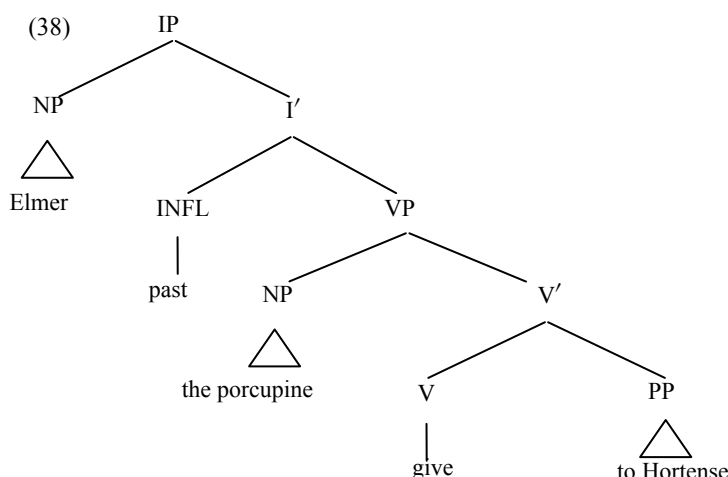
OUT: For each porcupine, there’s someone that got that porcupine.

- b. Elmer gave some porcupine to everyone.

OK: There’s one porcupine that Elmer gave to everyone.

OK: Every person got at least one porcupine from Elmer.

Quantifiers adjoin at LF to the minimal maximal projection dominating them. As the two objects in the double object construction are in different VPs, the upper indirect object has to take a wider scope than the lower direct object as in (ia). The oblique dative construction (ib) has an object and a PP in the same VP, so a quantifier either in the object or in the PP can take a wider scope.



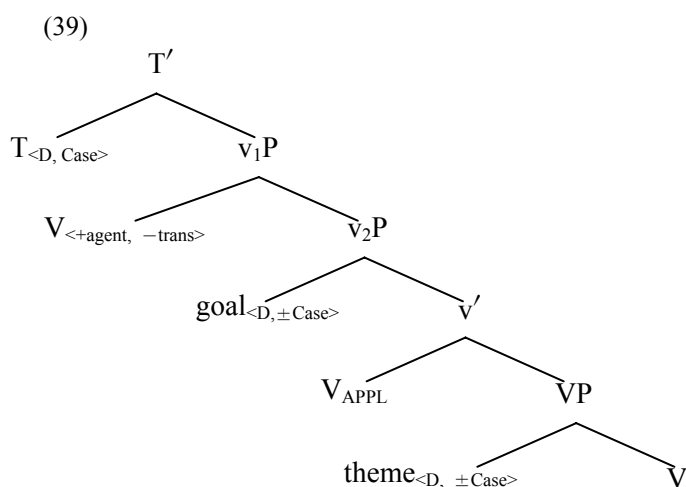
(Marantz 1993: 120)

3.1.2 Revised Analysis of Marantz (1993): Anagnostopoulou (2003) In this paper, I will follow the double object construction based on the applicative approach of Marantz (1993) mentioned above. However, Marantz (1993) does not adopt the VP internal hypothesis and the structure is fraught with some problems especially in Case system. Therefore, I will look at Anagnostopoulou (2003), the revised analysis of Marantz (1993) in the framework of the Minimalist Program.

At the beginning, we will look at several properties of a functional head v based on Chomsky (2001). There are three properties concerning the functional head v . The first one is that a v is a Locus of agentivity. A v has features that licenses an external argument and interprets it. The second property is that a v has Case features to check with objects. A v functions as a probe to check accusative Case. The third property is that there are two types of v : a transitive v and an intransitive v . The former introduces an external argument to vP and the latter does not.

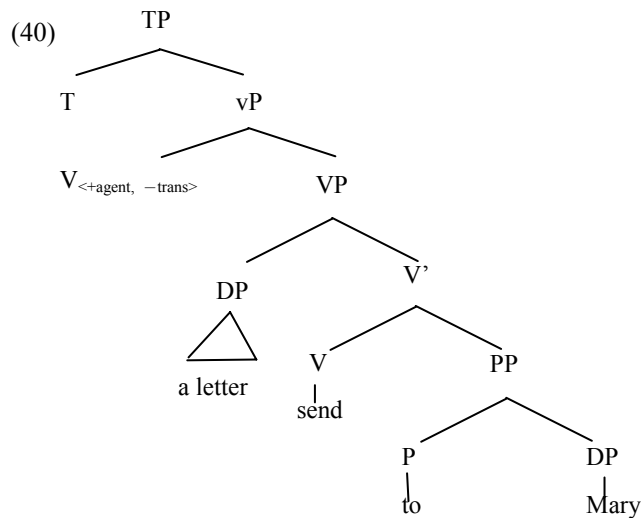
Taking these three properties into consideration, we can conclude that passives and unaccusatives have the following features. The passives carry the features $[+agentive][−transitive]$, and the unaccusatives have the features $[−agentive][−transitive]$.

Now we will discuss the structure of the double object construction and that of the oblique dative construction. The former is displayed in (39), and the latter is displayed in (40). Notice that the head verb of the highest v_1P in (39) and the head of the vP in (40) bear the features of passives, as Anagnostopoulou (2003) mainly deals with A-movement of the ditransitive verbs.



(Anagnostopoulou 2003: 80)

The tree diagram (39) is basically the same as the structure in Marantz (1993). The direct object bearing a theme theta role and the verb stem constitute a VP. Then, the v_2P is projected over the VP. The applicative verb V_{APPL} heads this new VP, where the V_{APPL} is covert as in Marantz (1993). The indirect object with a goal theta role occupies the specifier of the v_2P . The upper v_1P is projected further above. The head of this v_1P is a functional category which serves as a Locus of agentivity and transitivity. A subject of the sentence carrying an agent theta role occupies the specifier of the v_1P , although it is not displayed in (39).



(Anagnostopoulou 2003: 146)

In the structure of the oblique dative construction (40), the only difference from Marantz (1993) is that a functional category vP is projected. As in the case of the double object construction, this vP has the features of agentivity and transitivity. The direct object occupies the specifier of the lower VP, and the dative PP occupies the complement of the lower VP as in Larson likewise.

3.1.3 Merits of the Applicative Analysis The structure of the double object construction mentioned in the previous section, I will adopt in order to analyze the construction. There are several reasons why I will follow the applicative approach. The reasons are concerned with the special properties of the double object construction I showed in Section 1.

The first reason is regarding the syntactic asymmetries between the indirect object and the direct object as in (10), the data illustrated by Barss and Lasnik. As we have already seen in Section 1, the indirect object should asymmetrically c-command the direct object in the double object construction. The structure based on the applicative approach (39) met this requirement. The indirect object with a goal theta role is in the higher position than the direct object with a theme theta role.

As the second reason, this approach can explain the semantic differences between the double object construction and the dative construction. Miyagawa and Tsujioka (2004) say that the semantics of the applicative head can give rise to the causative interpretation as illustrated in (3) in Section 1.

Moreover, this approach can account for the restrictions of the indirect object displayed in (41)-(44), supposing that the specifier of the applicative verb phrase is occupied by the indirect object which is affected by the event described in the lowest VP.

- In (41a) the name of the country *France* cannot be the indirect object of the double object construction, though it can appear in the dative construction as in (41b). Next, compare (43) with (42). In (42), the NP with a goal role *her lover*, who is alive, can surface either as the indirect object of the double object construction or as the PP of the oblique dative construction. However, as in (43), the NP *her late lover* can be the PP of the oblique dative construction, but it can never be the indirect object of the double object construction. (44) is an expression of physical contact. In this case too, a person who got kicked cannot be the indirect object, although this can appear in the oblique dative construction.

All the data (41)-(44) listed above can be accounted for uniformly under the applicative analysis. The indirect object must be an object 'affected' by the event described by the VP that consists of the verb and the direct object. To explain in this way seems even more appropriate than to explain that the restrictions of the indirect object come from the HAVE- relation between the indirect object and the direct object.

The final reason is concerned with passives of the double object construction. As I have mentioned in Section 1, the indirect object differs from the direct object in passivization as in (45).

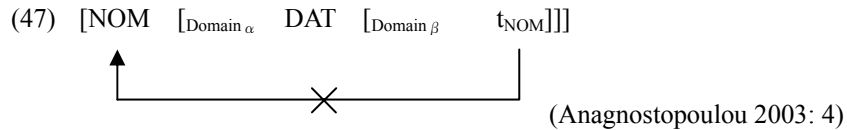
- (45) a. John sent Mary a letter.
b. Mary was sent a letter.
c.*?A letter was sent Mary.

Following Anagnostopoulou (2003), it is concluded that the indirect object blocks movement of the direct object because of locality. The indirect object is closer to the target of movement (in this case the specifier of IP) than the direct object. Thus, the target attracts the phrase that has proper features, and the indirect object undergoes passivization. The definition of the closeness is displayed in (46). In English where the indirect object bears structural Case, the intervening features of the indirect object inducing the locality violation are Case and categorical D-features.

- (46) If β c-commands α , and τ is the target of movement, then β is closer to τ than α unless β is in the same minimal domain as (i) τ or (ii) α .
(Anagnostopoulou 2003: 77)

In the structure of the double object construction (39), the indirect object is structurally higher than the direct object. The two objects do not belong to the

minimal domain of the same head. Therefore, the indirect object moves to spec-TP. The indirect object intervenes in movement of the direct object because of (46). I will discuss the passives of the double object construction more specifically in Section 4.



In this section, we have discussed the merits of the applicative approach, and shown that it can account for the three properties of the double object construction. I will focus on the fourth property of the double object construction, namely impossibility of extracting the indirect object, under the applicative analysis.

3.2 The Indirect Object inside a PP

The previous section shows that the applicative approach can account for the properties of the double object construction. However, there is one problem concerning prohibition against extraction of the indirect object.

- (48) a. *Who did you give t a book?
 b. What did you give John t?
- (49) a. *This is the person who he gave that book.
 b. This is the book which he gave the person.
- (50) a. *It is John that he gave that book.
 b. It is that book that he gave John.
- (Oba 2002: 59)

(48) is an example involving *wh*-movement. (49) is a relative sentence and (50) is an *it*-cleft sentence. All of the three allow extraction of not the indirect object but the direct object. The structure of the double object construction (39) is yet to account for these asymmetries about extraction of the objects displayed in (48)-(50).

In order to explain this peculiarity of the double object construction, I will presuppose that the indirect object of the double object construction resides inside a PP which has an empty preposition as its head.

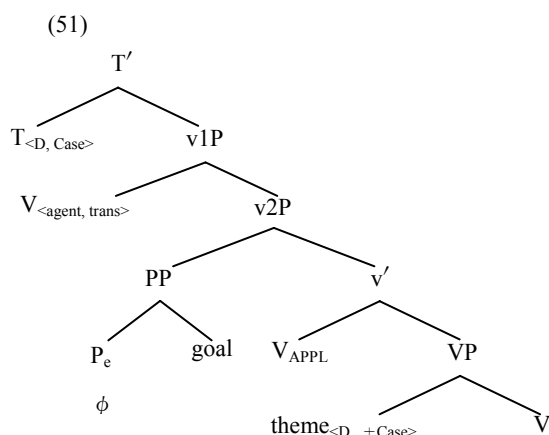
3.2.1 The Empty Preposition

3.2.1.1 The Structure of the Double Object Construction with P_e Suppose that the indirect object is inside a PP which has an empty preposition¹⁰. I will call this preposition P_e that is adopted from Kayne (1984). The structure of the double object

¹⁰ The empty preposition used here is different from an empty preposition in Harley (2002). She posits the null preposition G which is connected with HAVE-relation between the indirect object and the direct object. The empty preposition P_e is not related to a HAVE-relation.

construction with the applicative head V (39) is improved as in (51).

Following Kayne (1984), the empty preposition P_e is unable to check Case (see (52)). It has a role to transmit the objective (accusative) Case to the indirect object through percolation.



(52) An empty preposition cannot be the source of Case. (Kayne 1984: 195)

How to check Case of the indirect object is as follows. As the P_e cannot assign Case to the indirect object, the verb in the head of v1P must check Case of the indirect object. However, it cannot check Case of the indirect object directly as this object is governed by the P_e . Therefore, the verb assigns objective Case to PP at first. Then, the Case feature is percolated into its head P_e and the P_e checks objective Case of the indirect object. The Case of the indirect object is checked via the P_e by the verb.¹¹

Kayne (1984) shows a piece of evidence for the ability of English prepositions to assign objective Case.

(53) He was laughed at by the children. (ibid.: 196)

We can find from (53) that English prepositions can fail to assign oblique Case but can assign objective Case, because not oblique Case but objective Case can give way to nominative Case in passives.

3.2.1.2 *Evidence for the Empty Preposition* We have seen that the structure of the

¹¹ The data in (i) shows the peculiarity of P_e such that P_e transmits Case to the object from the verb.

(i) a. *Jody gave forcefully Andy the command.
b. *Andy gave quickly John a book. (Amano 1998: 171)

On the other hand, sentences with PP arguments allow adverbs to surface in front of the PP arguments as in (ii). This indicates overt prepositions have the ability to assign Case to its complements.

(ii) a. I paid immediately for the bag.
b. I talked quietly to her about it.

double object construction may involve the empty preposition P_e . I will give some evidence which implies existence of the empty preposition.

Let us consider transitive verbs that have objects with a location or a goal theta role like *visit* and *enter*.

- (54) a. I visited Paris last year.
b. He entered the dining room.

These verbs may have empty prepositions in front of the objects. Especially, some American native speakers use the verb *visit* with a preposition *in* as in (55).

- (55) I visited in Paris last year.

This fact suggests existence of the empty preposition in the double object construction.

Other evidence is floating quantifiers in Japanese, which may not be direct evidence for existence of the empty preposition in the double object construction in English. A quantifier floating off the direct object is perfectly grammatical in (56b). On the other hand, a quantifier floating off the indirect object is less acceptable as in (56a). As shown in (56c), quantifier floating off the noun *gakusei-ni* (*students*) is completely acceptable. However, quantifier float is impossible off a PP as it is displayed in (56d). This fact implies that the indirect object can be a preposition phrase in Japanese.

- (56) a. ?Taro-ga gakusei-ni sannin hon-wo watashita.
 Taro-Nom students-Dat three books-Acc give-past
b. Taro-ga gakusei-nihon-wo sansatsu watashita.
 Taro-Nom students-Dat books-Acc three give-past
c. Taro-ga gakusei-wo sannin nagutta
 Taro-Nom students-Acc three hit-past
d. *Taro-ga tegami-wo gakusei-kara sannin moratta
 Taro-Nom letters-Acc from students three get-past

Furthermore, the indirect object in Japanese can passivize as you can see in (57).

- (57) Sono Gakusei-ga hon-wo watasareta
 The Student-Nom book-Acc give-passive

(57) shows that the indirect object is assigned structural Case. Thus, the indirect object in Japanese seems to be a PP which is assigned structural Case. This implies that the indirect object in English may also be a PP assigned structural Case.

3.2.2. *Prohibition against Extraction of the Indirect Object* As I have shown in (48)-(50) (repeated in (58)-(60)), extraction of the indirect object is prohibited.

- (58) a. *Who did you give t a book?
b. What did you give John t?
- (59) a. *This is the person who he gave that book.
b. This is the book which he gave the person.
- (60) a. *It is John that he gave that book.
b. It is that book that he gave John. (Oba 2002: 59)

This restriction can be explained based on the structure (51). First let me have a look at Condition on Extraction Domains (CED).

CED, which is first advocated by Huang (1982), is “a constraint to the effect that only complements allow constituents to be extracted out of them, not specifiers or adjuncts” (Radford 2004).

- (61) Constraint on Extraction Domains/CED
Only complements allow material to be extracted out of them, not
specifiers or adjuncts. (Radford 2004: 218)

For example, (62b) is ungrammatical because a *wh*-phrase is extracted from the specifier.

- (62) a. [Part of *what*] has broken?
b. **What* has [part of ~~*what*~~] broken? (ibid.)

In the structure (51) (displayed again in (63)), the indirect object is involved in the PP whose head is the P_e. This PP occupies the specifier of vP of which head is the APPLV. Because of CED (61), extraction of the indirect object from the PP is prohibited. Thus, extractions of the indirect object (58)-(60) are ungrammatical.

```

graph TD
    T_prime[T'] --- T["T<D, Case>"]
    T_prime --- v1P[v1P]
    v1P --- V["V<agent, trans>"]
    v1P --- v2P[v2P]
    v2P --- PP[PP]
    v2P --- v_prime[v']
    PP --- P_e["P<e>"]
    PP --- goal[goal]
    P_e --- phi["φ"]
    goal --- the_girl["the girl"]
    v_prime --- V_APPL["V<APPL>"]
    v_prime --- VP[VP]
    V_APPL --- gave["gave"]
    VP --- theme["theme<D, ±Case>"]
    VP --- V_e["V<e>"]
    theme --- a_book["a book"]
    V_e --- read["read"]
  
```

3.2.3 *Asymmetrical C-Command* Though we could solve the problem about prohibition on extracting the indirect object with CED, another problem arises concerning the structure (63). In (63), the indirect object cannot c-command the direct object. Therefore, we cannot explain the syntactic asymmetries in (10) (repeated again in (64)).

- (64) a. I showed Mary herself. (anaphor binding)
 *I showed herself Mary.
 b. I gave every worker_i his_i paycheck. (quantifier binding)
 *I gave its_i owner every paycheck_i.
 c. Which man_i did you send his_i paycheck? (weak crossover)
 *Whose_i pay did you send his_i mother?
 d. Who did you give which paycheck? (superiority)
 *Which paycheck did you give who?
 e. I showed each man the other's socks. (each ...the other)
 *I showed the other's friend each man.
 f. I showed no one anything. (negative polarity items)
 *I showed anyone nothing.
- (Larson 1988: 336-337)

There are two options to solve the problem with asymmetrical c-command. As one option, we can find a key to solving the problem in Kayne (1994).

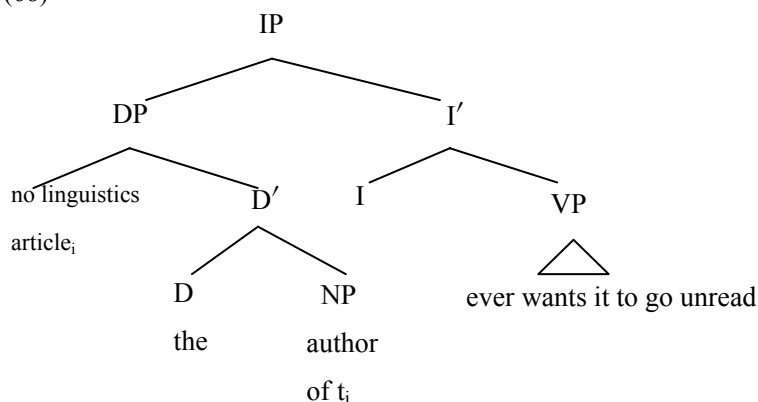
- (65) ?The father of every eight-year-old girl_i thinks she_i's a genius.
(66) ?The author of no linguistics article ever wants it to go unread.

(Kayne 1994: 25)

In (65) and (66), the antecedents (*every eight-year-old girl* in (65) and *no linguistics article* in (66)) do not seem to bind its binding variables (*she* in (65) and *ever* in (66)). However, the sentences are not deviant. These sentences suggest that the complements of a postnominal *of*, or *every eight-year-old girl* and *no linguistics article* are moved to the specifier of the DP at LF. Then, *every eight-year-old girl* and *no linguistics article* in spec-DP can bind their variables, as the specifier of the DP is capable of c-commanding an element in the complement of VP out of DP based on Kayne's definition of c-command (67).

(67) X c-commands Y iff X and Y are categories and X excludes Y and every category that dominates X dominates Y. (ibid.: 16)

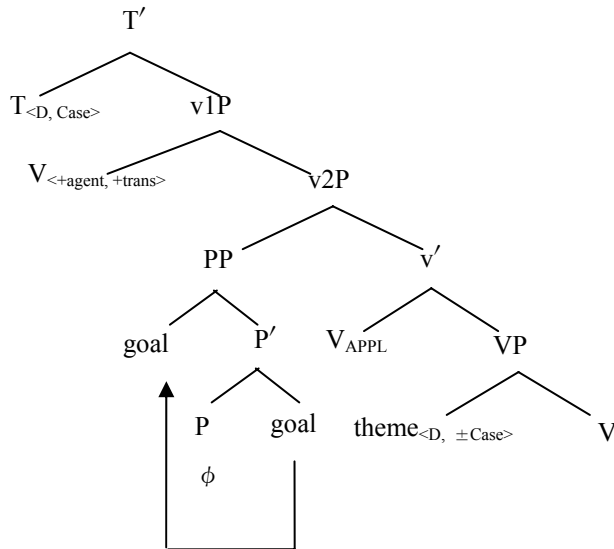
(68)



After the complements of *of* are moved to spec-DP, the structure of the sentence (66) becomes (68). In (68), DP and D' are two segments of one category under adjunction. Thus, the category that dominates *no linguistics article* in spec-DP is only the category which consists of IP and I', since the DP that dominates it is a segment. *No linguistics article* can c-command its variable *ever* in VP due to the definition (67).

Although this case is concerned with a certain operator position, so the situation is rather different, this movement to specifier may be applicable to the case of the double object construction. Suppose that the indirect object which is the complement of PP with a head P_e moves to spec-PP as in (69). Under the definition of c-command (67), the indirect object c-commands the direct object out of PP asymmetrically, as the PP that c-commands the indirect object is a segment.

(69)



I do not know whether the indirect object is moved to spec-PP at Syntax or at LF. However, it would be better if the indirect object is moved to spec-PP at Syntax, especially in the case of weak cross-over as in (64c), where a *wh*-phrase in the domain of an NP containing a pronoun cannot be moved over the c-commanding NP if the *wh*-phrase and the pronoun are coreferential.

There is a piece of evidence that implies the movement of the indirect object to spec-PP.

- (70) a. I gave the toys all to the children.
 b. I gave the men each a present.
 c. She sent the girls both presents. (Bowers 1993: 635)

In (70), I display the data of the double object construction involving floating quantifiers. This may show that a NP inside the indirect object undergoes movement to spec-PP and that a quantifier *each* or *both* is stranded in the complement of PP.

The other option to solve the problem with asymmetrical c-command is simpler. Suppose that the empty preposition P_e is possible to be disregarded in c-command. The indirect object can c-command the direct object asymmetrically, as the former is structurally higher than the latter. There is another example that the preposition is invisible to c-command.

- (71) She talked to Bill and Mary_i about themselves_i.

In (71)¹², the antecedent *Bill and Mary* can bind the reflexive *themselves*. In other words, the antecedent is possible to c-command the reflexive asymmetrically, disregarding the preposition *to*.

Though we face the problem with asymmetrical c-command, we can conquer it with the solutions mentioned above. In the next section, I will deal with differences between *give*-class verbs and *buy*-class verbs in passives based on the structure (63) that I advocate in this section.

4 EXPLAINING CONTRAST BETWEEN *GIVE* AND *BUY*

In this section, I will focus on properties of the double object construction concerned with passivization. Based on the structure advocated in the last section, I will explain the contrast between *give*-class verbs and *buy*-class verbs. The former verbs are ditransitive verbs whose corresponding dative forms (72) involve *to* PPs. As in (73), the indirect object of this type of verb can passivize, though the direct object is difficult to passivize. The latter verbs are ditransitive verbs of which corresponding dative forms (74) mostly take for PPs. In this type of sentence, neither of the two objects can passivize as in (75).

- (72) They give scholarships to good students.
- (73) a. They give good students scholarships.
 b. Good students are given scholarships.
 c. *Scholarships are given good students. (Iwakura 2000: 218)
- (74) They buy new toys for their children.
- (75) a. They buy their children new toys.
 b. *Their children are bought new toys.
 c. *New toys are bought their children.

4.1 Iwakura (2000)

4.1.1 Differences in Case-assigning Properties Let me first review Iwakura (2000), who explains that the two types of verb are different in Case check. Iwakura assumes that ditransitive verbs can check Case of the two objects. Then, he accounts for the differences in passives between *give* class verbs and *buy* class verbs (note that he calls the latter “*bring*-class verbs”) as in (76).

¹² Sentences like (71) allow a complement of the PP to be extracted, though extraction of the indirect object is blocked in the double object construction.

(i) a. Which girl did you talk to about her mother?
 b. Which boy did you talk to about which girl? (Amano 1998: 234)

I do not know whether this contrast between the sentence with PP complements and the double object construction is responsible for the structures or properties of the prepositions. Thus, I leave this question open.

- (76) a. Ditransitive *give*-class verbs have the capacity to assign two values of Acc, and their passive counterparts have the capacity to assign one value of Acc.
 b. Ditransitive *bring*-class verbs have the capacity to assign two values of Acc, regardless of whether they are active or passive.
 (Iwakura 2000: 218)

According to (76), the *give*-class verbs lose one value of accusative Case when the verb becomes passive, though the *bring* (*buy*)-class verbs keep the capacity to assign two values of accusative Case even if it becomes passive.

Another presupposition is made concerning agreement. He claims that “a lexical head with a Case-assigning property (for example verbs) can value and delete the Case feature of an element without involving agreement of ϕ features.” Therefore, he separates Case-assignment from agreement of ϕ features.

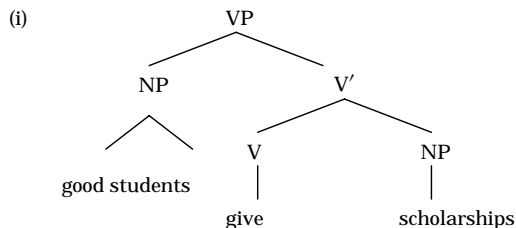
Then, a problem arises about how a probe finds a matching goal without agreement of ϕ features. To solve this problem, he posits the adjacency condition on Case-assignment following Radford (1997).

- (77) The Adjacency Condition on Case Assignment
 Case is assigned by V or P to an adjacent NP. (ibid.: 220)

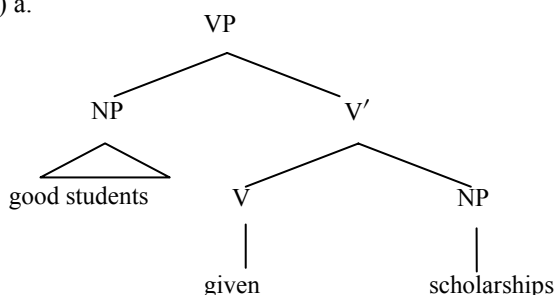
Under the condition (77), the probe need not seek the matching goal any more, since the goal is adjacent to the probe.

Now let me show the passive structure of the double object construction. The structure of *give*-class verbs is derived from the base form (78).¹³ Before we look at how the structure is derived, a presupposition (79) is posited, which is concerned with passive verbs and its internal arguments.

¹³ Case assignment in the double object construction he posits is as follows. Due to (77), the verb *give* value and delete the Case feature of its complement *scholarship*. The other object *good students* is also adjacent to the verb, so the verb can value and delete its Case feature. *Buy*-class verbs have the same structure, and they undergo Case assignment in the same way, too.



(78) a.

b. T [be [_v-given [good students *t_v* scholarships]]]

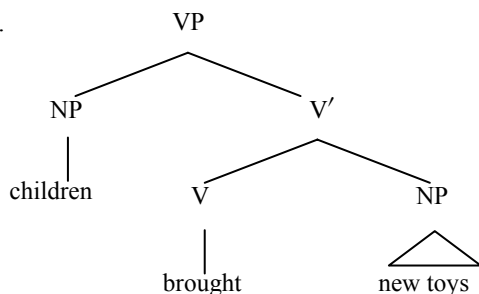
(79) A passive verb with the Case-assigning property can value and delete the Case feature of its complement. (Iwakura 2000: 222)

In (78a), the passive verb *given* values and deletes the Case feature of NP *scholarships*, as *scholarships* is its complement. However, the verb cannot value and delete the Case feature of the NP *good students* due to (79), because it is not a complement of the verb. Thus, T and the NP *good students* undergo agreement, and the ϕ set of T and the Case feature of *good students* are valued and deleted. *Good students* is moved to spec-TP in order to delete the EPP feature of T. Finally, the grammatical example (73b) is derived.

Next consider how the ungrammatical example (73c) is ruled out. Since it is a complement of the verb, the Case feature of *scholarship* is deleted so that this NP becomes inactive. Thus, the NP *scholarship* cannot raise to spec-TP. The derivation crashes and the sentence (73c) fails to be grammatical.

Finally, let us discuss the passive structure of *bring*-class verbs. The structure is shown below in (80). The base form is the same as the *give*-class verbs.

(80) a.

b. T [be [_v-brought [children *t_v* new toys]]]

(ibid.: 222-223)

In (80), the passive verb *brought* values and deletes the Case feature of the direct object *toys*. According to (79), the verb cannot value and delete the Case feature of the indirect object *children*, as it is not a complement of the verb. Agree holds

between T and the NP children. Then, children raises to spec-TP so as to check the EPP feature of T.

However, the passive verb brought retains the capacity to assign the second value of accusative Case. Thus, one Case feature remains unchecked, so the derivation crashes. Eventually, (75b) becomes deviant. The reason why (75c) is ungrammatical is the same as (73c). The Case feature of the direct object new toys is checked, hence it is not active any more. Therefore, it cannot raise to spec-TP. Thus, the derivation crashes.

4.1.2. Comments on Iwakura (2000) As we have discussed above, according to Iwakura (2000), give -class passive verbs have the capacity to assign only one value of accusative Case. On the other hand, buy -class passive verbs have the capacity to assign two values of accusative Case. Differences between the two classes of verb in passives come from that contrast. With some Norwegian and Swedish examples in (81) and (82), we may support his claim that some passive verbs can assign two values of accusative.

(81) Det ble gitt ham ei gave.

There was given him a present.

(82) Det erbjöds honom ett nytt job.

There was offered him a new job.

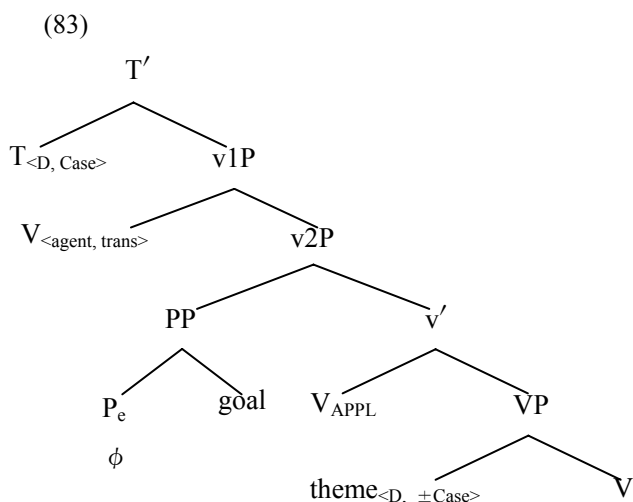
(Woolford 1993: 684)

(81) and (82) are the passive sentences of the double object construction with expletive subjects. In these examples, both the indirect object and the direct object remain in their base positions with accusative Case assigned as in the active voice. This suggests that passive verbs may assign two values of accusative Case.

However, there are some problems with Iwakura (2000). One big problem is a theoretical one. His claim requires quite a few special presuppositions like (77) and (79). This makes his theory less simple. Another problem is concerned with why *give*-class verbs and *bring* -class verbs differ in the capacity to assign accusative Case though they are both passive verbs. However, this question is difficult to explain. In the next section, I will account for the differences between *give*-class verbs and *buy* (*buy*) -class verbs based on the structure in Section 3.

4.2 Absorption of the Empty Preposition

Now we are in the position to explain the contrast between *give*-class verbs and that of *buy* (*bring*) -class verbs in passives based on the structure of the double object construction discussed in Section 3. The structure shown in (63) is displayed in (83) again.



Suppose that passive ditransitive verbs have the capacity to assign only one value of accusative Case. In the case of *give*-class verbs, the verbs absorb the empty preposition P_e when the verbs become passive. Presuppose that the indirect object cannot be assigned the value of accusative Case by the verb without the preposition P_e which transmits accusative Case to the indirect object. Hence, the Case feature of the indirect object is yet to be checked and it is active. The active indirect object agrees with T , and T assigns the value of nominative Case. The indirect object must raise to spec-TP in order to satisfy the EPP feature of T . Hence, the derivation converges, which generates the grammatical sentence (73b).

On the other hand, the direct object cannot undergo passivization. This object is assigned the value of accusative Case by the passive ditransitive verb, hence it is inactive. The direct object has no reason to raise to spec-TP. Therefore, the sentence (73c) is deviant.

Next let us consider the case of *buy*-class verbs. Suppose that the empty preposition P_e is not absorbed by the verb even though the verb becomes passive in the case of *buy*-class verbs and that the indirect object is prior to the direct object in Case-assigning because the indirect object is closer to its probe v <+agentive, -transitive>. The indirect object can be assigned the value of accusative Case, so it is not active any more. Because the indirect object is inactive, it cannot move to spec-TP. Hence, the example (75b), where the subject is the indirect object, is deviant.

On the other hand, the direct object is active, as the verb cannot assign the value of accusative Case to the direct object any more. It is because the verb has only one value of accusative Case which has already been assigned to the indirect object. However, the direct object cannot undergo movement to the subject, too. The reason why the direct object cannot passivize is concerned with locality, following Anagnostopoulou (2003). As we have already seen in 3.1.3., the indirect object blocks movement of the direct object to the subject, when the indirect object does not reside within the same minimal domain as the indirect object or the target of the movement

(spec-TP). The direct object cannot raise to spec-TP beyond the intervening indirect object. Thus, the derivation crashes, and the sentence (75c) is deviant, too.

I cannot explain why the verb absorbs the empty preposition P_e . The only thing I can mention is that it makes the difference between *give* -class verbs and *buy* -class verbs in passives whether the passive verbs absorb the empty preposition P_e . I will leave this question open. In the next section, I will focus on the oblique dative construction with the preposition *for* and discuss the properties of its *for*-PP.

4.3 Adjunct or Complement?

Finally, I will discuss whether the *for* PP in the oblique dative construction like (84), which corresponds to the double object construction of *buy* -class verbs, is actually an adjunct or a complement.

- (84) John bought a book for Mary.

On the one hand, the *for* PP seems to be an adjunct. We find some pieces of evidence which shows that the *for* PP is an adjunct.

First, it is possible to omit the PP from the oblique dative construction with the *for* PP, though it is not possible to exclude the PP in the oblique dative construction with the *to* PP. The example (85a) is grammatical without the PP *for Mary*, but (85b) becomes ungrammatical when the PP *to Mary* is excluded.

- (85) a. John bought the book (for Mary).
 b. John gave the book *(to Mary). (Amano 1998: 10)

Secondly, I will show the examples of *do*-so substitution in (86).

- (86) a. John bought a book for Mary, and Bill did so for Sue.
 b. *John gave a book to Mary, and Bill did so to Sue. (ibid.)

Do -so substitution is used as a test for deciding whether elements are inside VP. When elements are replaced with *do so*, they should include the verb and its internal arguments. In the oblique dative construction with *for* (86a), *bought a book* can be replaced with *do so*, excluding the PP *for Mary*. Thus, *for Mary* is possible to be an adjunct. However, in the oblique dative construction with *to* (86b), we cannot say that *to Mary* is an adjunct, because the element *gave a book* in which the PP *to Mary* is excluded cannot be replaced with *do so*.

Thirdly, let me show you the semantic interpretation of the *for*-dative construction with an adverb *again*. As we have discussed in 2.2.2, sentences with *again* are ambiguous, and this adverb causes sentences to have the two interpretations: one is the repetitive reading, and the other is the restitutive reading. When the *for*-dative construction occurs with the adverb *again*, it will produce the following readings as shown in (87).

- (87) Thilo sewed a flag again for Satoshi.
 a. Thilo sewed a flag for Satoshi, and Thilo had sewed a flag before.
 b. Thilo sewed a flag for Satoshi, and there had been a flag before.
 (Beck and Johnson 2004: 117)

(87a) is a repetitive reading. In this reading, the action repeated is Thilo's sewing a flag. This shows that *Thilo sewed a flag* is a verb phrase excluding the PP *for Satoshi* and that *for Satoshi* adjoins to the verb phrase. Similarly, (87b) implies that the adverb *again* adjoins to the constituent involving *a flag* which describes a resultative state in the structure. We can find that the constituent excludes the PP *for Satoshi*, because the state that shows existence of a flag is repeated as shown in (87b). This evidence also shows the possibility that the *for* PP is an adjunct.

On the other hand, there are several pieces of evidence that negate the possibility of its being an adjunct, although we have seen some strong evidence which implies that the *for* PP can be an adjunct. One piece of evidence is asymmetrical c-command illustrated in (88).

- (88) I bought every book_i for its_i author's son. (Takano 1998: 827)

In (88), the antecedent *every book* can properly bind its binding variable *its author's son*. If the PP *for its author's son* is an adjunct, the antecedent cannot c-command its variable anymore, hence it cannot bind its variable.

Another piece of evidence is extraction from the *for* PP.

- (89) a. Who did John give a book to?
 b. Who did John buy a book for?

Not only the sentence with the *to* PP (89a) but also the sentence with the *for* PP (89b) allows an element to be extracted from the PP. If the *for* PP is an adjunct, extraction of an element from it will violate CED, and the sentence will be ungrammatical. However, the extraction is actually possible.

From these observations above, we cannot conclude that the *for* PP in (84) is an adjunct. However, it is not certain enough that the *for* PP is a complement of the verb as in the *to*-dative construction. The *for* PP is peculiar in carrying both the properties as an adjunct and the ones as a complement. I will leave a more accurate description of the *for* PP to the future study.

5 CONCLUSION

In this thesis, I have examined the structure of the double object construction based on the applicative approach. Having reviewed the transformational approach and the small clause analysis, I mentioned that the applicative approach is better than

those. It is because the applicative analysis can account for the special properties of the double object construction, namely syntactic asymmetries in c-command, semantic differences from the oblique dative construction, and asymmetries in passives.

However, the structure adopting the applicative verb head is yet to explain the fourth property of the double object construction, that is prohibition on extraction of the indirect object. To solve this problem, I posited the indirect object inside a PP. This PP includes the empty preposition P_e as its head. Extraction of the NP with a goal theta-role is a violation of CED so that it is forbidden.

Although we could explain the prohibition against extraction of the indirect object with CED, another problem arose. The problem is concerned with asymmetrical c-command. There are two options for dealing with the problem. One is movement of the NP with a goal theta role to spec-PP. The other is to disregard the P_e in c-command.

Then, we discussed the contrast between *give*-class verbs and *buy*-class verbs in passives. *Give*-class verbs allow only the indirect object to passivize, on the other hand, *buy*-class verbs allow neither of the objects to passivize. I suggested that the former verbs absorb the P_e though the latter verbs do not absorb it. Finally, I examined the *for*-PP in the corresponding dative construction of *buy*-class double object verbs. The observation suggests that the *for*-PP may not be an adjunct although there are some pieces of evidence for the adjunct hypothesis. The real status of the *for*-PP is left undecided.

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