Double Object Constructions
― Against the Small Clause Analysis ―

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-Against the Small Clause Analysis-

## Masahiro Kawakami

0. Introduction

The aim of this article is to point out some problems with the small clause analysis of double object construction exemplified (1), proposing an alternative analysis.

(1) John gave Mary a book.

Since *LGB*, a variety of possible analyses have been advanced. (See Larson (1988), Aoun and Li (1989), Fujita (1996) and Takano (1998) among others.) Kayne (1984), Hornstein (1995), Harley (1995, 2002) and Harley and Jung (2015) argue that the verbs like *give* take a small clause as its complement as shown in (2)[2].

(2) a. John gave [$_{SC}$ Mary a book].

   b.
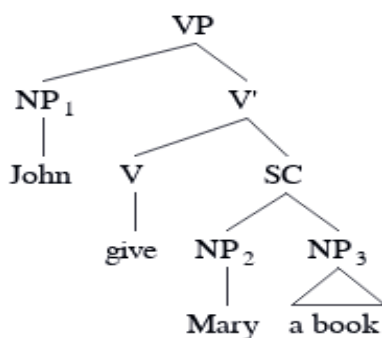
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[2] See Hornstein (1995) for the represented structure in (2b).

In (2), the bracketed small clause forms a clause without a complementizer and a verb.

In this article, we argue against the small clause analysis based on the comparison between the bracketed part in (2a) and the well-established small clause construction[3], exemplified in (3).

(3) John considered [$_{SC}$ Mary intelligent].

The bracketed part in (3) is widely recognized as a small clause. If the small clause analysis were true, there should be a clause boundary between the matrix clause and the embedded small clause in (2a). In section 1, we review Harley and Jung's (2015) analysis according to which a small clause is headed by a silent *have*. In section 2, we examine how the double object constructions and the small clause constructions behave with respect to the Right Roof Constraint (Ross 1967) and the ambiguity of the interrogative complex sentences[4]. In section 3, we consider the two constructions in light of the Binding Theory (Chomsky 1981). Based on these facts, we argue against the small clause analysis. In section 4, we summarize the main results of the present article and conclude that the double object constructions in English do not contain a small clause. Our alternative is that they involve VP-shells (Larson 1988). Finally, some remaing issues and a possible direction of the future research are listed.

1. Harley and Jung's (2015) Analysis

Harley and Jung (2015) argue that the double object constructions entail a possessive result state. This is illustrated in (4).

(4) John gave [$_{SC}$ Mary a book].

POSSESIVE RESULT STATE: Mary **HAS** a book.

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[3] To show that the small clause which does not have an overt complementizer and verb behaves like a clause, we also compare the small clause construction and the related constructions like below in the following discussions.

(I) a. John considered that Mary was angry at Bill. (the full-fledged bi-clausal construction)
　　b. John considered Mary to be angry at Bill. (the Exceptional Case Marking construction)

[4] Basically, the sentences that contain multiple clauses produce a sentential ambiguity in English, briefly introduced in section 2.2.

According to their analysis, the small clause is headed by a silent possessive *have*. they term this covert *have* P_{HAVE} as in (5).

(5)
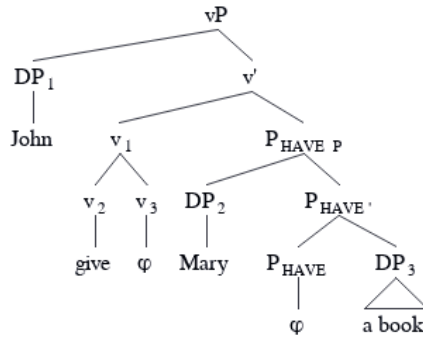
(Harley and Jung 2015: 716)

In (5), the Goal argument[5] *Mary* is the subject of P_{HAVE}, and the Theme argument *a book* is the object. The small clause headed by P_{HAVE} is independent of the matrix clause headed by *give*. In support of the $P_{HAVE}P$ structure, they point out some interesting facts in (6)-(9).

(6) a. John had the car for a week.

　　b. Brenda gave John the car for a week.　　　　　　　　　(*having* lasts for a week, not *giving*)

(Harley and Jung 2015: 704)

Following their small clause analysis, the double object constructions are bi-clausal, the matrix clause headed by *give* and the embedded small clause headed by a silent *have*, hence the adverb has a choice to modify each clause (the matrix or embedded clause). As shown in (6b), the adverb *for a week* modifies the embedded silent *have*, thus the interpretation of (6b) is that John gave Mary a car, then Mary had a car for a week[6]. This fact seems to

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[5] The first (indirect) object in the double object constructions might be called as the Benefactive argument rather than the Goal argument.
[6] The modification of the possessive result state is not always possible as below.

(I) Brenda gave John the car legally.
READING:　　√legally giving
　　　　　　　#legally having

support the small clause analysis. They further point out three additional arguments and show resemblance between their small clause and the lexical *have* constructions.

(7) a. John has a book.

    b. Brenda gave John a book.

    c. #The car has a flyer.

    d. #The advertiser gave the car a flyer.   (Harley and Jung 2015: 704)

The small clause in (5) is headed by a silent *have*, so it is expected that the small clause in the double object constructions and the constructions headed by a lexical *have* behave in the same way. The subject in (7a) is *John*, an animate, and the sentence is interpretable. The subject in (7c), *the car,* on the other hand, is not an animate, and the sentence is uninterpretable. These data indicate that the subject of *have* must be animate. If the assumption that the head of a small clause in the double object constrictions is a silent *have* as illustrated in (5) is true, the subject of the embedded small clause must be animate as well as the lexical *have* constructions. *John* in (7b) is an animate; however, *the car* in (7d) is not an animate, hence the same animacy restriction applies in (7c) and (7d). The animacy restriction is not present in the cases of inalienable possessions.

(8) a. John has blue eyes.

    b. The house has a new coat of paint.

    c. His mother gave John his blue eyes.

    d. The painter gave the house a new coat of paint.   (Harley and Jung 2015: 705)

For example, in (8b), the subject *the house* is allowed since the inalienable Theme argument *a new coat of paint* cannot be physically separated from it. (8d) shows the parallel effect with the lexical *have* construction in (8b) since the Theme argument is inalienable. Third, it is discussed that the subject of the lexical *have* constructions and the Goal argument in the double object construction entail an existence presupposition.

(9) a. Our baby has a sweater. (#if baby is only planned)

   b. I'm knitting our baby a sweater. (same)

(Harley and Jung 2015: 705)

In (9a), the subject *our baby* presupposes the existence, so it has no reading that the parents have a sweater for their baby coming soon.[7] The same is true for (9b). The Goal argument *our baby* should mean only an actual baby but not a planned baby.

      We have introduced four arguments advanced by Harley and Jung (2015) in favor of their analysis. The first argument is based on the modification of adverbials. The next three arguments refer to the parallel effects between the double object constructions and the lexical *have* constructions. In the next section, we point out some problems of the small clause analysis from syntactic perspectives by making a comparison between the double object constructions and the full-fledged small clause constructions.

2. Problems with the Small Clause Analysis

      In this section, we point out two problematic challenges with the small clause analysis in the double object constructions with respect to the rightward movement and the ambiguity of interrogative complex sentences in English.

2.1. Rightward Movement and Constraints

      Before diving into the detailed discussions, let us first consider the restriction on the rightward movement in English. These instances of movement move a phrase to a right adjoined position of the sentences (Heavy PP shift)[8] in (10).

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[7] Benjamin Bruening points out that the reading that the baby is only planned in (9b) is acceptable when the baby is in utero, according to the footnote in Harley and Jung (2015).
[8] We assume that Heavy NP (PP) Shift is one of the rightward movements in English. See Larson (1988), Culicover and Rochemont (1990), Kayne (1994) and Hirata (1995) for no-rightward movement analyses.

(10) a. John was angry [at the man who had just arrived] yesterday.

b. John was angry *t* yesterday [at the man who had just arrived].[9]

c.
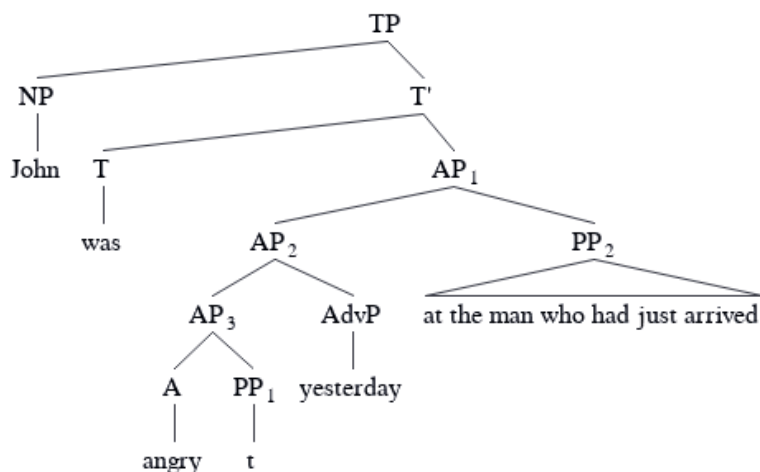
The prepositional phrase *at the man who had just arrived* originates in the complement position of the adjective *angry*, as in (10a), and it moves to a right adjoined position in (10b). This rightward movement is acceptable in the embedded clause as well.

(11) a. John thought that Mary was angry [at the man who had just arrived] yesterday.

b. John thought that Mary was angry *t* yesterday [at the man who had just arrived].

Let us consider the interpretations of (11). (11a), which involves no rightward movement, is ambiguous, while (11b), which includes the rightward movement, is not. In (11a), the adverb *yesterday* can modify both the matrix verb *think* and the embedded predicate *angry*. On the other hand, the latter interpretation is only available in (11b). The interpretations of (11a) and (11b) are illustrated in (12).

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[9] In this section, we sometimes move PP rather than NP to a right adjoined position since the extraction of NP from PP (P-stranding) is not acceptable.

(I) *John was angry at *t* yesterday [the man who had just arrived].

(12) a. John thought that Mary was angry [at the man who had just arrived] yesterday.

READING: √the day of thinking was yesterday

　　　　　√the day of being angry was yesterday.

　　b. John thought that Mary was angry *t* yesterday [at the man who had just arrived].

READING: #the day of thinking was yesterday

　　　　　√the day of being angry was yesterday

The lack of one of the interpretation in (12b) can be accounted for by the restriction, called Right Roof Constraint.
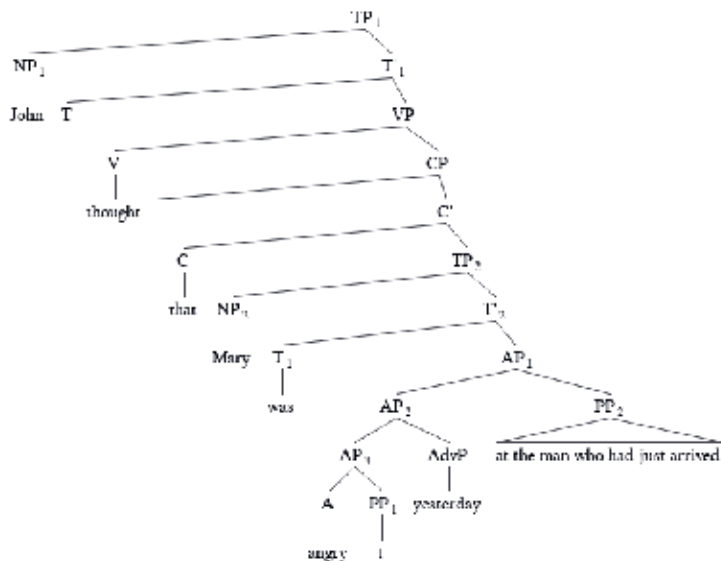

(13) Right Roof Constraint

In all rules whose structural index is of the form … A Y, and whose structural change specifies that A is to be

adjoined to the right of Y, A must command Y. 　　　　　　　　　　　　　　　(Ross 1967: 341)

Taking this constraint into account, the acceptable reading in (12b) is represented in (14a).

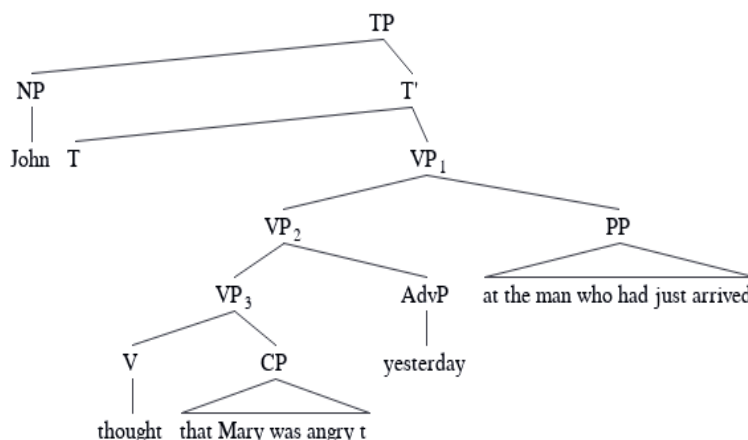(14) a. READING: √the day of being angry was yesterday.

　　b.

The prepositional phrase *at the man who had just arrived* moves to the AP adjoined position in the embedded CP and the moved phrase is still under the same roof (the embedded clause), thus no violation of the Right Roof Constraint is observed. In (15), which is the structure of unacceptable interpretation of (12b), the moved phrase is in a different position from (14).

(15) a. READING: #the day of thinking was yesterday

    b.

```
                              TP
              _____
            NP                          T'
            |                   _____
          John   T _____         VP₁
                                      _____
                                    VP₂                      PP
                              _____         _____
                            VP₃        AdvP     at the man who had just arrived
                         _____        |
                        V      CP     yesterday
                        |     _____
                     thought  that Mary was angry t
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In (15a), the adverb *yesterday* occupies a matrix adjoined position since it modifies the matrix verb but not the embedded predicate. To get the word order of (12b), the prepositional phrase *at the man who had just arrived* must be in a higher position than the adverb. This movement, however, violates the Right Roof Constraint since the prepositional phrase moves out of its original clause. The lack of the interpretation in (12b) is explained by Right Roof Constraint.

       Let us now examine the double object constructions and the *consider* constructions as following.[10]

(16) a. John considered that Mary was angry at the man who had just arrived yesterday.

READING: √the day of considering was yesterday

      √the day of being angry was yesterday.

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[10] We set aside the reading "the day of arriving was yesterday" in the following sentences.

b. John considered that Mary was angry *t* yesterday [at the man who had just arrived].

READING: #the day of considering was yesterday

√the day of being angry was yesterday

c. John considered Mary to be angry at the man who had just arrived yesterday.

READING: √the day of considering was yesterday

√the day of being angry was yesterday.

d. John considered Mary to be angry *t* yesterday [at the man who had just arrived].

READING: #the day of considering was yesterday

√the day of being angry was yesterday

In each pair of the sentences in (16), Heavy PP Shift cannot apply when the adverb modifies the matrix verb, in the violation of the Right Roof Constraint. The small clause constructions also behave similarly.

(17) a. John considered Mary angry at the man who had just arrived yesterday.

READING: √the day of considering was yesterday

√the day of being angry was yesterday.

b. John considered Mary angry *t* yesterday [at the man who had just arrived].

READING: #the day of considering was yesterday

√the day of being angry was yesterday

We find that a small clause behaves like a full-fledged clause since the violation of Right Roof Constraint is attested in (17b). The unacceptable interpretation in (17b) is represented by (18).

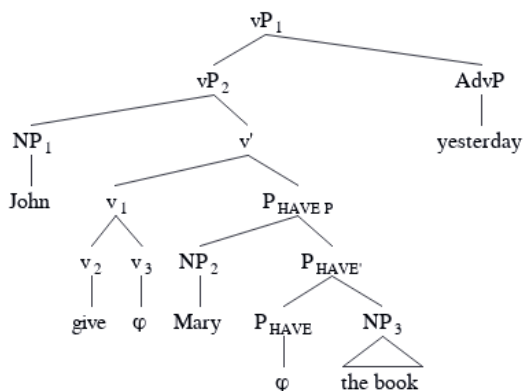(18) a. READING: #the day of considering was yesterday

b.[11]
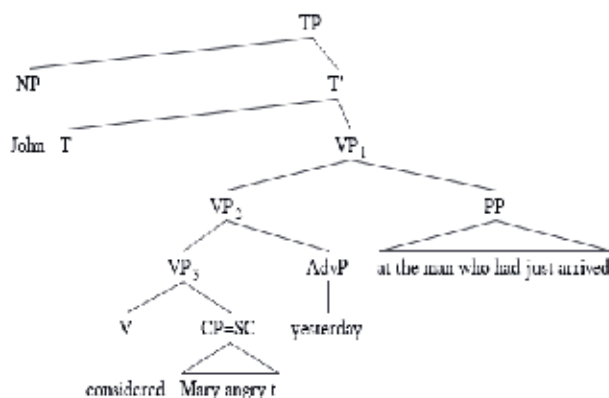
Following Harley and Jung's $P_{HAVE}P$ structure, the double object construction in (19a) has the structure like (19b).

(19) a. John gave Mary the book yesterday.

b.

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[11] We assume that a small clause has CP as well as ECM supported by a successive cyclic movement of wh-phrases as following.
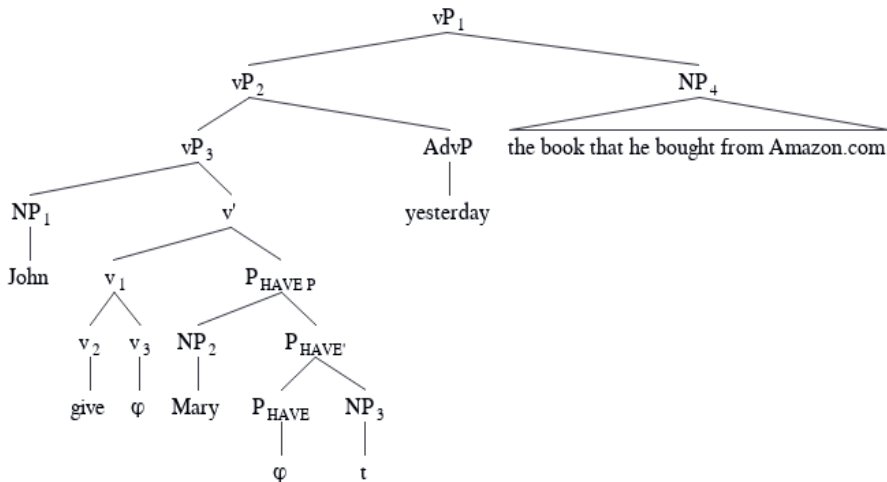
(I) a. *John_i considered Mary to be angry at a picture of himself_i.
   b. Which picture of himself_i did John consider Mary to be angry at?
(II) a. *John_i considered Mary angry at a picture of himself_i.
   b. Which picture of himself_i did John_i consider Mary angry at?

Each (b) sentence gets well-acceptability since both wh-phrases move to the specifier of the matrix CP via the specifier of the embedded CP. A locality condition of Binding Condition A is successfully satisfied when wh-phrases stay at the specifier of the embedded CP (a small clause).

The adverb *yesterday* originally merges in the matrix clause in (19b). Then, even the Theme argument[12] moves to the right adjoined position over the adverb via Heavy NP Shift, the sentence permits the interpretation according to which the day of giving was yesterday, as illustrated in (20).

(20) a. John gave Mary *t* yesterday [the book that he bought from Amazon.com].

    b.

vP_1

vP_2 NP_4

vP_3 AdvP   the book that he bought from Amazon.com

NP_1 v'   yesterday

John v_1 $P_{HAVE P}$

v_2 v_3 NP_2 $P_{HAVE'}$

give   φ   Mary P_{HAVE} NP_3

φ   t

If (19b) were a bi-clausal construction, including a small clause, Heavy NP Shift of the Theme argument would violate Right Roof Constraint in the same way as in (17). This interpretable difference between (17) and (20) clearly indicates that the double object constructions have only one roof, so the moved phrase in (20) remains under the same roof. The small clause analysis hardly explains this difference.

2.2. Wh-Movement and Ambiguity

This section provides another argument based on the phenomena that the interrogative complex sentences which are triggered by the interrogative phrase *why*[13] have the sentential ambiguity exemplified below.

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[12] We do not examine the case that the Goal argument moves via Heavy NP Shift since, as the basic fact, the extraction of the Goal argument in the double object constructions cannot be allowed by any A'-movement.

[13] This can be tested with *when* or *where* as well, more adjunctive wh-phrases than the argumental wh-phrases such as *what*, *who*, and *which*.

(21) Why did John think that Mary was angry at Bill?

READING: √asking the reason of thinking

√asking the reason of being angry

In (21), the sentence has two possible interpretations, asking the reason of thinking or being angry. This effect can be easily accounted for since the adjunct phrases possibly modify the matrix verb or the embedded verb (predicate). Thus, Wh-movement from the matrix clause gives us the former interpretation and that movement from the embedded clause leads to the latter one. Let us now have a look at the double object constructions and the *consider* constructions. First, (22) shows that the full-fledged bi-clausal construction and the ECM construction are ambiguous in the same way as (21).

(22) a. Why did John consider that Mary was angry at Bill?

READING: √asking the reason of considering

√asking the reason of being angry

b. Why did John consider Mary to be angry at Bill?

READING: √asking the reason of considering

√asking the reason of being angry

Similarly, the small clause construction manifests the same ambiguity, as in (23).

(23) Why did John consider Mary angry at Bill?

READING: √asking the reason of considering

√asking the reason of being angry

Double object constructions, on the other hand, behave as mono-clausal.

(24) Why did John give Mary a book?

READING: √asking the reason of giving

　　　　　　 #asking the reason of having

In (24), it has only one interpretation which consists of asking the reason of giving. Following the small clause analysis, especially Harley and Jung's one, a silent *have* should exist between the Goal argument and the Theme argument and it is the head of the embedded small clause, hence the double object constructions have two verbs, the matrix verb and the embedded silent *have*; in other words, it is the bi-clausal construction. The logical prediction given this analysis is that (24) should be ambiguous since the adverb is able to modify the matrix verb and the embedded silent *have*, hence (24) must have the other interpretation that is asking the reason of having, but this interpretation does not appear. This observation leads us to conclude that the double object constructions are simply mono-clausal.

3. Binding Theory

　　　Our analysis is also supported by the Binding Theory (Chomsky 1981), which consists of three principles as below.

(25) Binding Conditions

A: An anaphor is bound in its governing category.

B: A pronominal is free in its governing category.

C: An R-expression is free.

First, reflexives require that their antecedents c-command them within their binding domain as illustrated in (26).

(26) a. John$_i$ saw himself$_i$.

　　b. *John$_i$ thought that Mary saw himself$_i$.

Second, a pronoun must not be c-commanded (must be free) by its antecedent, but the sentences get well-formed

in the cases when an antecedent and a pronoun are in different clauses as following.

(27) a. *John$_i$ saw him$_i$.

    b. John$_i$ thought that Mary saw him$_i$.

Third, a name (R-expression) must not be c-commanded by its antecedent. This condition is valid even if the antecedent and R-expression are not clause-mates, thus it has no locality restriction unlike Binding Conditions A and B, as shown in (28).

(28) a. *He$_i$ saw John$_i$.

    b. *He$_i$ thought that Mary saw John$_i$.

      Now, we dive into the double object constructions with regards to the Binding Theory, exclusively Binding Condition A and B.[14]

      If the double object constructions really contain a small clause, we would expect that there is a clause boundary between the matrix verb and the Goal argument. Let us first examine the *consider* constructions.

(29) a. *John$_i$ considered that Mary was angry at himself$_i$.

    b. *John$_i$ considered Mary to be angry at himself$_i$.[15]

In each sentence, the reflexive *himself* cannot take the matrix subject *John* as its antecedent since the subject *John* is outside the clause which contains the reflexive, thus it violates a locality restriction of Binding Condition A. Let us turn to the small clause construction.

(30) *John$_i$ considered Mary angry at himself$_i$.

Similarly, the small clause construction forms a binding domain. What we find here is that a small clause, lacking

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[14] We do not treat Binding Condition C as a test here since it does not show any grammatical differences related to a locality restriction.

[15] We assume that ECM constructions have a CP as well as (29a). See Tanaka (2002) for more detailed arguments.

an overt complementizer and a verb, also has a clause boundary, hence (30) is ungrammatical because of the violation of the Binding Condition A. In clear contrast, the double object construction fails to form a binding domain.

(31) John$_i$ gave Mary a picture of himself$_i$.

In (31), the reflexive *himself* in the Theme argument can take the subject *John* as its antecedent. If a clause boundary existed between the verb and the Goal argument as claimed by the small clause analysis, this observation is problematic since it seems to violate a locality restriction.

We can reach the same conclusion based on Binding Condition B effects. Consider (32).

(32) a. John$_i$ considered that Mary was angry at him$_i$.

    b. John$_i$ considered Mary to be angry at him$_i$.

In (32), as both pronouns *him* survive, no violation of Binding Condition B is attested here; the antecedent *John* c-commands the pronoun but is out of the clause which contains it. The small clause constructions also behave like (33), as exemplified below.

(33) John$_i$ considered Mary angry at him$_i$.

Again, the small clause construction really contains a clause boundary; in other words, it is bi-clausal. Now, in the double object constructions, the Binding Condition B is violated in the similar environment in (34).
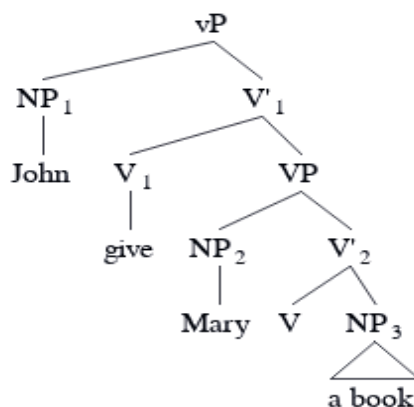
(34) *John$_i$ gave Mary a picture of him$_i$.

The contrast between (33) and (34) also supports the conclusion that sentences like (32) and (33) are bi-clausal, while the double object construction in (34) is mono-clausal at all.

4. Conclusion

In this article, we have argued that the double object construction in English is simply mono-clausal contrary to the bi-clausal small clause analysis. Based on the comparison between the double object constructions and the full-fledged small clause constructions, this article leads us to that consequence. As discussed in this article, we have seen some syntactic differences between those constructions via the Right Roof Constraint, the ambiguity of the interrogative complex sentences and the Binding Theory. We finally propose the alternative structure of the double object constructions inspired by Larsonian VP-shells, as shown in (35).

(35) a. John gave Mary a book.

b.

```
                        vP
              _____
           NP₁                    V'₁
            |              _____
          John      V₁                    VP
                     |            _____
                   give      NP₂              V'₂
                              |            _____
                            Mary      V       NP₃
                                              △
                                           a book
```

In (35), the Goal argument and the Theme argument are both objects of the ditransitive verb *give* and these objects are in the projections of split VPs, thus no embedded small clause exists anywhere in the double object constructions. Our alternative structure is supported by some empirical advantages besides the arguments in this article, hence we would propose those in our up-coming articles.

For the future research, we must account for the reason why the verb *give* has such possessive properties pointed out in (6) to (9) without the small clause analysis. This may, however, not be a syntactic issue since it is hard to admit a possessive projection like $P_{HAVE}P$ structure in the double object constructions following the discussions of this article. We will examine a possibility that this is not a syntactic issue but a semantic one, such an aspectual property of the verb *give*.

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