This article concerns the structure of a double object construction. It is argued that Larson’s arguments for the structure of double objects raise some empirical problems concerning anaphor binding and a semantic relation between the two objects. Next, it is pointed out that the structure corresponding to the present-day double object construction was extremely common in Old English and the structure similar to the dative construction of today began to appear at the beginning of the Middle English period. To accommodate the facts and at the same time to solve the problems with Larson’s analysis, it is proposed that the structure of a double object construction is a basic form and the structure of a dative construction is derived from it by passivization within VP.*

1. Introduction

Barss and Lasnik (1986) present several phenomena demonstrating asymmetrical relations between NP1 and NP2 in the English double object construction [V NP1 NP2], as in (1) and (2):

(1) a. I showed John himself (in the mirror).
    b. *I showed himself John (in the mirror).

(2) a. I showed the professors each other’s students.
    b. *I showed each other’s students the professors.

(Barss and Lasnik (1986: 347))

They suggest that in each case NP2 is in the binding domain of NP1, but not vice versa. However, these asymmetries cannot be accounted for in a theory that preserves the standard structure for double object constructions and also adopts binding domains solely based on asym-
metrical c-command.

To capture these asymmetric c-command relationships, Larson (1988) develops radical structures for double object constructions. His proposal is that the structure underlying both dative and double object constructions is (3a), where V₂ and PP form a predicate, V₂', whose subject is NP₁. The S-Structure of double object constructions is derived from (3a) via a process similar to passivization:

\[
\begin{align*}
\text{(3a)} & \quad [V₁' \ [V₁ e] \ [VP₂ \ [NP₁ \ Theme] \ [V₂' \ [V₂ \ gave] \ [PP \ Goal]]]] \\
\text{(3b)} & \quad [V₁' \ [V₁ e] \ [VP₂ \ [NP₂ \ Goal₁] \ [V₂' \ [V₂ \ gave] \ [NP₂ \ ti]] \ [NP₁ \ Theme]]]
\end{align*}
\]

Larson’s arguments for his structure have a great influence on recent generative grammar. In fact, structures like (3a) are introduced into the Minimalist Theory proposed by Chomsky (1992).

However, there are some problems with his analysis. For example, it cannot account for the data observed by Pesetsky (1992):

\[
\begin{align*}
\text{(4)} & \quad \begin{align*}
\text{a.} & \quad \text{Sue showed John and Mary to each other’s friends.} \\
\text{b.} & \quad \text{?Sue showed each other’s friends to John and Mary.}
\end{align*} \\
\text{(5)} & \quad \begin{align*}
\text{a.} & \quad \text{Sue showed John and Mary each other’s friends.} \\
\text{b.} & \quad \text{*Sue showed each other’s friends John and Mary.}
\end{align*}
\end{align*}
\]

(Pesetsky (1992: 142))

In particular, his analysis says nothing about the grammaticality of (4b), in which the position of Theme c-commands Goal.¹

In this article I will show that although the binding domains relevant to Barss and Lasnik’s data are appropriately stated in (3b) in terms of asymmetrical c-command, further data reveal that Larson’s arguments for his structure of double objects are flawed. Thus I will present an alternative structure for double object constructions that accommodates data such as (4)–(5) as well as (1)–(2).

This article will begin with a brief review in section 2 of Larson’s analysis of double object constructions. Then I will point out some empirical problems with it. In section 3, I will propose a derivational explanation of dative constructions, which is firmly opposed to Larson’s analysis: namely, the structure underlying both dative and double object constructions is (6a), from which the structure of a dative construction is derived by applying passivization within VP:

¹ In this article, it is assumed that PP is sometimes, but not always, disregarded in calculating c-command relations.
As stated in section 1, Barss and Lasnik point out certain asymmetries of binding domains in double object constructions and suggest that if "\( \alpha \) is in the domain of \( \beta \)" should be defined in terms of the structural notion of c-command, these asymmetries cannot be accounted for in the frequently assumed structures for double objects. Evidence for the asymmetric c-command relations comes from the facts concerning anaphor binding in (7), quantifier binding in (8), weak crossover in (9), the superiority effect in (10), the distribution of each ... the other in (11), and the licensing of negative polarity items in (12):²

(7) **Anaphor Binding**
- a. I showed John himself (in the mirror).
- b. *I showed himself John (in the mirror).

(8) **Quantifier Binding**
- a. I denied each worker his paycheck.
- b. *I denied its owner each paycheck.

(9) **Weak Crossover**
- a. Which worker\(_i\) did you deny his\(_i\) check?
- b. *Which paycheck\(_i\) did you deny it\(_i\)'s owner?

(10) **Superiority**
- a. Who did you give which book?
- b. *Which book did you give who?

(11) **Each ... the other**
- a. I gave each man the other's watch.
- b. *I gave the other's trainer each lion.

(12) **Polarity Any**
- a. I gave no one anything.
- b. *I gave anyone nothing.

² The data in (7)–(12) are from Barss and Lasnik (1986: 347-350).
The contrast in acceptability between the (a) and (b) examples in each of (7)-(12) shows that the first NP (NP₁) asymmetrically c-commands the second (NP₂). As Barss and Lasnik discuss, these asymmetric c-command relations immediately cast doubt upon the traditional structures for double objects as in (13a–c):

(13)  a. $\begin{array}{c} \text{VP} \\ V \text{ NP₁ NP₂} \end{array}$  
   b. $\begin{array}{c} \text{VP} \\ V \text{ NP₂} \end{array}$  
   c. $\begin{array}{c} \text{VP} \\ V \text{ SC} \end{array}$

(13a) is the structure for double object constructions by Oehrle (1976); (13b) is the one proposed by Chomsky (1981); and (13c) is from Kayne (1984).³ Under a definition of c-command based on first branching nodes (Reinhart (1976)), (13a) and (13c) predict no structural asymmetries between NP₁ and NP₂, since NP₁ and NP₂ c-command each other. In (13b) NP₂ asymmetrically c-commands NP₁, predicting that the latter is in the domain of the former. Accordingly, it follows that structures such as (13a–c) are not appropriate in that both of these predictions are contradicted by the data in (7)-(12).

### 2.2. The Analysis

The main goal of Larson's analysis is to capture the asymmetric c-command relationships illustrated in the previous section. Adapting an approach from Chomsky (1955/75), Larson proposes that the VP in *John sent a letter to Mary* is (14a) at D-Structure. In the structure the head of VP₁ is an empty V₁ taking a clausalike VP₂ complement, whose subject is *a letter* and whose object is *(to) Mary*. The surface form is derived by raising the lower V₂ into the empty upper V₁ position, leaving a trace. As for the structure of double objects like *John sent Mary a letter*, he proposes that it is derived by applying passivization within VP₂, as seen in (14b):

³ The node SC in (13c) represents a small clause.
He notes a parallel between the well-known passivization and the derivation in (14b). Passivization demotes the external argument to an adjunct by-phrase and absorbs Case from object position. Thus the object must move to subject position (i.e., the Spec position of the matrix sentence IP) in order to receive Case.

(15) a. Mary hurt John.
    b. Johni was hurt by Mary.

In a similar way, a modern form of "Dative Shift" in (14b) demotes the subject in VP\textsubscript{2} to an adjunct position and removes Case from the NP\textsubscript{1}, forcing it to move to the NP\textsubscript{0} position in accordance with the Last Re-sort Principle. The key point of this derivation is that in (14b) the moved NP Mary asymmetrically c-commands the second NP a letter, so that the binding domains relevant to Barss and Lasnik's data can be accommodated in terms of a purely c-command based theory.

### 2.3. Problems with Larson's Analysis

Larson's analysis captures the asymmetric c-command relations between the two NPs in the double object construction [V NP\textsubscript{1} NP\textsubscript{2}]. However, there are some empirical problems with his analysis.\(^4\) Firstly, his analysis says nothing about the status of NP\textsubscript{1} as the possessor of NP\textsubscript{2}. Kayne (1984) notes that in double object constructions, NP\textsubscript{1} is

\(^4\) Jackendoff (1990) also points out many problems with Larson's analysis. Furthermore, Larson (1990) argues against Jackendoff's arguments.
interpreted as the possessor of NP2. According to Kayne, NP1 and NP2 form a small clause, as in (13c): NP1 is the subject and NP2 is the predicate. The subject and the predicate bear a possession relation; that is, the predicate assigns a possessor $\theta$-role to the subject.\footnote{Kayne suggests that small clauses forming double object constructions may have a null have to express the possessive relation between the two objects. This matter will be discussed in section 3.2.} If Kayne's arguments are correct, Larson's analysis fails to capture the possession relation that holds between NP1 and NP2.

Secondly, his analysis cannot account for the grammaticality of sentences like (16):

(16) Mary was sent a letter.

Under his analysis, the underlying structure for (16) would be (17):

(17) \[\text{IP}_1 e [\text{VP}_1 [\text{V}_1 e [\text{VP}_2 [\text{V}_2 \text{e } [\text{VP}_2 \text{a letter } [\text{V}_2 \text{sent Mary}]]]]]]\]

In this structure, the direct object Mary is directly promoted to the Spec position of IP, and the verb sent moves to the empty V. Mary is assigned Nominative Case by INFL. However, a letter is not assigned structural Objective Case, since the application of passivization blocks assignment of structural Objective Case to it. Thus, in order for (16) to be allowed, a letter must receive only inherent Objective Case assigned by sent.

However, he assumes that “a verb may assign inherent Objective Case to its highest internal argument as a purely lexical property” (p. 360). This assumption is required to account for the ungrammaticality of sentences like (18):

(18) ?*A letter was sent Mary.

Under Larson's analysis, (18) would be derived from (19a) by NP-Movement of the outer object a letter to the subject position and by Raising of the verb sent to the empty V position, as in (19b):

(19) a. \[\text{IP}_1 [\text{V}_1 \text{e } [\text{VP}_1 [\text{V}_1 \text{e } [\text{VP}_1 \text{a letter } [\text{V}_2 \text{sent Mary}]]]]]]\]

b. \[\text{IP}_1 [\text{letter}_1 [\text{V}_1 \text{e } [\text{VP}_1 [\text{V}_2 \text{sent}_1 [\text{VP}_1 [\text{V}_2 [\text{t}_j \text{Mary}]]]]]]]]\]

Given the assumption stated above, the direct object Mary receives only structural Objective Case but not inherent Objective Case, since it is not the highest internal argument. However, structural Objective Case assignment is suppressed by applying passivization. Accordingly, Mary is Caseless and the sentence is ruled out by the Case Filter.

In this way, his assumption properly accounts for the ill-formedness
of (18). However, the same assumption wrongly predicts that sentences like (16) are ruled out by the Case Filter, since a letter is not the highest internal argument of sent and then cannot be assigned inherent Objective Case.

A third problem with his analysis concerns anaphor relations in dative constructions, as illustrated in (4a, b), repeated here:

(4)  
   a. Sue showed John and Mary to each other’s friends.
   b. Sue showed each other’s friends to John and Mary.

As Pesetsky (1992: 142) points out, anaphoric expressions such as each other in (4a) and (4b) can be bound by their antecedents in either Theme or Goal position. Larson’s analysis correctly predicts that (4a) is grammatical, since in his structure for dative constructions [V NP₂ to NP₁], NP₂ asymmetrically c-commands NP₁, as shown in (14a).

However, his analysis cannot account for the grammaticality of sentences like (4b), since under his analysis the c-command relation between the anaphor and its antecedent in (4b) is not the same as the one in (4a).

On the other hand, there is a striking contrast in grammaticality between (5a) and (5b), repeated below:

(5)  
   a. Sue showed John and Mary each other’s friends.
   b. Sue showed each other’s friends John and Mary.

This contrast is straightforwardly accounted for under Larson’s analysis, since the first NP asymmetrically c-commands the second one. However, if we accept the ‘anywhere’ version of Principle A of the Binding Theory that Belletti and Rizzi (1986) advance, the facts in (5) could not be accounted for under his analysis. Belletti and Rizzi’s basic ideas are that psych verbs such as worry are unaccusatives with two internal arguments and fail to assign Case to the inner most NP. This forces movement of it to the subject position, as shown in (20).

(20)  
   a. Pictures of himself worries Max.
In (20b), in order for Max to bind himself, the Principle A of the Binding Theory must apply at its underlying structure. If their approach to binding phenomena is correct, sentences like (5b) raise a problem with Larson’s analysis, since he adopts the derivational account for the structure of double object constructions; (21a) is the underlying structure for (5b) and (21b) its S-Structure:

(21) a. \[
\text{V'} \ \\
\text{V} \ \\
\text{NP} \ \\
\text{V'} \ \\
\text{NP} \ \\
\text{V} \ \\
\text{show} \ \\
\text{e.o.'s friends}
\]

b. \[
\text{V'} \ \\
\text{V} \ \\
\text{NP} \ \\
\text{V'} \ \\
\text{NP} \ \\
\text{V} \ \\
\text{show} \ \\
\text{t}
\]

If the Principle A applies to (21a) in accordance with Belletti and Rizzi’s assumption, the sentence would be grammatical, since the anaphor each other is bound by its antecedent John and Mary. Therefore, it can be concluded that if Belletti and Rizzi’s arguments are on

---

6 The abbreviated form e. o.'s represents each other's.
the right track with regard to accounting for binding phenomena as in (4) and (5), Larson's analysis makes a wrong prediction that (5b) is grammatical.

3. An Alternative Proposal

3.1. Historical Development of Dative and Double Object Constructions

Since the advent of transformational generative grammar, there has been a presumption that a transformational analysis is the appropriate way of handling sentences like (22) by what we call 'Dative Shift.'

(22)  a. John gave a book to Mary.
    b. John gave Mary a book.

The standard formulation of Dative Shift is as follows:

(23) Dative Shift
    X-V-NP- to/for -NP-Y
    SD: 1 2 3 4 5 6 →
    SC: 1 2 5 6

(23) indicates that (22a) is a basic form and (22b) is a form derived from it. Larson also inherits the same spirit as this. In other words, he claims that the structure for double object constructions like (22b) is derived from the structure of dative constructions like (22a) by a modern form of Dative Shift, that is, by VP internal passivization.

However, the way of derivation described above is in the opposite direction to the historical development of double object constructions [V NP1 NP2]. As Visser (1970) points out, the forms [NP1 NP2] and [NP2 NP1] are extremely common in Old English with verbs whose fundamental meaning is that of giving, bestowing, granting, etc.7 The indirect object NP1 appears in the Dative Case and the direct object NP2 in the Objective (Accusative) Case. Semantically, the indirect object

---

7 In Old English, there are various types of sentence patterns in the structure containing the direct object NP2 and the indirect object NP1 without a preposition:

(i)  a. S V [NP1 NP2]/[NP2 NP1]
    b. V S [NP1 NP2]/[NP2 NP1]
    c. S [NP1 NP2]/[NP2 NP1] V
    d. S NP1 V NP2
    e. [NP1 NP2] S V

On this matter, see Visser (1970) and Nakao and Koma (1990).
denotes the person who receives what is referred to by the direct object. This is to say, the indirect object NP1 functions as the possessor of the second object NP2, concerning which I will discuss in section 3.2.

(24) a. ȝa salde sē here him foregislas
    & then gave the army him preliminary hostages
    ȝ micle ājas
    & great oaths
    ‘and the army gave him preliminary hostages and solemn oaths’ (ASC A 76/13 (an. 878))

b. He ... sealde his ... sweord ... ombihtþegne.
    he gave his sword servant
    ‘He gave his sword servant.’ (Beowulf 672)

Next, by the side of types without prepositions like (24), new constructions such as [to NP1 NP2] and [NP2 to NP1] began to appear at the beginning of the Middle English period. Note that in this construction the indirect object is preceded by the preposition to. As for constructions of this type, Visser states that “in the course of the 14th and 15th centuries the number increases with striking rapidity, partly also on account of the adoption of numerous French verbs which were construed with a before à noun-complement” (p. 624).

(25) a. The kyng comaundid that ... witchis and enchauntours
    the king commanded that witches and enchanters
    ... shulden sheweto the kyng his sweuens.
    should show to the king his dreams
    (Wyclif, Daniel II, 2)

b. Mani man ... ȝevith his douhter to a wicked blode.
    many a man gives his daughter to a wicked person
    (Proverbs of Hending 31)

The following table summarizes these points:

---

8 This example is cited from Nakao and Koma (1990: 217).
In the light of these considerations, it seems convincing to conclude that although there remain some doubts about whether the structures \([to \text{ NP}_1 \text{ NP}_2]/[\text{NP}_2 \text{ to NP}_1]\) and \([\text{NP}_1 \text{ NP}_2]/[\text{NP}_2 \text{ NP}_1]\) are the same as the ones for present-day dative and double object constructions, the double object construction is an older and basic form and the dative construction is a form derived from it. This conclusion may not be closely related to the theory of generative transformational grammar, but it is very suggestive.

3.2. Properties of Indirect Object

As Green (1974) shows, one of the meanings inherent to double object constructions is a possession relation that holds between the first and second NP. Let us consider the following sentences:

(27) a. John taught French to Mary.
    b. John taught Mary French.

(28) a. John sent a letter to Mary.
    John sent Mary a letter.
    b. Sam sent a letter to New York.
    *Sam sent New York a letter.

    b. Mary baked John a cake.

Oehrle (1976) notes that in pairs of sentences like (27a) and (27b) the latter implies more strongly that Mary has learned French. The contrast in grammaticality between (28a) and (28b) shows that in double object constructions, the indirect object must be human. This implies that the sender intends that the letter be possessed. Similarly, (29b) but not (29a) entails that John had a cake, or that Mary intended John to have a cake by baking it. The ungrammaticality of (30b) follows from this entailment.
(30)  a. I baked a cake for Max, but now that you’re here, you may as well take it.
   b. *I baked Max a cake, but now that you’re here, you may as well take it. (Oehrle (1976: 109))

Incidentally, Larson (1988) notes that (31a) is perfectly acceptable as an utterance by a pregnant wife to her husband, but (31b) is odd in this context:

(31)  a. I knitted this sweater for our baby.
   b. I knitted our baby this sweater.

He explains this fact in terms of the concept of affectedness. However, if double object constructions imply a possession relation between the two objects, the oddity of (31b) is accounted for easily, since in the context our baby is not born yet and then cannot be a possessor of the sweater.

Although there is a concrete possession relation in the double object constructions of (27)–(31), the relation can be a subtle one in some cases. Let us consider sentences such as (32):

(32)  a. Mary denied John his dessert.
   b. Sam showed Sally the picture.
   c. Betsy played Liz a song. (Johnson (1991: 617, fn.26))

Johnson (1991) accounts for the relation between the two objects in each of (32) in the following way; “in (32a) there is no possession relation entailed, rather there is one denied; and in (32b) a possession relation is merely intended; furthermore, in (32c) the relation is abstract and it is a perception or experience that is possessed” (p. 617).

Accordingly, I conclude from this that in double object constructions, there is a concrete or abstract possession relation between the two objects.

3.3. Structure for Double Object Constructions

In section 3.1., I have pointed out that (i) the structure similar to

\[ (i) \]

\[ a. \] Mary gave John a broken arm.
\[ b. \] *Mary gave a broken arm to John.

---

9 Considering the following sentences, Larson (1988: 376) suggests that in the double object construction, there is a strong sense in which the indirect object is affected by the action described in the clause, whereas the direct object is not. Thus, he claims that the notion of affectedness plays a role in double object constructions.
present-day double object constructions was commonly used in Old English, and (ii) the structure corresponding to dative constructions of today began to appear at the beginning of the Middle English period, and during the 14th and 15th centuries the number increased rapidly. This historical development of dative and double object constructions may not have a close relation to the theory of generative grammar, but we have no reason to ignore it in considering how to derive these constructions. In fact, the following evidence is taken into consideration in order to set up the structure of COMP node in the generative grammar.

(33) a. rod on ðaereðe Crist wolde ðrowian
   cross on which that Christ would suffer
   [Old English] (Bresnan (1976: 359))

   b. this bok of which that I make mencioun
   [Middle English] (Bresnan (1976: 357))

Accordingly, admitting that the theory of generative grammar should take history of language into consideration, I assume that the structure of double object constructions is the one underlying dative constructions.

Furthermore, I have suggested in section 3.2. that in the double object construction [V NP₁ NP₂] there is a possession relation between NP₁ and NP₂. Although there are a number of conceivable ways of rendering this suggestion into structures, I will offer the following proposal. Adopting Kayne’s ideas, I suppose that the structure underlying double object constructions has a representation like (34), in which the head is a null have (e) denoting possession.¹⁰ This null verb takes NP₁ as subject and NP₂ as object:

¹⁰ An EL reviewer has asked how a null verb e denoting possession is licensed and why a sentence like (i) is not generated.

( i ) *John sent Mary have a letter.

In the absence of a better account for such questions, I can only speculate that verbs allowing double object constructions may license the null verb by some means, for instance, by incorporation of e into these verbs, as suggested by the other EL reviewer.
Although it is difficult to know that \( NP_1 \) functions as a subject in the English double object construction, there is evidence in certain languages that \( NP_1 \) behaves as a subject. For example, in Danish, the reflexive \( sig \), which normally accepts a subject as its antecedent, can be bound by \( NP_1 \) of the double object construction.

\[
\begin{align*}
(34) & \quad \text{Spec} \quad V' \quad \text{VP} \\
& \quad V \quad \text{VP} \\
& \quad \text{give} \quad NP_1 \quad V' \\
& \quad V \quad NP_2 \\
& \quad e \\
\end{align*}
\]

As a result, the structure of a sentence like *John gave Mary a book* has the following representation:

\[
\begin{align*}
(36) & \quad \text{VP}_1 \\
& \quad \text{NP} \quad V'_1 \\
& \quad \text{John} \quad V_1 \quad \text{VP}_2 \\
& \quad \text{give} \quad NP_1 \quad V'_2 \\
& \quad \text{Mary} \quad V_2 \quad NP_2 \\
& \quad e \quad \text{a book} \\
\end{align*}
\]

In this structure, the verb *give* assigns Case to *Mary* and the null verb *e*, which is base-generated, assigns Case to *a book*. Note here that
Mary asymmetrically c-commands a book, capturing the asymmetric c-command relation indicated in (7)-(12).

Moreover, adopting Larson’s insight that dative and double object constructions are related by passivization within VP, I assume that dative constructions are derived from double object structures like (36) by the application of this rule. Thus, the structure of a sentence like John gave a book to Mary is derived in the following way:

(37) \[
\text{VP}_1 \\
\text{NP} \quad \text{V'}_1 \\
\text{John} \quad \text{V}_1 \quad \text{VP}_2 \\
\text{give} \quad \text{NP}_1 \quad \text{V'}_2 \\
\text{V}_2 \quad \text{PP} \\
\quad \text{NP}_2 \quad \text{to Mary} \\
\quad \text{e} \quad \text{a book}
\]

In (37) passivization applies to VP$_2$. Thus the null verb e cannot assign Case to the NP$_2$ a book. This forces a book to move to the NP$_1$ position, where it is assigned Case by give. The VP internal subject Mary is adjoined to V'$_2$ and the null verb cannot assign Case to Mary, either. Thus, the preposition to assigns Case to Mary just as the preposition by assigns Case to Mary in (38):

(38) John was hit by Mary.

It should be noted that in (37) the moved NP a book asymmetrically c-commands to Mary, accounting for the facts in (39) which are presented by Larson (1988):

(39) a. I showed Mary to herself.
   *I showed herself to Mary.

b. I gave every check$_i$ to its$_i$ owner.
   ??I gave his$_i$ paycheck to every worker$_i$.

c. Which check$_i$ did you send to its$_i$ owner?
   *Which worker$_i$ did you send his$_i$ check to?

d. Which check did you send to who?
   *Whom did you send which check to?
4. Some Consequences

4.1. An Analysis

I have pointed out in section 2.3. that there are three kinds of problems with Larson's analysis. In the previous section, the first of them has been solved by the postulation of a null have, e, denoting a possession relation that holds between the two objects in the double object construction. In this section, I will discuss the remaining problems.

The second problem I have presented is that his analysis cannot account for the grammaticality of a sentence like (16), repeated here:

(16) Mary was sent a letter.

The structure proposed here can explain the well-formedness of this sentence. Under our analysis, (16) will have the D-Structure representation (40):

```
(40)                  VP₁
                      \      /  \\
                       NP   V₁  \\
                      / \    /  \\
                     V₁  VP₂ /\
                        \ /  \\
                       sent NP₁ V₂  \\
                           /   /  \\
                          Mary e  NP₂
                           |   |  |
                           a letter
```

When the verb send is passivized in the matrix sentence, it cannot assign Case to Mary. Thus Mary must move to the Spec position of IP to receive Case. As the null have, e, is not passivized in this structure, it can assign Case to a letter. Consequently, (16) is properly generated.

Likewise, our analysis also derives the well-known contrast between the passivizability of the direct object in dative and double object con-
Let us consider (41b) first. (41b) will have structure (40) as its underlying structure. To derive (41b), a letter must move to the Spec position of IP, whereas Mary must not. As the verb sent does not assign Case to its adjacent NP Mary because of passivization, Mary remains Caseless. Thus (41b) is ruled out by the Case Filter. On the other hand, the underlying structure for (41a) will be (42) under our analysis:

```
(42)     VP_1
        NP     V_1
        V_1     VP_2
        sent NP_1     V_2
        V_2     PP      to Mary
        e       a letter
```

Passivization applies in (42) twice, within VP_2 and the matrix sentence. Thus both verbs sent and e cannot assign Case to any NPs. As a result, a letter must move to the Spec position of IP to satisfy the Case Filter. And the preposition to assigns Case to Mary, in the same way as in (37). This generates sentence (41a).

Next, let us consider the third problem with Larson’s analysis. His analysis cannot account for the grammaticality of sentences like (4b):

(4)  a. Sue showed John and Mary to each other’s friends.
    b. *Sue showed each other’s friends to John and Mary.

Furthermore, if the Principle A of the Binding Theory applies at any syntactic level, his analysis cannot account for the ungrammaticality of sentences like (5b):

(5)  a. Sue showed John and Mary each other’s friends.
    b. *Sue showed each other’s friends John and Mary.

These problems do not arise in our analysis. Considering (5a) and (5b) first, we can appropriately predict the contrast in grammaticality
between them. Recall that under our analysis, the indirect object asymmetrically c-commands the direct object in the double object construction, as shown in (36). Therefore, (5a) but not (5b) is allowed, since the indirect object *John and Mary* asymmetrically c-commands and then binds the direct object *each other’s friends*.

Similarly, we can also predict both sentences in (4) to be grammatical. (4a) will have (43a) as its underlying structure and (43b) as the derived one:

(43)  
\[
\begin{align*}
\text{a. } & \quad \text{VP}_1 \\
& \quad \text{NP} \quad V'_1 \\
& \quad \text{Sue} \quad V_1 \quad \text{VP}_2 \\
& \quad \text{show} \quad \text{NP}_1 \quad V'_2 \\
& \quad \quad \quad V_2 \quad \text{PP} \\
& \quad \quad \quad \quad \text{e} \quad \text{John and Mary} \\
\text{b. } & \quad \text{VP}_1 \\
& \quad \text{NP} \quad V'_1 \\
& \quad \text{Sue} \quad V_1 \quad \text{VP}_2 \\
& \quad \text{show} \quad \text{NP}_2 \quad V'_2 \\
& \quad \quad \quad V_2 \quad \text{PP} \\
& \quad \quad \quad \quad \text{e} \quad \text{John and Mary} \\
& \quad \quad \quad \quad \quad \text{to e.o.’s friends} \\
& \quad \quad \quad \quad \quad \text{e} \quad \text{t} \quad \text{to e.o.’s friends}
\end{align*}
\]

Adopting Belletti and Rizzi’s assumption described above, we apply the Principle A to both (43a) and (43b). In (43b) but not in (43a), *each other* is c-commanded and then bound by its antecedent *John and Mary*. Accordingly, (4a) is allowed.

On the other hand, (4b) will have the D-Structure representation (44a) and the S-Structure one (44b):
Given their assumption, we can predict that (4b) is grammatical, since in (44a) but not in (44b), each other is c-commanded and therefore bound by the antecedent John and Mary.

Thus, it follows that all the problems with Larson’s analysis have been solved under the analysis proposed here.\footnote{One might object that the proposed analysis cannot accommodate the date (39) presented by Larson. It seems that the Binding Principle A has a strong tendency to be applied at S-Structure, but in some examples, it may apply at their D-Structures. At any rate, the important thing to notice here is that to deal with data such as (4), it is necessary to suppose that in dative constructions $[V \ NP_2 to \ NP_1]$, NP$_2$ must have two positions in the derivation, as shown in (43). Furthermore, a sentence like (i), which is pointed out by one EL reviewer, supports the proposed analysis.  

(i) I showed a picture of herself to Mary.}

4.2. Quantifier Scope

Aoun and Li (1989) observe that a dative construction containing quantifier phrases (QPs) is ambiguous, whereas a double object construction having QPs is not ambiguous.

\begin{align*}
(45)\quad & a. \ Mary \ gave \ some \ book \ to \ everyone. \\
& b. \ Mary \ gave \ someone \ every \ book.
\end{align*}

They account for the data in terms of the Minimal Binding Requirement (MBR) and the Scope Principle (SP), which are defined in (46) and (47), respectively:  

(46)  
(47)
(46) Minimal Binding Requirement
Variables must be bound by the most local potential antecedent (A'-binder).

(47) Scope Principle
A quantifier A has scope over a quantifier B in case A c-commands a member of the chain containing B.

They assume that QPs are adjoined to A' position by the rule of Quantifier Raising (QR). Variables left by QR must subject to various well-formedness conditions. They claim that one of the conditions is the MBR, which has the effect of excluding representations (48a, b) and allowing representation (48c), where x is a trace of QP.

\[ (48) \]
\[
\begin{align*}
\text{a. } & \text{QP}_1 \ldots \text{QP}_2 \ldots x_1 \ldots x_2 \\
\text{b. } & \text{QP}_2 \ldots \text{QP}_1 \ldots x_1 \ldots x_2 \\
\text{c. } & \text{QP}_1 \ldots x_1 \ldots \text{QP}_2 \ldots x_2
\end{align*}
\]

On the other hand, the SP determines the scope of QPs. If the SP applies to (48c), QP_1 has scope over QP_2. The SP can also refer to an NP-trace (t). For example, if there is a representation like (49), QP_1 has scope over QP_2 in the same way as in (48c). At the same time, QP_2 has scope over QP_1 since the former c-commands a member of the chain containing the latter, that is, the NP trace t_1 left behind by QP_1:

\[ (49) \]
\[
\text{QP}_1 \ldots x_1 \ldots \text{QP}_2 \ldots t_1 \ldots x_2
\]

However, their analysis has several problems. Firstly, it cannot account for the fact that sentences like (50) are ambiguous.

\[ (50) \]
\[
\text{Who does everyone like?}
\]

By applying QR to (50), we will have the LF representation (51):\textsuperscript{12}

\[ (51) \]
\[
\text{Who}_2 \left[ \text{IP everyone}_1 \left[ \text{IP x}_1 \left[ \text{VP t}_1 \left[ \text{VP likes x}_2 \right] \right] \right] \right]
\]

(51) is the only LF representation which can be derived from the S-Structure (50). However, (51) is in violation of the MBR, since it has a representation similar to (48b).\textsuperscript{13} Therefore, their analysis cannot predict the scope ambiguity in (50).

A second problem with their analysis concerns sentences like (52):

\textsuperscript{12} Aoun and Li assume that subjects in English are generated at D-structure in a sister position of VP, although they are in the Spec position of V' under the standard view.

\textsuperscript{13} It should be noted that wh-phrases and their variables are subject to the MBR.
As May (1985) and Chomsky (1986a) point out, (52a) is ambiguous, while (52b) is not. However, Aoun and Li's analysis predicts that both (52a) and (52b) are ambiguous. Under their analysis, (52a) and (52b) will have the following representations at LF:

\[
\begin{align*}
(53) \quad a. \quad & [\text{IP} \text{Someone}_1 [\text{IP} \text{x}_1 [\text{VP} \text{everyone}_2 [\text{VP} \text{t}_1 [\text{VP} \text{loves} \text{x}_2]]]]] \\
& [\text{CP} \text{Who}_1 [\text{IP} \text{x}_1 [\text{VP} \text{everyone}_2 [\text{VP} \text{t}_1 [\text{VP} \text{likes} \text{x}_2]]]]]
\end{align*}
\]

Notice that (53a) and (53b) have the same representation as that in (49). In (53a), someone c-commands everyone, so that according to the SP the former has scope over the latter. Also, everyone has scope over someone, since everyone c-commands the NP-trace \( t_1 \) of someone. Thus, (53a) is ambiguous. The same holds true of (53b). That is, their analysis predicts that who has scope over everyone and everyone has scope over who. However, the fact is that everyone in (53b) has narrow scope only. It follows, therefore, that their analysis cannot deal with the facts in (52).

With this in mind, let us consider the structure for dative and double object constructions which they propose in order to account for the facts in (45). Aoun and Li suggest on the basis of the MBR and the SP that the structure for double object constructions has a small clause. And the structure for dative constructions is derived from it in terms of passivization within VP. However, now that the MBR and the SP have been shown to be insufficient to explaining the scope ambiguity, it must be concluded that their structure for these constructions is untenable.

Furthermore, there seems to be disagreement concerning the non-ambiguity of the double object construction which contains QPs. Pesetsky (1992: 142) judges sentences like (45) as "murky." Aoun and Li themselves also admit that some native speakers find the double object construction in (54) to be ambiguous:

\[(54) \quad \text{Mary showed some bureaucrat every document she had.}\]

Therefore, it seems that I should refrain from committing myself to these data. However, if their judgment about the grammaticality of (45) is correct and furthermore if scope, as Pesetsky points out, "mirrors c-command through the derivation in a manner similar to anaphora binding" (p.142), the facts in (45) may support our analysis. That is, (45b) will have a structure like (55). In (55) someone asymmetrically c-commands every book, so that the former has scope over the latter.
On the other hand, (45a) will have (56a) as its underlying structure and (56b) as the S-Structure:

(56) a.  
```
     VP₁
    /   \  
   NP   V₁  
  /     /   \ 
Mary V₁  VP₂  
  /   / 
  gave NP₁ V₂  
   / 
   NP₂  
```

In (56a), everyone c-commands and then binds some book, so that everyone has wide scope. On the other hand, in (56b) some book has wide scope, since it c-commands and binds everyone. Consequently, it follows that sentence (45b) is ambiguous.

5. Conclusion

In this article I have proposed that in opposition to Larson’s analysis, the structure of double object constructions is the one underlying dative constructions. This reflects the historical development of these con-
ON THE DOUBLE OBJECT CONSTRUCTION

I have also suggested that in the structure of double object constructions \([V \text{ NP}_1 \text{ NP}_2]\), \text{NP}_1 and \text{NP}_2 form VP, whose head is a null \textit{have}, e, denoting a possession relation that holds between \text{NP}_1 and \text{NP}_2. \text{NP}_1 is in the Spec position of the VP and \text{NP}_2 in the complement position. And the structure for dative constructions is derived from the structure of double objects by passivization within the VP. Furthermore, I have shown that the analysis proposed here can account for the difference in anaphor binding as in (4)–(5) (and also presumably the contrast in scope as in (45a, b)).

REFERENCES

Belletti, Andrian and Luigi Rizzi (1986) "Psych-Verbs and Theta-Theory," ms., MIT.
Larson, Richard (1990) "Double Objects Revisited: Reply to Jackendoff,"
Linguistic Inquiry 21, 589-632.


Department of English
Faculty of Letters
Osaka University
1-1 Machikaneyama-cho, Toyonaka-shi
Osaka 560