Object Raising in English Double Object Constructions

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1 Introduction

This paper examines the syntactic structures of double object construction[1] in English and the syntactic relation between double object constructions (DOC) and prepositional dative constructions (PDC), the two constructions are shown (1).

(1) a. John gave Mary a book. =DOC

    b. John gave a book to Mary. =PDC

The sentences in (1) share some properties in common, but the order of the two objects is reversed. As such the syntactic relation between DOC and PDC is one of the biggest issues in the research of double object constructions.

Barss and Lasnik (1986) are concerned with the syntactic hierarchy of the two objects in DOC. Their point is illustrated in (2)-(6). First, the anaphor "*himself*" in the second object position can be bound by the first object "*John*" in (2a), but not *vice versa* in (2b).

(2) a. I showed John himself (in the mirror).

    b. *I showed himself John (in the mirror).   (Barss and Lasnik 1986: (2) and (3))

Second, a wh-phrase "*which paycheck*" cannot cross over a co-indexed pronoun "*his*" in (3b). Without crossing in (3a), it does not give rise to Weak Crossover effects.

(3) *Weak Crossover*

a. Which worker did you deny his check?

b. *Which paycheck did you deny its owner?   (Barss and Lasnik 1986: (8a) and (9a))

Third, the wh-phrase closest to Spec-CP is attracted to that position in English in multiple wh-questions, (4a) and (4b).

(4) *Superiority*

a. Who did you give which book?

b. *Which book did you give who?   (Barss and Lasnik 1986: (11a-b))

Forth, the expression "*the other*" in the second object position in (5a) is licensed by "*each*" in the first object position, but not *vice versa* in (5b).

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[1] For our proposal, the term "double object constructions" refer to double object construction (DOC) and prepositional dative construction (PDC).

(5) *Each…the other*

a. I gave each man the other's watch.

b. *I gave the other's trainer each lion.   (Barss and Lasnik 1986: (14) and (15))

Finally, a negative polarity item "*any*" in the second object position is licensed by a negative phrase "*no one*" in the first object position in (6a), but not *vice versa* in (6b).

(6) *Polarity Any*

a. I gave no one anything.

b. *I gave anyone nothing.   (Barss and Lasnik 1986: (18) and (19))

All these facts point to the conclusion that the first object is in the binding domain of the second but not *vice versa*.
    Similar syntactic hierarchy is also observed in PDC. The point is illustrated in (7)-(11).

(7) *Anaphor Binding*

a. I showed John$_i$ to himself$_i$ (in the mirror).

b. *I showed himself$_i$ to John$_i$ (in the mirror).

(8) *Weak Crossover*

a. Which paycheck$_i$ did you deny to its worker$_i$?

b. *Which worker$_i$ did you deny its paycheck$_i$ to?

(9) *Superiority*

a. Who did you give to which book?

b. *Which book did you give who to?

(10) *Each…the other*

a. I gave each watch$_i$ to the other students$_i$.

b. *I gave the other's watch$_i$ to each students$_i$.

(11) *Polarity Any*

a. I gave nothing to anyone.

b. *I gave anything to no one.

The DOCs in (2)-(6) and the PDCs in (7)-(11) on PDC show that the first object is structurally higher than the second one in both of those constructions, and this means the first object asymmetrically c-command the second object.

2 Proposal

Baker (1988) presents Uniformity of Theta Assignment Hypothesis (UTAH) defined below, which entails that the double object constructions in (1) repeated in (12) have the same underlying structure since theta-roles of NPs in both sentences are identical[2].

(12) a. John gave Mary a book. [*Agent V Goal Theme*]

   b. John gave a book to Mary. [*Agent V Theme to Goal*]

(13) *Uniformity of Theta Assignment Hypothesis (UTAH)*
Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.   (Baker 1988)
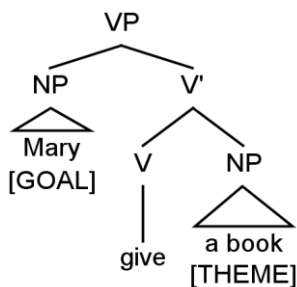
Within the Minimalist Program, this thesis assumes that the order of merge among predicates and arguments is identical instead of D-structures in Chomsky (1981). Since theta-roles of both DOC and PDC are identical, the ditransitive verbs such as "*give*" firstly merge with the Theme argument in both sentences shown (14).
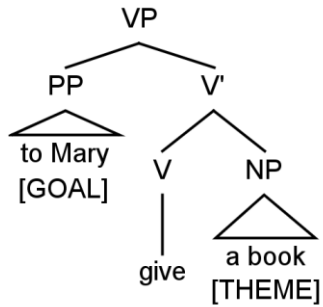
(14) In both DOC and PDC
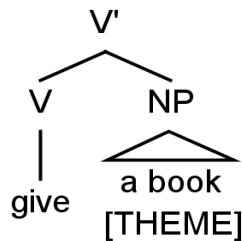
The difference between DOC and PDC is in the next step of derivation: The V' in (14) merge with the Goal argument. In DOC, the Goal argument realized as an NP merges with V' in (15). On the other hand, in PDC, the Goal argument realized as a PP merges with V' as illustrated in (16).

(15) DOC

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(16) PDC

```
              VP
           ╱      ╲
         PP         V'
        ╱◺╲       ╱   ╲
      to Mary    V      NP
      [GOAL]     |     ╱◺╲
                give  a book
                      [THEME]
```
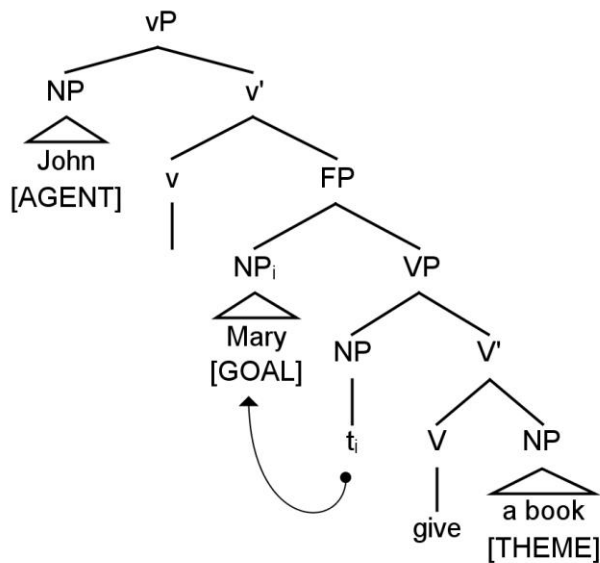
Those structures show that the Goal arguments are selected as an NP or a PP, so the preposition "*to*" is in numeration in PDC but not in DOC.
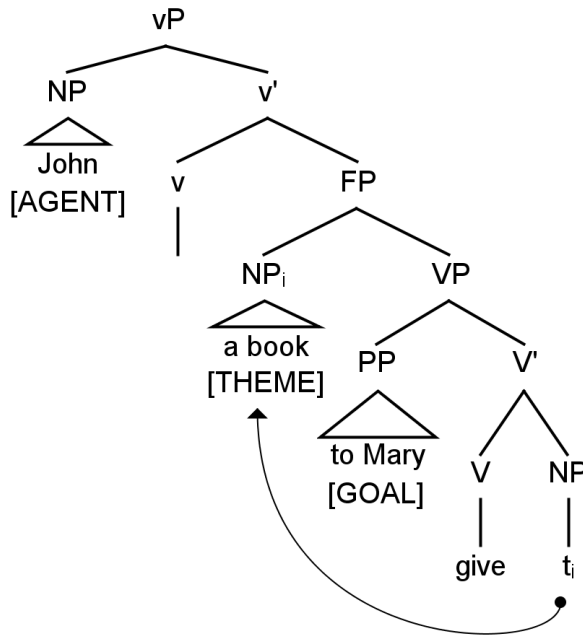
Our proposal is that the v, the head of vP, in double object constructions attract the closest NP which has not been checked for its Case as illustrated in (17) and (18)[3].

(17) DOC

```
                 vP
              ╱      ╲
            NP         v'
           ╱◺╲      ╱    ╲
          John    v        FP
         [AGENT]  |      ╱    ╲
                       NPᵢ      VP
                      ╱◺╲     ╱   ╲
                     Mary   NP     V'
                    [GOAL]  |     ╱  ╲
                            tᵢ   V    NP
                                 |   ╱◺╲
                               give  a book
                                    [THEME]
```

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3 We assume that the v (the head of vP) rather than ditransitive verb itself has Case checking feature.

24

(18) PDC

In (17), the NP closest to the v which has not been checked for its Case is the Goal argument "*Mary*" and is attracted to the higher position[4] to be checked for its Case by the v via string vacuous movement. In (18), on the other hand, the NP closest to the v which has not been checked for its Case is the Theme argument "*a book*" which merges in the lowest position. As such, the v attracts the Theme argument to a higher position to check its Case and nothing violates Case Filter. Let us call this hypothesis Object Raising Hypothesis, defined in (19).

(19) *Object Raising Hypothesis*
The v in double object constructions attracts the NP closest to the v which has not been checked for its Case to the higher position, FP (Functional Projection), and checks its Case.
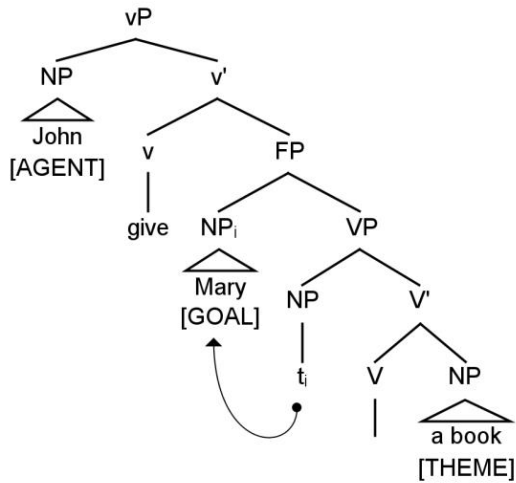
(19) accounts for the problem with the word order in (16) since the word order in PDCs becomes [*Agent V Theme to Goal*] after raising of the Theme argument in conformity with the UTAH. Given this hypothesis, the structures of (1), repeated in (20), are illustrated in (21) and (22).

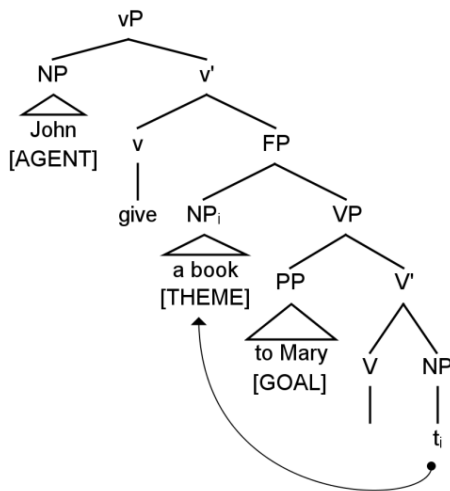(20) a. John gave Mary a book. =DOC

    b. John gave a book to Mary.=PDC

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[4] FP stands for Functional Projection, a name given arbitrarily to avoid potential theoretical connotations.

(21) DOC

vP

NP — v'

John
[AGENT]

v — FP

give   NPᵢ — VP

Mary
[GOAL]

NP — V'

tᵢ

V — NP

a book
[THEME]

(22) PDC

vP

NP — v'

John
[AGENT]

v — FP

give   NPᵢ — VP

a book
[THEME]

PP — V'

to Mary
[GOAL]

V — NP

tᵢ

3 Evidences for the Proposal

This chapter shows some syntactic phenomena in DOC and PDC which support the proposals in this paper.

3.1 *Backward Binding*   The backward binding phenomenon is observed only in PDC but not in DOC. This is shown by (23) and (24).

(23) DOC

a. John showed Bill and Mary$_i$ each other$_i$'s friends.

b. *John showed each other$_i$'s friends Bill and Mary$_i$.   (Fujita 1996: (7))

(24) PDC

a. John showed Bill and Mary$_i$ to each other$_i$'s friends.

b. ?John showed each other$_i$'s friends to Bill and Mary$_i$.   (Fujita 1996: (6))

Anaphor binding in DOC apply only forward but not backward, as shown in (26). In PDC, however, an anaphor binding applies not only forward but also backward, as in (24). According to Binding Condition A (Chomsky 1981, Belleti and Rizzi 1984), this means that the first object, the Theme argument, is c-commanded by the second object, the Goal arugument[5], at some syntactic level, is c-commanded by the Theme argument in PDC but not DOC.

(25) ***Binding Condition A***
An anaphor (reflexive) must have a local (nearby) antecedent at anywhere in the derivational stages.
(Chomsky 1981, Belleti and Rizzi 1984)

What this means is that the syntactic structure that the Theme argument is c-commanded by the Goal argument at some syntactic level of derivations and the Theme argument moves to the higher position than the Goal argument.

Since the binding effect in DOC applies only forward, it shows the first object, the Goal argument, must not be c-commanded by the second object, the Theme argument, at some syntactic levels of derivations. This follows from our proposal.

(26) a. John showed Bill and Mary$_i$ each other$_i$'s friends.

   b.
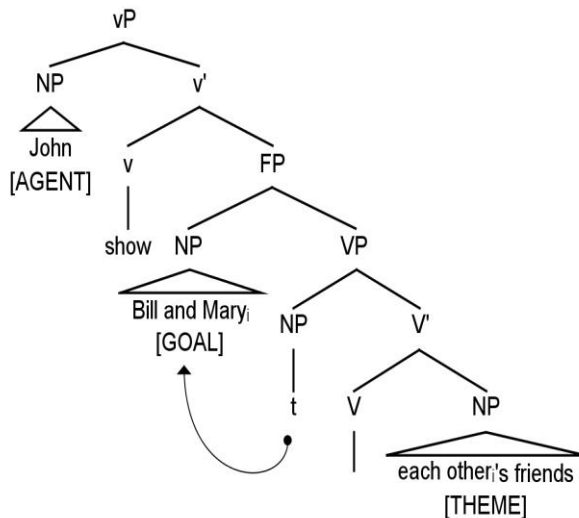
In (26), the Goal argument moves to the higher position to check its Case but the Theme argument is in-situ
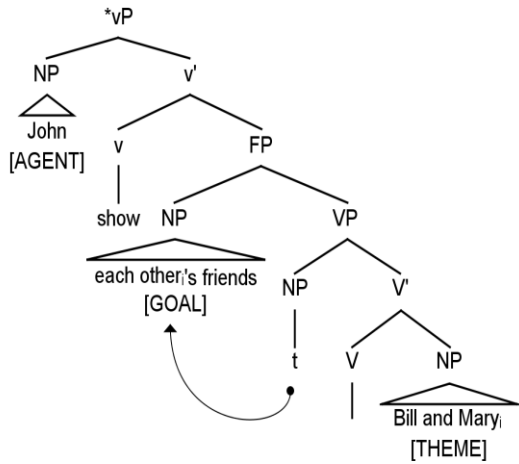
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[5] The preposition of PP does not block binding effect to its lower position (c-command domain) shown below.

(1)a. John talked to Mary$_i$ about herself$_i$.

   b. John heard from Mary$_i$ about herself$_i$.

at any derivational stages, so the Goal argument is not c-commanded by the Theme argument and an anaphor "*each other*" is not licensed at any syntactic levels of derivation. Thus, backward binding phenomenon does not show up in DOC, as illustrated in (27).

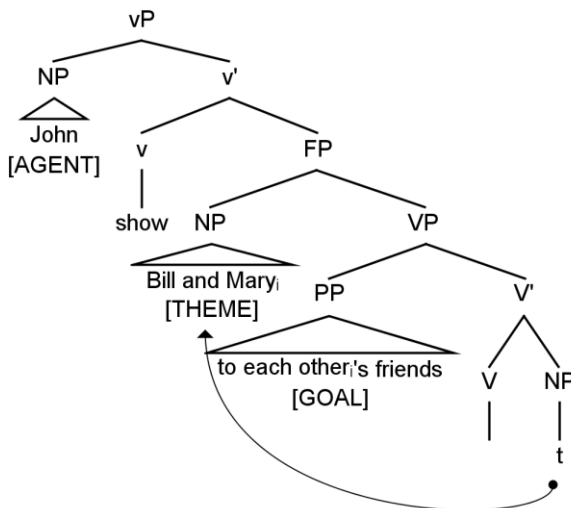(27) a. *John showed each other$_i$'s friends Bill and Mary$_i$.

   b.

```
                    *vP
              _____|_____
            NP             v'
           /__\         ___|___
           John        v       FP
          [AGENT]      |     __|____
                      show  NP       VP
                          /____\   __|__
                    each other_i's NP    V'
                      friends     |    __|__
                      [GOAL]      t    V    NP
                                       |   /__\
                                          Bill and Mary_i
                                            [THEME]
```

The structure of PDC, on the other hand, is shown in (28).

(28) a. John showed Bill and Mary$_i$ to each other$_i$'s friends.

   b.

```
                    vP
              _____|_____
            NP             v'
           /__\         ___|___
           John        v       FP
          [AGENT]      |     __|____
                      show  NP       VP
                          /____\   __|__
                    Bill and Mary_i PP    V'
                      [THEME]     /__\   __|__
                              to each other_i's V  NP
                                  friends       |   |
                                  [GOAL]        t
```
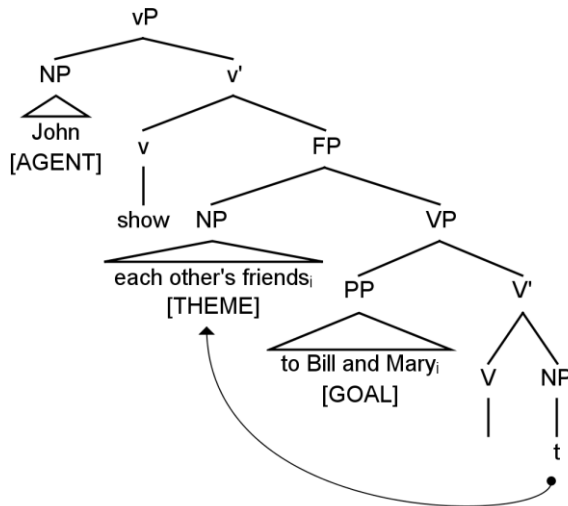
In (28), the Theme argument originates in the lowest position and is attracted to the higher position to be checked for its Case. After movement, the Theme argument "*Bill and Mary*" c-commands the Goal

argument "*to each other's friends*". In this way, the anaphor "*each other*" satisfies Binding Condition A. The backward binding case have the structure illustrated in (29).

(29) a. ?John showed each other$_i$'s friends to Bill and Mary$_i$.

b.

```
                        vP
                  ┌──────┴──────┐
                 NP             v'
                ╱  ╲        ┌────┴────┐
              John         v         FP
            [AGENT]        │      ┌───┴────┐
                         show    NP        VP
                               ╱    ╲   ┌───┴───┐
                        each other's  PP       V'
                          friends$_i$ ╱ ╲    ┌──┴──┐
                          [THEME]         V     NP
                              to Bill and Mary$_i$ │     │
                                  [GOAL]           t
```

In (29), the Theme argument "*each other's friends*" is c-commanded in its original position by the Goal argument "*to Bill and Mary*", so an anaphor "*each other*" is licensed in its original position prior to movement to Case position, and then backward binding successfully applies only in PDC but not in DOC as predicated by our proposal[6].

3.2 *Pseudo Gapping*   Pseudo Gapping is one of the deletion[7] phenomena in English and is shown below.

(30) John ate an apple and Bill will ~~eat~~ an orange.[8]

In (30), it looks as if only verb "*eat*" is deleted. In DOC and PDC, however, the deletion of only the verb is impossible, as shown in (31).

(31) a. *I didn't give Mary a dime, but I did ~~give~~ Jane a nickel. =DOC

b. *I didn't give a dime to Mary, but I did ~~give~~ a nickel to Jane. =PDC
(cited in Lasnik 1999, and observed by Jayaseelan)[9]

The deletion of the verb and the first object, the Goal argument in DOC and the Theme argument in PDC, is also not allowed.

(32) a. *John gave Bill a lot of money, and Mary will ~~give Bill~~ a lot of advice. =DOC

b. ?*John gave a lot of money to Bill, and Mary will ~~give a lot of money~~ to Susan. =PDC

---

[6] This is possibly accounted by Reconstruction analysis as well, but the key of the account of this paper is that the Theme argument in PDC is originated lower than the Goal argument as well as DOC.
[7] It might be ellipsis but not deletion.
[8] In this section, the black lines in each data mean that lined items are deleted (not pronounced).
[9] Only PDC's data, (31b), is cited in Lasnik (1999), and (31a) is found during my seminar class.

What DOC and PDC allow as Pseudo Gapping is the deletion of verb and the second object, the Theme argument in DOC and the Goal argument in PDC, shown in (33).

(33) a. ?John gave Bill a lot of money, and Mary will ~~give~~ Susan ~~a lot of money~~. =DOC

　　b. John gave a lot of money to Bill, and Mary will ~~give~~ a lot of advice ~~to Bill~~. =PDC

Such deletion phenomena in DOC and PDC points to two conclusions. The first one is that Pseudo Gapping is not the deletion of verb, or else the deletion of only the verb in (31) must be allowed. The second is that the standard analysis that remnant of deletion as focalized item moves out to the higher position before the deletion applies also fails since if so, the deletion of the verb and the first object in (32) must be also allowed[10]. To capture for the ungrammaticality of (31) and (32) and the grammaticality of (33).

　　To account for (31)-(33) in DOC and PDC, we assume that Pseudo Gapping is the deletion of the VP. According to the proposal in this paper, the structure in (31a), (32a) and (33a) is (34).

(34) DOC
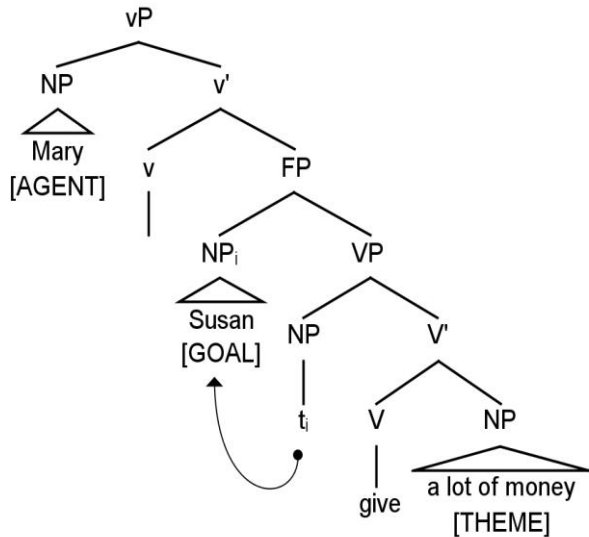
In (34), ditransitive verb "*give*" originates in the lowest position[11], and the Goal argument "*Sue*" is attracted to the higher position to be checked for its Case by the v. The analysis here is that the VP is deleted before the verb "*give*" moves to the v position[12]. (33a) is the result of such a derivation, as illustrated in (35).

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[10] As the deletion of the VP after focalized NP "*a lot of advice*" in (32a) and PP "*to Susan*" in (32b) are topicalized to the higher position via Topicalization.
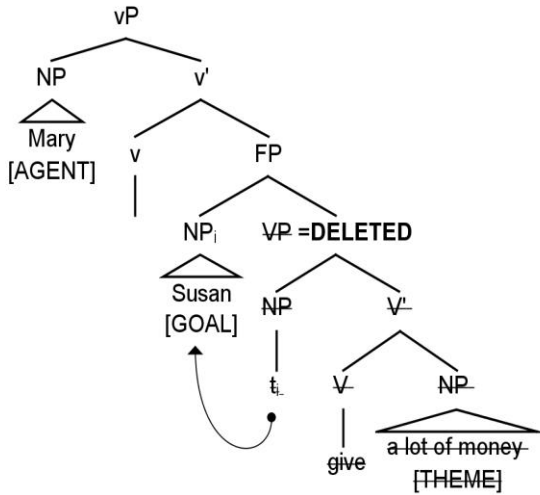
[11] It moves to the v position via head movement on the derivations.

[12] The deletion before the verb moves to the higher position, similar analysis in Lasnik (1999).
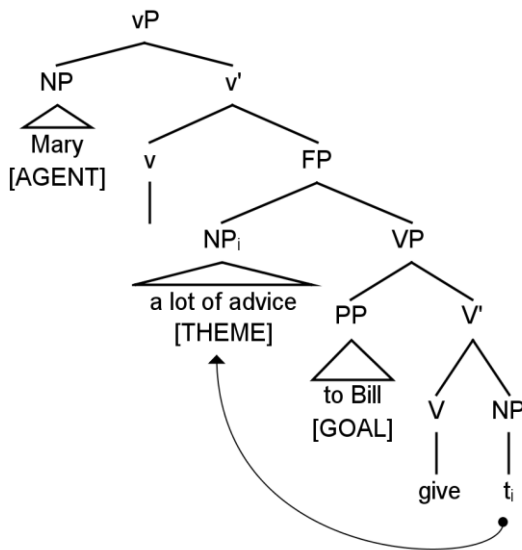
(35) DOC

a. ?John gave Bill a lot of money, and Mary will ~~give~~ Susan ~~a lot of money~~.

b.

The deletion of only the verb and the Goal argument in (31a) and (32a), however, is impossible since they never become a constituent at any syntactic level of derivations. Similar account is possible in PDC as well. The structure for (31b), (32b) and (33b) is shown in (36).
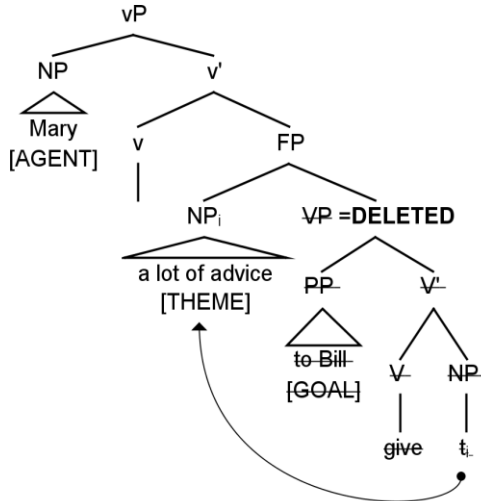
(36) PDC

The analysis of PDC extends to DOC; the VP is deleted before the verb "*give*" moves to the v position. (33b) is correctly derived, as in (37).

(37) PDC

a. John gave a lot of money to Bill, and Mary will ~~give~~ a lot of advice ~~to Bill~~.

b.

Our proposal also captures (31b) and (32b) since deleted phrases in these examples never become a constituent at any syntactic level of derivations. The account here successfully captures the deletion phenomena in DOC and PDC in (31)-(33), as summarized in (38) and (39).

(38) DOC

a. *I didn't give Mary a dime, but I did ~~give~~ Jane a nickel.

b. *John gave Bill a lot of money, and Mary will ~~give Bill~~ a lot of advice.

c. ?John gave Bill a lot of money, and Mary will ~~give~~ Susan ~~a lot of money~~.

(39) PDC

a. *I didn't give a dime to Mary, but I did ~~give~~ a nickel to Jane.

b. ?*John gave a lot of money to Bill, and Mary will ~~give a lot of money~~ to Susan.

c. John gave a lot of money to Bill, and Mary will ~~give~~ a lot of advice ~~to Bill~~.

4   Conclusion

The main proposal of this paper is that the v in double object constructions raises NP to check its Case, Object Rising Hypothesis repeated below.
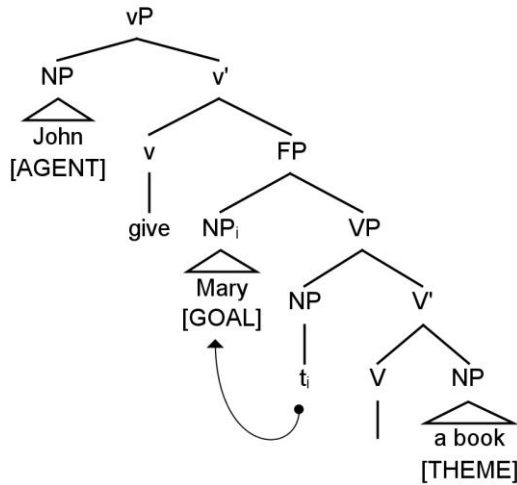
(40) *Object Raising Hypothesis*
The v in double object constructions attracts the NP closest to the v which has not been checked for its Case to the higher position, FP (Functional Projection), and checks its Case.
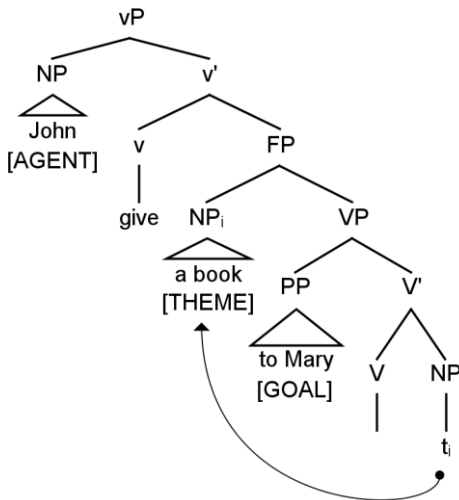
Following this hypothesis, the syntactic structures of double object constructions are shown in (41) and

(42).
(44) DOC

```
                    vP
              ┌──────┴──────┐
            NP              v'
            △          ┌────┴────┐
          John        v          FP
        [AGENT]       │       ┌───┴───┐
                     give   NPi       VP
                           △      ┌───┴───┐
                         Mary    NP       V'
                        [GOAL]    │    ┌───┴───┐
                                 ti    V      NP
                                       │      △
                                            a book
                                           [THEME]
```

(45) PDC

```
                    vP
              ┌──────┴──────┐
            NP              v'
            △          ┌────┴────┐
          John        v          FP
        [AGENT]       │       ┌───┴───┐
                     give   NPi       VP
                           △      ┌───┴───┐
                        a book   PP       V'
                        [THEME]  △     ┌───┴───┐
                               to Mary V      NP
                               [GOAL]  │      │
                                             ti
```

To the extent that our proposal is correct, this paper successfully accounts for Backward Binding and Pseudo Gapping.

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