Transitive Predicative Construction*  
and Factivity

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1. Introduction

This study will be concerned with transitive predicative constructions such as (1):

(1) a. John believes Mary *honest.*

   b. John describes Mary *as competent.*

The underlined phrases in (1) are sometimes called predicatives. Our goal is to identify the conditions under which such predicatives occur within the framework of the government-binding (GB) theory (e.g., Chomsky (1981), Maranz (1981, 1982), Schein (1982a, b)).

The structures of (1a, b) can be schematized as (2):

(2) \[ [s \ NP_1 [vp [v \ V \ NP_2 \ (as) \ XP^* ]]] \]

   where XP* stands for a predicative

One of the characteristics of this construction is that NP_2 and XP* are in the so-called predication relation; NP_2 has a property of being XP*. Another characteristic is that an XP* is realized as a

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variety of syntactic categories as shown in the following examples:

(3)  
a. John believes Mary *honest*. (AP)  
b. John believes Mary *an honest girl*. (NP)  
c. John believes Mary *of good birth*. (PP)  

(4)  
a. John describes Mary as *competent*. (AP)  
b. John describes Mary as *a competent secretary*. (NP)  
c. John describes Mary as *of good birth*. (PP)

One might think that the examples in (5) are against the claim that an XP* can be realized as a variety of syntactic categories; only an NP may appear after as in (5):

(5)  
a. John went to Japan as *a diplomat*. (NP)  
b. *John went to Japan as *important*. (AP)  
c. *John went to Japan as *of importance* (PP)

Note, however, that the as phrase in (5a) behaves differently from those in (4) in certain respects:

(6)  
a. As a diplomat, John went to Japan.  
b. John went to Japan as a diplomat and Tom did so as a professor.

(7)  
a. As a competent secretary, John describes Mary. (grammatical only under the meaning that not Mary but John is a competent secretary.)  
b. *John describes Mary as a competent secretary and Tom did so as a cheerful lady.

The as phrase in (5a) can be preposed to the sentence-initial position as in (6a) and can appear after do so as in (6b), while neither construction is permitted in the cases of the as phrases in (4) as shown in (7). This paradigm shows that the as phrase in
(5a) is not a V’ complement, while those in (4) are functional arguments of the verb, i.e., V’ complements. Consequently, the as phrase in (5a) should not be identified as the XP* of (2) which is a V’ complement.

In brief, this study will be concentrated on examples of form (2) with an AP, NP, or PP as an XP*. Cases of intransitive constructions such as those in (8) will be set aside:

(8) a. John is foolish.
    b. John seems foolish.

Furthermore, a VP and S are excluded from our consideration of XP*, though it does not seem unreasonable to treat them also as XP*s (see Williams (1980), Schein (1982b)).

2. Problems

There are two major problems in the (transitive) predicative construction. The first is that NPs and PPs do not always function as XP*s (i.e., predicatives). For example, the underlined parts of (3b, c) repeated here in (9) are in the predication relation with the preceding NP, as shown by the following sentences in the parentheses:

(9) a. John believes Mary an honest girl.
    (Mary has a property of being an honest girl.)
    b. John believes Mary of good birth.
    (Mary has a property of being of good birth.)

In contrast, the underlined parts of (10), which might look structur-
ally similar to (9), do not function as predicatives, as shown by
the anomalous sentences in the parentheses:

(10) a. John gave Mary *his book.
     (Mary had a property of being his book.)

     (His book had a property of being to Mary.)

Consequently, it is necessary to state where an XP* (i.e., predic-
native AP, NP, and PP) appears. More specifically, it is necessary
to distinguish predicative NPs and PPs from non-predicative ones
in an explicit manner.

The second problem is about the distribution of *as in transitive
predicative constructions. In some cases, *as is optional for an XP*
as in (11a); in others, it is excluded as in (11b, c)

(11) a. John considers Bill { foolish 
              as foolish }

b. John thinks Bill { foolish 
                     *as foolish }

c. John believes Bill { foolish 
                     *as foolish }

Still in other cases, *as is obligatory for an XP*:

2) Copperud (1980) says that (ia) is preferred to (ib):

(i)   a. John considers Mary foolish.

b. John considers Mary as foolish.

If so, consider fits into the patterns of think and believe in (11).
(12)  

a. John regards Mary \{ \text{*foolish} \} \as foolish \\

b. John describes Mary \{ \text{*foolish} \} \as foolish \\
c. John thinks of Mary \{ \text{*foolish} \} \as foolish \\

The above paradigm indicates that the presence of \textit{as} is lexically determined. The question is whether it is possible to make a general statement to account for this peculiar distribution of \textit{as}.

Chomsky (1981: 106-110) proposes a clausal analysis of transitive predicative construction; \textit{Bill} or \textit{ti} forms a clause with its postjacent phrase in (13), disregarding the presence of \textit{as}:

(13)  

a. John considers [Bill \textit{foolish}] \\
b. John regards [Bill \textit{as foolish}] \\
c. John impressed me [ti \textit{as intelligent}]

Similarly, Bresnan (1982: 377) assigns the same grammatical function XCOMP to a predicative phrase, regardless of whether it is headed by \textit{as} or not:

(14)  

a. John seems \textit{sick} to Mary. \\
(\uparrow \text{PRED}) = \langle \text{SEEM} \langle \text{XCOMP} \langle \text{OBL}_a \rangle \rangle \langle \text{SUBJ} \rangle \rangle \\
b. John regards Mary \textit{as friendly}. \\
(\uparrow \text{PRED}) = \langle \text{REGARD} \langle \text{SUBJ} \rangle \langle \text{OBJ} \rangle \langle \text{XCOMP} \rangle \rangle \\

3) According to the Concise Oxford Dictionary (1976), (ib) is preferred to (ia):

(i)  

a. John regards Mary foolish. \\
b. John regards Mary as foolish.

Then, \textit{regard} fits into the patterns of \textit{describe} and \textit{think of} in (12).
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c. John struck Mary as friendly.

\[(\uparrow \text{PRED}) = \text{STRIKE} \langle \text{SUBJ} \rangle \langle \text{OBJ} \rangle \langle \text{XCOMP} \rangle \]'

Obviously, the distribution of *as* cannot be described merely by specifying for each verb whether it takes a clausal complement as in Chomsky (1981) or the grammatical function XCOMP as in Bresnan (1982). We need some other means to describe the distribution of *as* and should look for a generalization governing it, if any.

3. Analysis of XP*

The problems stated in the previous section will be solved in this section by extending the notion of “factivity” in Kiparsky and Kiparsky (1970).

First let us consider cases of XP*s without *as*. As discussed earlier in connection with (9) and (10) with the verbs believe and give, NPs and PPs do not always function as predicatives. One of the differences between these two verbs is that believe takes a clausal complement, while give does not:

(15) a. John believes that Mary is an honest girl.
    b. John believes that Mary is of good birth.

(16) a.*John gave that Mary was his book.
    b.*John gave that his book was to Mary.

The meanings of (15a, b) are quite close to those of (9a, b), so that it is reasonable to assume that *Mary* and the following phrase constitute a clause in (9) in the same way as in (15). Thus, we may state the environment of XP*s without *as* as follows:

(17) An XP* appears in the environment \( V [\_NP\_\alpha] \),
    \( \alpha = \text{a clause.} \)
(17) implies that verbs that take a clausal complement also take a V NP XP* construction; however, this is not the case with some verbs:

(18)  a. John regrets that Mary is foolish.
      b. *John regrets Mary foolish.

Though regret takes a that-clause, it does not permit a V NP XP* construction.

Kiparsky and Kiparsky (1970) observe the syntactic and semantic differences between verbs like regret and those like believe. The former are called factive verbs and the latter non-factive. A factive verb is such that the speaker presupposes that its complement expresses a true proposition. Thus, the sincere speaker will not utter (19a) if he knows that (19c) is false. The same is true with (19b) which is the negative counterpart of (19a); the presupposition is constant under negation:

(19)  a. John regrets that Mary was killed.
      b. John does not regret that Mary was killed.
      c. Mary was killed.

On the other hand, the speaker does not commit himself to the truth of the complement sentence of a non-factive verb. Thus the speaker may utter (20a) even if he knows that (20b) is false.

(20)  a. John believes that Mary was killed.
      b. Mary was killed.

In this way, the non-factive verb believe differs from the factive verb regret semantically.

In addition, Kiparsky and Kiparsky (1970: 145-146, 162) list up their syntactic differences. Factive verbs take “the fact that S” and a gerund as their complement, while non-factive verbs may not
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take either. On the other hand, non-factive verbs permit an accusative and infinitive construction (subject-to-object raising) and negative raising; while factive verbs may not permit either. Furthermore, they show contrastive behaviors in another respect as observed in connection to (18); non-factive verbs permit V NP XP* constructions, whereas factive verbs do not.

Since the semantic properties of a verb such as factivity must be specified in the lexicon, it may be regarded as possible to specify its syntactic behaviors on the basis of its semantic properties. Specifically, the lexicon may include such a stipulation that only non-factive verbs permit V NP XP* constructions. Such an approach, however, cannot give a natural explanation to the correlation between factivity and V NP XP* constructions; it could be the case that only factive verbs permit V NP XP* constructions contrary to the fact. What is worse, this approach cannot cover verbs that do not take a clausal complement since factivity is originally a concept relevant only to verbs that take a clausal complement.

First let us consider the second problem just mentioned. Kiparsky and Kiparsky (1970: 167) suggest the possibility of extending factivity to verbs taking a non-sentential complement; assuming that the reference of a sentence is its truth value as claimed by Frege, the complement of a non-factive verb whose truth

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4) Kiparsky and Kiparsky (1970: 156-163) explain the syntactic differences between factive and non-factive verbs by the Complex NP constraint.

5) Kiparsky and Kiparsky (1970: 167) try to show the correlation between the truth value of a proposition and the specific reference of an entity on the basis of the following examples:

(i)  
a. I ignored an ant on my plate.
    b. I imagined an ant on my plate.

Their argument seems to be based on the assumption that the underlined part of both (ia) and (ib) has the structure [\textit{ref an ant} [\textit{ref on my plate}]]. The underlined part of (ib) under its most natural interpretation, however, has a sentential structure, which is pointed out by Noriko Kawasaki.
value cannot be either true or false, can be paraphrased as a complement without a specific referent. Thus, the sentential complement of *believe* resembles the non-sentential complement of verbs like *look-for* as used in (21) at some highly abstract level of semantics:

(21) John walked around Lake Ness, looking for Nessy.

(21) does not entail that *Nessy* exists. In contrast, the complement of a factive verb, which is presupposed to express a true proposition, can be said to have a specific referent in the same way as the non-sentential complement of verbs like *kiss* refers to a specific entity:

(22) John kissed Mary.

(22) entails that there is a specific person called *Mary*. In this way, factivity can be extended to verbs that do not take a clausal complement.

We will use the feature [± SR] (which stands for “specific reference”) to describe the semantic characteristics of the complement of transitive verbs, regardless of whether it is sentential or non-sentential. In addition, we will specify each transitive verb with the feature [± P (propositional)] in order to distinguish verbs that take a sentential complement from those that do not. The verbs discussed so far can be characterized as in (23) and the environment of an XP* without *as* can be stated as in (24):

(23)

<table>
<thead>
<tr>
<th></th>
<th>[± SR]</th>
<th>[± P ]</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>give</em> / <em>kiss</em></td>
<td>+</td>
<td>−</td>
</tr>
<tr>
<td><em>look-for</em></td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td><em>believe</em></td>
<td>−</td>
<td>+</td>
</tr>
<tr>
<td><em>regret</em></td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>
An XP* appears in the environment $V\ NP\ [+P, -SR]$. 

Turning to the question of why only verbs with the features $[+P, -SR]$ permit $V\ NP\ XP^*$ constructions, consider the following examples:

\begin{itemize}
  \item[(25a)] John believed that Mary was innocent. \\
  \hspace{1cm} \text{\textit{Mary} and (was) \textit{innocent} are in the predication relation and believe assigns a $\theta$-role to the that-clause as described above. The that-clause in (25a) expresses a proposition without a specific truth value; it is neither true nor false.}
  \hspace{1cm} \text{In (25b), \textit{Mary} and \textit{innocent} are in the predication relation as in (25a). We assume that}
\end{itemize}
believe assigns a θ-role directly to the AP in (25b). The AP innocent is a kind of open proposisition that expresses a property (the property of Mary in this case) and it can be neither true nor false by itself; it lacks a specific referent. In this way, the θ-role assignees in (25a, b) resemble each other in that they do not have a specific referent.

On the other hand, in (25c) regret assigns a θ-role to the that-clause which is presupposed to express a true proposition; it has a specific referent. Then, (25d) is predicted to be ungrammatical since the AP guilty, being an open proposition, cannot have a fixed truth value (i.e., it lacks a specific referent) and the lexical property of regret is such that its θ-role assignee expresses a specific referent. In other words, (25d) is ungrammatical due to the conflict of feature specifications in terms of [±SR]. In this way, the relationship between factivity and V NP XP* construction can be captured.

Give and look-for, which are specified as [-P] do not permit V NP XP* constructions like the factive verb regret:

6) In addition, it is assumed that believe does not assign a θ-role to Mary in (25b). Thus, we somehow have to block such examples as (i):

(i) *John believes innocent.

The θ-marking property of believe is observed in (i). We need to set up the requirement (ii) as a part of θ-theory:

(ii) A predicative must assign a θ-role to an argument.

(i) is filtered out since there is no argument for the predicative to assign a θ-role to. In this way, though the θ-marking property of believe does not directly guarantee the presence of Mary in (25b), it does so indirectly by assigning a θ-role to the AP innocent, supplemented by (ii). Alternatively, obligatory Case assignment by believe can block (i).

7) If we assume that Mary and innocent form a clause in (25b), we cannot explain why a verb with the features [+P, +SR] cannot take a V NP XP* construction. It is crucial that what is assigned a θ-role by believe in (25b) is an AP which is an open proposition, not a full clause.
(26)  a. *John gave his book (to Mary) interesting  

It is because the $\theta$-role assignee of give and that of look-for do not express a proposition but some entity (whether specific or non-specific); and an XP* is an open proposition that expresses a property.

In brief, an AP, NP, and PP function as predicatives when they are assigned a $\theta$-role by the verb with the features [+P, −SR].

Next consider the characteristics of as. As has been noticed in (4), as takes not only an NP but also an AP and a PP as its complements, while most of the other prepositions usually take only an NP complement. In addition, a pronoun does not appear in the complement of as:

(27)  a. *John described Mary as her.  
b. John gave his book to her.

This indicates that as requires a non-specific NP as its complement.

Furthermore, when (28a) is presupposed to be true, (28b) and (28b') do not necessarily have the same truth value; whereas (28c) and (28c') have the same truth value:

(28)  a. The leader of John's group was the most beautiful lady in that group.  
b. John described Mary as the leader of his group.  
b'. John described Mary as the most beautiful lady in his group.  
c. John gave his book to the leader of his group.

8) This is pointed out by Prof. Masatake Muraki.
c'. John gave his book to the most beautiful lady in his group.

All these differences between *as* and *to* show that the complement of *as* expresses a property (even when it is an NP), while that of *to* refers to a specific entity. (c.f. Kuno (1969)) Consequently, *as* can be characterized as [+P, −SR] just like the non-factive verb *believe*.

Now consider the characteristics of a verb that takes an XP* obligatorily headed by *as*. Taking *describe* for example, it does not take a *that*-clause, but an NP object which expresses a specific referent:

(29) a. *John described that Mary was competent.
   b. John described her coat so well that I found it right away. (Konishi (1980: 378))

Thus, *describe* can be specified with the features [−P, +SR] contrary to *believe* and *as*. *Describe* has the same features as *give*, which is reasonable in view of the following examples:

    b. John described the situation to Mary.

We can conclude that an XP* must be headed by *as* when the verb to which it serves as a complement is specified with [−P, +SR].

We have identified two kinds of environment in which an XP* appears, which are summarized as follows:

(31) An XP* appears in the environment
    a. [vP[v, V NP ——]], or
       [+P, −SR]
    b. [vP[v, V NP P ——]]
       [−P, +SR] [+P, −SR]

The examples in (3) are cases of (31a) and those in (4) are cases
of (31b)."  

(31) implies that only those that meet the conditions stated in (31) are transitive predicative constructions. This prediction seems to be supported by the following paradigm:

(32)  

a. *[vp[v,V NP XP*]]  

 e.g. *John described Mary competent.  

(10a)...non-predicative NP / (26a)*  

b. *[vp[v,V NP P XP*]]  

 e.g. (10b)...non-predicative PP  

c. *[vp[v,V NP XP*]] e.g. (26b)*  

[+P, +SR]  

d. *[vp[v,V NP XP*]] e.g. (18b)*  

[+P, +SR]  

9) It is not clear whether (i) is a case of (31a) since only an NP may appear after the postverbal NP.

(i) John elected Mary (a) captain.

In addition, (31) incorrectly predicts that (iia) is ungrammatical:

(ii) a. John considers Mary as foolish.

b. John considers Mary foolish.

c. predication

John considers Mary as foolish.

[+P, -SR] [+P, -SR]

θ-role

The θ-role assignment in (iia) is described in (iic). Note that as is not necessary in (iic) to ensure the following AP to function as a predicative since consider has the features [+P, -SR]. Such a redundant element is absent in the cases of think and believe, as shown in (11b, c). In addition, some people prefer (iib) to (iia) (see note 2). Thus, we can at least say that the absence of as is more unmarked when the verb is [+P, -SR]. See also note 10.
An XP* is permitted only when it is assigned a \( \theta \)-role by \([-N, +P, -SR]\), where \([-N]\) is the shared feature of V and P as in the X-bar theory.\(^{10}\)

We still need to explain, however, why sentence (33) is ungrammatical:

(33) *John gave his book as interesting.

As noted earlier, both give and describe are specified as \([-P, +SR]\) so that it is correctly predicted that they cannot take the construction (31a); however, it does not block give to take the construction (31b) while permitting describe to take it. It seems that the lexicon contains the following information as idiosyncratic properties of these verbs:

(34) a. describe: \([-P, +SR]\)
   
   DESCRIBE (agent, theme, goal)
   
   DESCRIBE (agent, theme, property)

b. give: \([-P, +SR]\)
   
   GIVE (agent, theme, goal)

Give does not have the second functional argument structure given to describe. What is not necessary to be specified for describe in the lexicon is the presence of as, which is predicted by (31); the features \([-P, +SR]\) suffice if the second predicate argument structure of describe in (34a) is given.

(35a) seems to be a counterexample to the generalization (31a) since eat in (35a) is obviously characterized as \([-P, +SR]\) like give and kiss, and unlike believe:

(35) a. John ate the meat raw.
   
   b. John believes Mary guilty.

10) This statement is weaker than (31) in that it permits (iia) in note 9.
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Note, however, that raw can be omitted in (35a) without changing its basic meaning, while guilty in (35b) cannot be. This contrast is clear if (35) is compared with (36); (35b) does not entail (36b), whereas (35a) does entail (36a):

(36)  a. John ate the meat.
     b. John believes Mary.

In addition, it seems possible to coordinate the AP raw in (35a) with a manner adverb, while such coordination is absolutely impossible in the case of guilty in (35b):

(37)  a. John ate the meat raw and greedily.
     b. *John believes Mary guilty and revengefully.
     (grammatical if a pause is put before and)

Some linguists (e.g., O'Grady (1982), Hirota (1983)) have noticed certain characteristics of APs such as raw in (35a), which are shared by manner adverbials. Thus, (35a) has structure (38a) rather than (38b) since a manner adverb is a V" complement:

(38)  a. John [VP[v, ate the meat ] raw ]
     b. John [VP[v, ate the meat raw ]]

Since (38a) does not fall under the scheme (2), it is not a counterexample to (31a).

Another set of apparent counterexamples to (31a) is (39). Like the case of (35a), the APs in (39) can be omitted without changing the basic meanings, but unlike the case of (35a), they cannot be analyzed as a kind of manner adverbials as shown in (40):

(39)  a. John painted the house white.
     b. John hammered the metal flat.
     c. John squeezed the orange dry.
Therefore, the APs in (39) seem to be V' complements, satisfying the structural condition of XP*s.

Note, however, the APs in (39) do not have a predication relation with the preceding NP as shown by the unnatural sentences in (41):

(41) a. ?The house had a property of being white.
     b. ?The metal had a property of being flat.
     c. ?The orange had a property of being dry.

Rather, (39) involve causative meanings and can be paraphrased as follows:

(42) a. ?John whitened the house by painting it.
     b. John flattened the metal by hammering it.
     c. John dried the orange by squeezing it.

In this way, the examples in (39) semantically differ from transitive predicative constructions, though two types of constructions structurally resemble each other. Consequently, (39) do not constitute counterexamples to (31a).11)

To sum up this section, an AP, NP, and PP function as predicatives when they are assigned a \( \theta \)-role by a V or P with the features \([+P, -SR]\).

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11) Dowty (1979) analyzes APs like those in (39) as lexically induced new arguments. See also Carlson and Roeper (1980).
4. Remaining Problems and Conclusion

We have identified two kinds of environment in which an XP* appears, namely (31a, b). Though (31) can distinguish predicative NPs and PPs from non-predicative ones and can predict the distribution of as, it is not free from several problems.

Firstly, as discussed in note 9, (31b) incorrectly blocks the example (43):

(43) John considers Mary as foolish.

*Consider* has the features [+P, -SR]. Thus, it might be necessary to weaken (31b) to (44) which imposes no condition on the verb:

(44) \[ \text{[VP[v, VNP P P]} \quad [+P, -SR] \]

(44), however, is too weak to block the ungrammatical sentences below:

(45) a. *John believes Mary as foolish.
   b. *John thinks Mary as foolish.
   c. *John regrets Mary as foolish.
   d. *John looks for Nessy as gigantic.

Unless there is some evidence that verbs without the features [-P, +SR] (besides *consider*) take an as phrase of V' complement, (31b) is to be preferred to (44) and examples like (43) should be regarded as marked in that they contain an unnecessary \( \theta \)-role assigner for a predicative.

Secondly, though we have classified verbs into four in terms of the two features [±P, ±SR] as in (23), we have identified only two types of prepositions as in (46):
Most prepositions fall under (46b). As for (46c), *for* as used in (21) and (47) may serve as an example:

(47) He went there *for* a ticket but all the tickets had already been sold out.

It is not clear, however, what preposition is a candidate for (46d). In addition, it is not clear where to classify *as* phrases of *V''* complement (e.g., (5a)) within (46).

Thirdly and most importantly, our approach to transitive predicative constructions will deny the configurational definition of a subject if NP₂ in (2) is to be regarded as the subject of XP*; the subject of an S is defined in Chomsky (1965) as an NP immediately dominated by that S. It has been analyzed here that NP₂ and (as) XP* are immediately dominated by V', without forming a clausal constituent; thus NP₂ is not a subject according to the definition in Chomsky (1965). Consequently, we need some other definition of subject if NP₂ in (2) is to be identified as "subject."¹³

Certainly, there should be more shortcomings in our analysis. Furthermore, only a few types of constructions have been discussed in this paper. Still, it is a good first approximation to the analysis.

12) *For* as used in (1) also falls under (46a).

(i) John took Mary *for* a fool.

13) See Williams (1983).
of transitive predicative constructions. Especially it is successful in giving a principle governing the seemingly idiosyncratic distribution of *as*.

**References**


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