ABSTRACT
        This discussion considers the process of subject
raising, which takes the constituent subject out of the complement
clause and makes it a constituent of the matrix clause and the
occurrence of this process in Japanese and in other
subject-object-verb (SOV) languages. The first part of the paper
demonstrates why subject raising is not a common syntactic device in
SOV languages and why it is difficult to prove that the
transformation exists in these languages. The author suggests that
there is, however, one sentence pattern in Japanese where subject
raising is involved; the remainder of the paper is devoted to
presenting evidence to prove the existence of this phenomenon.
(VM)

Evidence for Subject Raising in Japanese

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§1.   Introduction

In English, there is a process, called Subject Raising,
that takes the constituent subject out of the complement
clause, and makes it a consituent of the matrix clause.
For example, observe the following pairs of sentences:

    (1)   a. I expect that <u>Mary</u> will come.
          b. I expect <u>Mary</u> to come.
    (2)   a. That <u>Mary</u> will come is likely.
          b. <u>Mary</u> is likely to come.

In (1a) and (2a), <u>Mary</u> is the subject of the object comple-
ment and the subject complement, respectively. On the other
hand, in (1b) and (2b), it is the object and the subject,
respectively, of the matrix sentence.[1] Subject Raising is
a common syntactic device in SVO languages, but its presence
is not conspicuous in SOV languages.

In a previous paper (Kuno, 1972), I attempted to account
for the language universal that all VSO languages mark em-
bedded clauses at clause-initial position, and that most
SOV languages do so at clause-final position.[2] The explana-
tion lies in the fact that from the point of view of speech
perception, self-embedding (but not right-branching or left-
branching) and juxtaposition of conjunctions of the same
kind both greatly reduce the intelligibility of sentences.
From this point of view, it is easy to show that the clause-
final positioning of conjunctions for VSO languages and
the clause-initial positioning of conjunctions for SOV
languages would guarantee that self-embedding and conjunc-
tion juxtaposition would result in case a subordinate clause
contains another, smaller subordinate clause. On the other
hand, if conjunctions are placed at clause-initial position
in VSO languages, and at clause-final position in SOV lan-
guages, self-embedding and conjunction-juxtaposition will
arise only in rare circumstances.[3]

Verb-medial languages (namely, SVO languages) have an
ambivalent status --- they are like SOV languages in that
the subject appears to the left of the verb, but they are
also like VSO languages in that the object appears to the
right of the verb. Therefore, if they mark clause-initial
boundaries, as in VSO languages, self-embedding and conjunc-
tion-juxtaposition will arise on the subject position, and

if they mark clause-final boundaries, as in SOV langu-
ages, the same difficulty will arise on the object posi-
tion. In actuality, many of the SVO languages have opted
to mark clause-initial boundaries, thus giving a heavy hand-
icap to subject complements. Thus, these languages yield
sentences that are difficult to comprehend when the subject
involves subordinate clauses. Among well-known examples of
sentences of this type are:

> (3)   a. *That that the world is round is obvious is
> not certain.
> b. *The cheese the rat the cat chased ate was
> rotten.

Those SVO languages that have the features of VSO languages
(the clause-initial marking of embedded clauses and the
postnominal positioning of relative clauses) make up for
the above handicap by using devices such as Subject Raising
and Extraposition. An example of Subject Raising from the
subject complement has already been given in (2). The fol-
lowing is an instance of Extraposition from the subject
complement:

> (4)   a. <u>That Mary will come</u> is likely.
> b. <u>It</u> is likely <u>that Mary will come</u>.

From the above point of view, it is not surprising
that those SVO languages (e.g., English) that have Subject
Raising from the object complement always have Subject
Raising from the subject complement, but that there are
languages which have Subject Raising from the subject com-
plement, but not from the object complement.[4,5] From the
same point of view, it is not surprising that Subject Rais-
ing is not a common transformational device in SOV languages.
Namely, since SOV languages use clause-final conjunctions
both for subject and object complements, as is dictated by
the principle of economy on human temporary memory, there
is no need for using a special device, such as Subject
Raising or Extraposition, to reduce the burden on the tem-
porary memory.

There is another reason why Subject Raising is not
common in SOV languages. Note in (2) that the predicate
of the subject complement has been postposed to the posi-
tion to the right of the matrix verb. It seems that this
word order change is acceptable because English has the
"V + Infinitive" construction independent of this rule.
For example,

> (5)   a. I want to go there.
> b. I am glad to have met you.

On the other hand, SOV languages do not allow the "V +
Infinitive" pattern in general, with the infinitive fol-
lowing the main verb. Therefore, the predicate of the sub-
ject complement cannot be postposed to the right of the
matrix verb. Thus, even if Subject Raising has applied
to the pattern of (5a), the constituent predicate would
have to stay where it used to be, yielding a pattern that
is not too different from the one before the application
of the rule:

> (6)   a. ⌈Mary come-will⌋ that likely-is.
>   b. Mary come-to likely-is.

The same holds true for Subject Raising from the object
complement in SOV languages.

What I have observed in the preceding paragraph should
apply to the raising phenomenon from the object complement
in SVO languages, as well. Note that there is no word or-
der change of meaningful elements between (1a) and (1b).
Why is it, then, that English has some verbs that allow
raising from the object complement? It seems that reducing
the burden on the human temporary memory is not the only
purpose of Subject Raising. Another purpose seems to be
to make the constituent subject an element that is movable
to the position usually reserved for the topic of the sen-
tence. For example, observe the following sentences:

> (7)   a. <u>Mary</u> is expected to come.
>   b. <u>Mary</u>, I expect to come, but <u>Bill</u>, I don't.

From the above point of view, it is not surprising that
English, for example, has many verbs that allow Subject
Raising from the object complement on the condition that
the raised subject be preposed by some later transforma-
tions:[6]

> (8)   a. *They suppose <u>Mary</u> to come.
>   b. <u>Mary</u> is supposed to come.

> (9)   a. *They say <u>Mary</u> to be rich.
>   b. <u>Mary</u> is said to be rich.

If Subject Raising from the object complement in
English exists at least partly for the purpose that I have
described above, in spite of the fact that there is no
word order change effected by the transformation, then,
there is no reason why SOV languages should not have the
same transformation. There is one factor, however, which
makes it difficult to prove that Subject Raising exists in
SOV languages. That is, many SOV languages have a process,

called Verb Raising, that takes the main verb of the embed-
ded clause and attaches it to the matrix verb as the stem
of the compound verb. For example, observe the following:

(10)   Koori ga toke-dasu.
          ice   melt-begin

        'Ice begins to melt.'

(11) a. Deep Structure
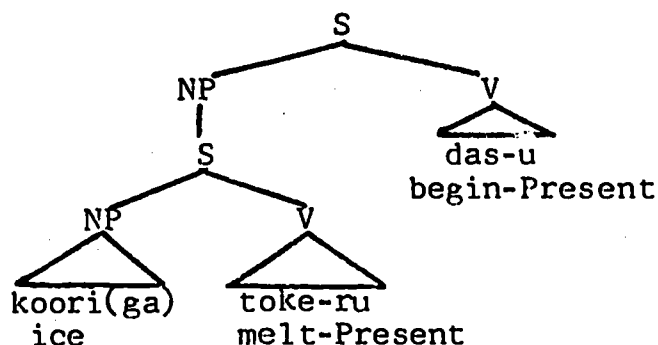
b. Derived Structure
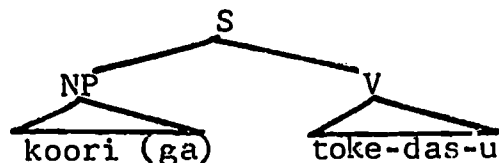
Starting from the deep structure informally shown in (11a),
the tense marker -ru is first deleted. Next, the verb
stem toke 'melt' is attached to the left of das 'begin'
according to the general principle that all tenseless verbs
must be attached to the left of the matrix verb. The de-
rived form toke-das 'begin to melt' behaves as a single
verb for all later transformations. Now, since the pred-
icate has disappeared, the subject complement loses its
clause-hood due to the tree-pruning convention, and the
structure shown in (11b) results. Note that it is not
necessary to have a special transformation for raising
koori 'ice' out of the constituent clause.[7]
        Similarly, observe the following example of adversity
passive in Japanese.

(12)   John ga ame ni hur-are-ta.
                    rain by fall-Passive-Past
         'John was rain on. John was adversely affected
          by the rain falling.'

(13)   a. Deep Structure
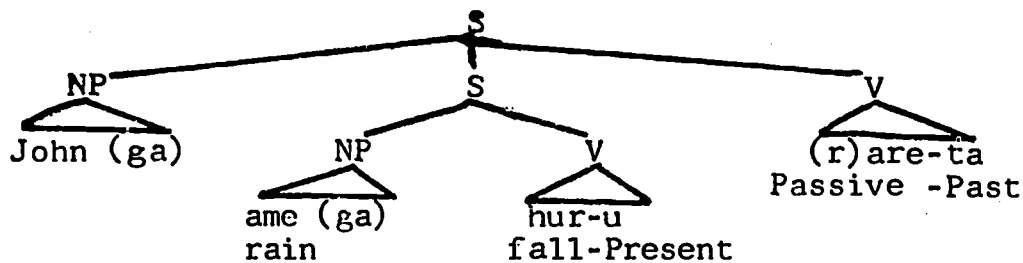
b. Derived Structure
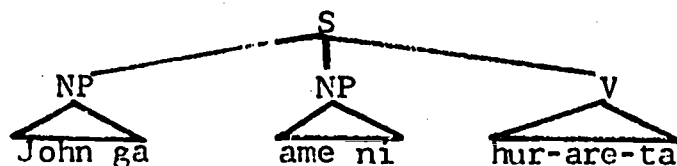
It is usually said that __ame (ga)__ 'rain' is raised from
the constituent clause with __ni__ attached to it. However,
the raising of __hur__ 'fall' by Verb Raising, which is need-
ed anyway, would cause the disappearance of the S-node of
the constituent clause, thus effectively causing the rais-
ing of __ame__. The attachment of __ni__ to __ame__ is needed, but the
example does not show a need for Subject Raising.

There is yet another factor which makes it difficult
to prove that Subject Raising exists in certain SOV langua-
ges. Observe the following examples from Japanese:

(14)   John ga kuru koto ga kimatte imasu.
                   come that   determined is

          'It is determined that John will come.'

The sentence seems to be ambiguous between the two inter-
pretations shown below:

(15)   a. [John ga kuru koto ga] [kimatte imasu].
             'It is determined that John will come.'
       b. [John ga] [kuru koto ga kimatte imasu].
             'It is John for whom it is determined that
             he will come.'

What is crucial is the second interpretation. __John ga__ in
this interpretation has the definite "exhaustive-listing"
interpretation (namely, that of 'John and only John'),
which is obligatory only for main clause subject NP-__ga__ of
stative predicates. However, this fact does not automatic-
ally lead to the conclusion that (15b) is derived from (15a)
by raising the subject of the subject complement. This is

because there is some likelihood that (15b) is derived from
the deep structure corresponding to

(16)   [_John_]theme/focus[[_John_ (ga) kuru koto (ga)]
[kimatte imasu]]

The sentence initial noun phrase in (16) represents either
the theme or the focus of the sentence depending upon wheth-
er _wa_ or _ga_ is attached to it. According to this analysis,
(15b) is derived not by Subject Raising, but by simply de-
leting the subject _John ga_ of the sentential subject under
identity with the focus of the sentence.[8] Thus, for those
SOV languages that have special case markers for the theme
and focus of sentences, whether patterns of (15b) involve
Subject Raising or not depends upon whether the theme and
the focus exist as such in the deep structure, or whether
they are obtained by movement transformations, and in the
latter case, whether what appears to be a case of Subject
Raising is simply a part of a more general process of Them-
atization and Focalization. Needless to say, these are dif-
ficult questions for which there are at present no clearcut
answers.

§2.   Subject Raising in Japanese

     In the previous section, I have shown why Subject Rais-
ing is not a common syntactic device in Japanese and other
SOV languages, and why it is difficult to prove that the
transformation exists in these languages. There is, how-
ever, one sentence pattern in Japanese which clearly shows
that Subject Raising is involved. Observe the following
sentence pairs:

(17)   a. John wa [_Mary ga_ baka da] to omotte ita.
                        fool is   that thinking was
          'John thought that Mary was a fool.'
       b. John wa _Mary o_ [baka da] to omotte ita.

(18)   a. John wa [_Mary ga_ hannin da] to danteisita.
                          culprit is that concluded
          'John concluded that Mary was the culprit.'
       b. John wa _Mary o_ [hannin da] to danteisita.

I will first give evidence that shows that, while _Mary ga_
of (a) is an element of the constituent clause, _Mary o_ of
(b) is an element of the main clause.

§2.1 Evidence for Subject Raising

A. <u>Case Marker</u>: First, the fact that Mary in (17b) and (18b) is marked with the accusative particle <u>o</u> gives strong evidence that it does not occupy the subject position of the embedded clause.

B. <u>Adverb Placement</u>: Due to the relatively free word order in Japanese, adverbs can be positioned in various places in the sentence. For example, observe the following:

(19) a. <u>Orokanimo</u>, John wa sore o siranakatta.
        stupidly   it   knew-not
        'Stupidly, John did not know it.'
   b. John wa, <u>orokanimo</u>, sore o siranakatta.
   c. John wa sore o, <u>oroknaimo</u>, siranakatta.

However, adverbs that are constituents of main clauses cannot be placed inside clauses that are embedded in the main clauses. Therefore, the following sentence is ungrammatical in the intended reading:

(20)   *John wa [Mary ga <u>orokanimo</u> tensai de aru]
                            stupidly genius is

      -koto o siranakatta.
            knew-not
      'Stupidly, John did not know that Mary was a genius.'

Let us examine how (17a) behaves with respect to the above feature of Adverb Placement. Observe the following sentences:

(21)   a. <u>Orokanimo</u>, John wa [Mary ga tensai da]
       stupidly   genius is
       to omotte ita.
       that thinking was
   b. John wa <u>orokanimo</u> [Mary ga tensai da] to omotte ita.
   c. John wa [Mary ga tensai da] to, <u>orokanimo</u> omotte ita.
   d. *John wa [Mary ga <u>orokanimo</u> tensai da] to omotte ita.

The grammaticality of (21a,b,c) and the ungrammaticality of (21d) are consistent with what we have observed before. Namely, adverbs that modify the matrix verb cannot be placed inside subordinate clauses. The ungrammaticality of (21d) shows that <u>Mary ga tensai da</u> is an embedded clause.

Contrast the above with the following sentences:

(22) a. <u>Orokanimo</u>, John wa Mary o tensai da to omotte
       ita.
     b. John wa <u>orokanimo</u> Mary o tensai da to omotte
       ita.
     c. John wa Mary o tensai da to <u>orokanimo</u> omotte
       ita.
     d. John wa Mary o <u>orokanimo</u> tensai da to omotte
       ita.

The sentences of (22) are different from those of (21)
only in that <u>Mary o</u> is used in the place of <u>Mary ga</u>. Note
that (22d), with <u>orokanimo</u> between <u>Mary o</u> and <u>tensai da</u>,
is a grammatical sentence. This fact stands in a marked con-
trast with the fact that (21d) is ungrammatical. This seems
to show that <u>Mary o tensai da</u> does not form a subordinate
clause, and that <u>Mary o</u> and <u>tensai da</u> are both constituents
of the matrix clause. The same contrast is observable in
the following pairs also.

(23) a. *John wa Mary ga <u>orokanimo</u> hannin da to
                                        culprit is

        danteisita.
        concluded
        'John concluded stupidly that Mary was the
        culprit.'
     b. John wa Mary o <u>orokanimo</u> hannin da to
        danteisita.

(24) a. *John wa Mary ga <u>suguni</u> hannin da to
                          immediately
        suiteisita.
        guessed
        'John guessed immediately that Mary was the
        culprit.'
     b. John wa Mary o <u>suguni</u> hannin da to suiteisita.

In case the nature of the main and constituent verbs
are such that a given adverb can modify either of the two,
ambiguity arises for the pattern of the (b) sentences above,
but not for the pattern of the (a) sentences.

(25) a. John wa Mary ga <u>mada</u> kodomo da to sinzite iru.
                         still child in that believing is
        'John believes that Mary is still a child.'
     b. John wa Mary o <u>mada</u> kodomo da to sinzite iru.
        (i) 'John believes that Mary is still a child.'
        (ii) 'John still believes that Mary is a child.'

C. <u>Word Order Inversion</u>: Nonsubject elements in the sentence can be preposed rather freely to the pre-subject position by the scrambling rule. However, it is not possible to prepose the subject of the embedded clause to the left of the matrix subject. Thus, although (26b) is grammatical, (27b) is ungrammatical in the intended reading:

(26) a. John wa Bill ni <u>Mary o</u> syookaisita.
                        to   introduced
       'John introduced Mary to Bill.'
     b. <u>Mary o</u> John wa Bill ni syookaisita.

(27) a. John wa [<u>Mary ga</u> tensai de aru] koto o
                           genius   is
        siranakatta.
        knew-not
        'John did not know that Mary was a genius.'
     b. *<u>Mary ga</u>, John wa tensai de aru koto o
        siranakatta.

Similarly, (28b) is ungrammatical.

(28) a. John wa <u>Mary ga</u> tensai da to omotte ita.
                           genius is   thinking was
        'John thought that Mary was a genius.'
     b. *<u>Mary ga</u>, John wa tensai da to omotte ita.

On the other hand, note that (29b) is grammatical

(29) a. John wa <u>Mary o</u> tensai da to omotte ita.
     b. <u>Mary o</u> John wa tensai da to omotte ita.

It seems that the above phenomenon can be accounted for most naturally by assuming that <u>Mary ga</u> in (28a) is a constituent of the embedded clause, but that <u>Mary o</u> in (29a) is a constituent in the matrix sentence.[9]

D. <u>Quantifier Scope</u>: Observe the following sentence:

(30)   <u>Dareka</u> ga <u>minna</u> o mihatte ita.
         someone   all   watching was
         'Someone was watching all.'

The predominant reading of this sentence is

(31) a. There was someone who was watching all.

However, it is not impossible to obtain the secondary reading, as shown in (31b), although this reading is very weak.

(31) b. For each person, there was someone who was
watching him.

Similarly, (32) is ambiguous between (33a) and (33b):

(32)   Dareka ga minna o aisite iru.
         someone   all   loving is

(33) a. There is someone who loves all.
     b. For each person, there is someone who loves him.

Thus, it seems that the rule for interpreting two quantifi-
ers Q1 and Q2 in a simplex sentence is:

(34) a. Predominant Reading: Interpret Q1, and then Q2.
     b. Secondary and Weak Reading: Interpret Q2 first,
        and then Q1.

When the second quantifier is in the subordinate clause,
the secondary reading shown in (34b) is impossible. For ex-
ample,

(35)   Dareka ga [minna ga sinda] koto o siranakatta.
         someone   all   died   that   knew-not

only means (36a). It is not possible to obtain the reading
of (36b) for the sentence.

(36) a. There was someone who did not know that all
        had died.
     b. For each person, there was someone who did
        not know that he had died.

Similarly, (37) means (38a), and not (38b).

(37)   Dareka ga [minna ga baka da]to omotte iru.
         someone   all   fool is that thinking is

(38) a. There is someone who thinks that all are stupid.
     b. For each person, there is someone who thinks
        that he is stupid.

Now, consider (39):

(39)   Dareka ga minna o baka da to omotte iru.

The predominant reading of this sentence is that of (38a).
However, it is not impossible to assign to it the inter-
pretation of (38b). The above phenomenon can be accounted
for most naturally, it seems, by assuming that the second
quantifier minna (o) 'all' in (39) is in the same S as the

first quantifier <u>dareka</u> 'someone'. Again, this assumption
is consistent with the proposed analysis that (37) is de-
rived from (35) by raising the constituent subject out of
the embedded clause.

    E. <u>No-Koto Incorporation</u>: In Japanese, when the ob-
ject of feeling, thinking, and saying verbs is human, <u>no</u>
<u>koto</u> '(someone)'s matter' appears optionally after the
noun phrase for the human. Observe the following pairs of
sentences:

(40) a. John wa Mary o nikunde iru.
                        hating is
       'John hates Mary.'
   b. John wa Mary <u>no koto</u> o nikunde iru.

(41) a. John wa Mary o aisite iru.
                     loving is
       'John loves Mary.'
   b. John wa Mary <u>no koto</u> o aisite iru.

(42) a. John wa Mary ga suki rasii yo.
                     fond-of seem
       'John seems to be fond of Mary.'
   b. John wa Mary <u>no koto</u> ga suki rasii yo.

The (a) and (b) sentences above are synonymous, although
it seems that the (b) sentences are the more indirect way
of saying what the (a) sentences say.
    The appearance of <u>no koto</u> is limited to the object
position of the feeling, thinking, and saying verbs. (43b)
and (44b) are ungrammatical because <u>Mary no koto</u> in these
sentences is not the object of such verbs.

(43) a. John wa [Mary ga baka na] koto o siranai.
                    fool is that   know-not
       'John does not know that Mary is a fool.'
   b. *John wa [Mary <u>no koto</u> ga baka na] koto o
      siranai.

(44) a. John wa [Mary ga rikoo na] koto o zimansite iru.
                       clever is that   bragging is
       'John is bragging of the fact that Mary is
       bright.'
   b. *John wa [Mary <u>no koto</u> ga baka na] koto o
      zimansite iru.

Observe, now the following contrast.
(45) a. *John wa Mary <u>no koto</u> ga baka da to omotte ita.
                            fool is that thinking was
       'John thought that Mary was a fool.'
   b. John wa Mary <u>no koto</u> o baka da to omotte ita.[10]

(45a) is ungrammatical, but (45b) is not. This phenomenon
is consistent with our hypothesis that Mary ga in (17a) is
a constituent in the subordinate clause, but that Mary o
in (17b) is the object of the matrix verb. I hypothesize
that no koto is not in the deep structure for sentences
such as (40b), (41b) and (42b), but that it is added to
the object of feeling, thinking and saying verbs if it is
human. This optional transformation applies after Subject
Raising has applied to raise the constituent subject Mary
of (17a) to the matrix object position.

§2.2 Evidence Against Equi NP Analysis

In the preceding, I have shown that Mary o in (17b)
is a constituent of the matrix clause:

(17) a. John wa Mary ga baka da to omotte ita.
                         fool is that thinking was
     b. John wa Mary o   baka da to omotte ita.

In order to show that it is really an instance of Subject
Raising, I would have to show that it is not an instance
of Equi NP Deletion applied to the deep structure of (46):

(46)   John wa Mary o [Mary ga baka da] to omotte ita.

It is not easy to argue against the Equi NP analysis
of (17b) as it is not easy to argue against the Equi NP
analysis of (1b) in English. As far as I know, there are
only two arguments against the Equi NP analysis of (1b).
First, observe the following sentence pairs:

(47) a. I expect the doctor to examine Mary.
     b. I expect Mary to be examined by the doctor.

(48) a. I persuaded the doctor to examine Mary.
     b. I persuaded Mary to be examined by the doctor.

Although (47a) and (47b) are synonymous, (48a) and (48b)
are not. Thus, it would not do to assign the same deep
structures to the expect and persuade patterns. Since the
doctor and Mary in (48) represent the recipients of the
persuasion, it is natural to have them as objects of the
matrix clauses in the deep structure. On the other hand,
on the assumption that Passivization does not change basic
meaning, the synonymity of (47a) and (47b) can be most
naturally accounted for by assuming that the deep structure
did not have the doctor and Mary as matrix objects, but
that they have been raised from the object complement by
Subject Raising.

The second argument concerns sentences such as

(49) a. I expected <u>there</u> to be a riot.
     b. I expected <u>it</u>   to rain.

The noun phrase object of Equi NP verbs are animate, and
they represent the recipients of the actions represented
by the verbs. This semantically motivated generalization
would be lost if (49a) and (49b) were to be derived from

(50) a. I expected <u>there</u> [there be a riot] .
     b. I expected <u>it</u> [it rain] .

respectively, Note that

(51) a. *I persuaded there to be a riot.
     b. *I persuaded it to rain.

are both ungrammatical due to this generalization.
    More serious, however, is the status of dummy symbols
such as <u>there</u> in the deep structure. All other indications
are that <u>there</u> does not exist in the deep structure, but is
inserted by a transformation in the course of derivation of
sentences. Hypothesizing the deep structure of the type of
(50a) clearly stands in conflict with this analysis.
    The above two arguments against the Equi NP analysis
of (1b) are rather convincing, although one wishes that
there were many more arguments. Unfortunately, neither
the first nor the second argument applies to Japanese. The
pattern of (17b) is limited to those cases which have eith-
er adjectives or "Nominal + Copula" in the embedded clauses,
so that it is not possible to contrast the active and passive
versions to see if they are synonymous or not. Similarly,
since Japanese does not have dummy subjects such as <u>it</u> and
<u>there</u>, the patterns of (48) do not exist. Therefore, we
have to look elsewhere for evidence for Subject Raising
and against Equi NP Deletion in Japanese.

    A.   <u>The Nature of the NP Object</u>: Observe the following
examples of Equi NP verbs:

(52) a. John wa Mary ni [sore o site kureru] koto o
                    to   it   doing give-him-
                                         favor-of

      kitaisite iru.
      expecting is
      'John expects that Mary will do it for him.'
    b. John wa Mary ni [sore o suru] koto o meizita.
                    to   it   do   that   ordered
      'John ordered Mary to do it.'

c. John wa Mary ni [kanozyo ga baka da] to itta.
                  to   she   fool is that said
  'John told Mary that she is a fool.'

In all these sentences, Mary clearly represents the recip-
ient of John's expectation, order, and statement. This
'recipient' meaning is completely lacking in Mary of (17b).
When inanimate objects appear in the pattern of (52), we
get ungrammatical sentences. On the other hand, the pattern
of (17b) can involve inanimate objects without resulting in
ungrammaticality.

(53) a. *John wa sono hon ni [yoku ureru] koto o
              the book to well sell   that

      kitaisite iru.
      expecting is

      'John hopes that the book will sell well.'
  b. John wa sono hon o [tumaranai] to omotta.
             the book uninteresting-is thought
      'John thought the book to be uninteresting.'

    B. Case Marker: Secondly, observe that the objects
in (52) are marked with ni, while the object in (17b) is
marked with o. As far as I know, there are no Equi NP
verbs whose noun phrase object is regularly marked with o.[11]

    C. Preposing of the Object Complement: It is possible
to prepose the complement clause of (52) to the left of
Mary ni, but it is not possible to prepose the complement
clause of (17b) to the left of Mary o. Observe the follow-
ing contrast:

(54) a. John wa sore o site kureru koto o Mary ni
      kitaisite iru.
  b. John wa sore o suru koto o Mary ni meizita.
  c. John wa kanozyo ga baka da to Mary ni itta.

(55)   *John wa baka da to Mary o omotte ita.

I do not understand what prevents the application of the
scrambling rule to (17b) to produce (55). Whatever the
reason may turn out to be, the grammaticality of (54) and
the ungrammaticality of (55) clearly indicates that we
have here two different structures.

    D. Equi NP Deletion: Equi NP Deletion is not oblig-
atory for the Equi NP verbs. Although the following sen-
tences are less acceptable than (52), they are at worst
marginal, and are not completely ungrammatical.

(56) a. ?John wa Mary ni[<u>kanozyo ga</u> sore o site kureru]
                to   she   it   doing

      koto o kitaisite iru.
      that   expecting is

      '(Lit.) John expects of Mary that she will·
      do it for him.'

   b. ?John wa Mary ni[<u>kanozyo ga</u> sore o suru] koto
                  to   she   it   do

      o meizita.
       ordered

      '(Lit.) John ordered Mary that she do it.'

On the other hand, it is totally impossible to use <u>kanozyo ga</u> for (17b):

   (57)   *John wa Mary o[<u>kanozyo ga</u> baka da] to omotte
                        she   fool is that think-

      ita.
      ing was
      '(Lit.) John thought of Mary that she was a
      fool.'

The above phenomenon can be automatically explained if we assume that (17b) is derived, not from (46) by Equi NP Deletion, but from (17a) by Subject Raising.

§2.3 <u>A Peculiarity of Subject Raising in Japanese</u>

    In English, Subject Raising never applies to clauses whose main verbs are finite. Thus, although (58a) and (58b) are grammatical, (58c) and (58d) are not.

   (58) a. I expect Mary <u>to play</u> the piano.
       b. I saw Mary <u>playing</u> the piano.
       c. *I expect Mary that <u>will play</u> the piano.
       d. *I think Mary that <u>is</u> a genius.

The above characteristic is shared by most other languages that are known to have a rule of Subject Raising.[12]
    The raising phenomenon in Japanese that we have been examining, on the other hand, involves clauses whose main verbs are finite. <u>Baka da</u> 'is a fool' in (17b) is in the present tense, and it is not possible to interpret it as an infinitive. I will give below some arguments for this analysis.

    A.   Sentence-final particles, as is implied by their name, can ordinarily appear only at sentence-final position. They cannot appear after infinitives. Observe the following examples:

(59) a. John wa oyogu koto ga dekiru <u>yo/zo/no</u>.
                       swim   to   can
       'John can swim.'
    b. *John wa oyogu <u>yo/zo/no</u> koto ga dekiru.

<u>Yo</u>, <u>zo</u>, and <u>no</u> are sentence-final particles meaning rough-
ly "I am telling you". They can appear after finite verb
<u>dekiru</u> 'can', as shown by the grammaticality of (59a), but
not after infinitive <u>oyogu</u> 'swim', as shown by the ungram-
maticality of (59b). Now, note that some of the sentence-
final particles can appear after <u>baka da</u> of (17b):

(60) a. John wa Mary o baka da <u>zo</u> to omotta.
    b. John wa Mary o baka da <u>naa</u> to omotta.

The yes-no question particle <u>ka</u> can appear in the same posi-
tion, also.

(61) a. John wa Mary o baka <u>ka</u> to omotta.[13]
           'John wondered if Mary was a fool.'

    B. The constituent verb in (17b) is not restricted
to the present tense. Future-tense forms can also appear.

(62) a. John wa Mary o hannin <u>daroo</u> to suiteisita.
                              culprit will-be   guessed
       'John guessed that Mary would be the culprit.'
    b. John wa Mary o hannin de wa <u>nakaroo</u> to suitesita.
                                    will-not-be
       'John guessed that Mary would not be the cul-
       prit.'

The use of past-tense forms makes the pattern marginal, as
shown in (63):

(63)   ?John wa zibun o oroka na otoko <u>datta</u> to
                   self   stupid   man   was
        omotta.
        thought
        'John thought that he had been a stupid man.'

However, the use of past-tense forms in clearcut cases of
infinitives yields far less acceptable sentences.

(64) a. John wa <u>oyogu</u> koto ga dekita.
                 swim   to   could
       'John could swim.'
    b. **John wa <u>oyoida</u> koto ga dekita.
                 swam   to   could

16.

C. Various modals that represent the judgment of the
subject of the main clause can appear in the pattern of
(17b). Observe the following examples:

(65) a. John wa Mary o baka ni <u>tigainai</u> to omotta.
                          fool   must-be   thought
     'John thought that Mary must be a fool.'
     b. John wa Mary o baka <u>ka mo sirenai</u> to omotta.
                          if   know-can-not
     'John thought that Mary might be a fool.'
     c. John wa Mary o baka de aru <u>hazu ga nai</u> to omotta.
                              expectation exist-not
     'John thought that Mary couldn't be a fool.'

These forms can never appear as infinitives.

§3. <u>Subject-Raising and Passivization</u>

In the foregoing, I have shown that (17b) is an in-
stance of Subject Raising from the object complement. What
kind of verbs in Japanese can undergo Subject Raising?
First, they must be verbs that take <u>to</u>-clauses as their
complement --- namely, they must be verbs whose complements
represent not any abstract facts, but indirect speech or
internal feeling of their subjects. Among these verbs,
those whose complements represent internal feelings are
more likely to be able to enter the pattern of (17b), and
those whose complements represent indirect speech are more
likely not to be able to enter into the same pattern. (66)
below gives examples of grammatical sentences and (67) those
of ungrammatical sentences. Note that the verbs in (66)
are all thinking and feeling verbs, and those in (67) are
all saying verbs.

(66) a. John wa Mary o baka da to <u>sinzita</u>.
                          fool is   believed
     'John believed Mary to be a fool.'
     b. John wa Mary o tensai da to <u>kantigaisita</u>.
                          genius   mistook
     'John mistook Mary for a genius.'
     c. John wa Mary o hannin da to <u>kateisita</u>.
                          culprit   hypothesized
     'John hypothesized that Mary was the culprit.'
     d. John wa Mary o hannin da to <u>omoikonda</u>.
                                    believed erroneously
     'John erroneously believed Mary to be the cul-
     prit.'

17

(67) a. *John wa Mary o baka da to <u>itta</u>.
        fool said
  'John said that Mary was a fool.'
 b. *John wa sono hon o totemo omosiroi to
     the book very interesting
  <u>tutaeta</u>.
  reported

  'John reported that the book was very interest-
  ing.'
 c. *John wa Mary o baka da to <u>sitekisita</u>.
          pointed out
  'John pointed out that Mary was a fool.'
 d. *John wa Mary o baka da to <u>nobeta</u>.
         stated
  'John stated that Mary was a fool.'

In English, the raised subject can undergo Passiviza-
tion. Observe the following sentences:

(68) a. They expect <u>John</u> to come.
 b. <u>John</u> is expected to come.

On the other hand, it seems that the raised subject in
Japanese cannot appear in pure passive sentences. The (b)
sentences below clearly have the connotation of adversity
passive.[14]

(69) a. John wa Mary o baka da to omotta.
       fool is that thought
  'John thought Mary to be a fool.'
 b. Mary wa John ni baka da to omow-are-ta.
      by   think-Passive-ed
  'To Mary's chagrin, John thought that she was
  a fool.'

(70) a. John wa Mary o tensai da to sinzita.
       genius   believed
  'John believed Mary to be a genius.'
 b. Mary wa John ni tensai da to sinzi-rare-ta.
  'To Mary's chagrin, John thought that she was
  a genius.'

The fact that (69b) and (70b) are instances of adversity
passives can be shown by the ungrammaticality of (71b).
Note that adversity passives (but not pure passives) re-
quire that the matrix subject be human or higher animal:

(71) a. John wa sono hon o totemo omosiroi to omotta.
      the book very interesting-is thought
  'John thought that the book was very interest-
  ing.'

b. *Sono hon wa John ni totemo omosiroi to
omow-are-ta.
think-Passive-ed
'*To the book's chagrin, John thought that
it was interesting.'

I hypothesize that (69b) and (70b) are derived not from
(69a) and (70a), but from the following deep structures:

(72) a. Mary(wa) [John(ga) Mary(ga) baka da to omow-u]$_S$
rare-ta.
Passive-ed
b. Mary(wa) [John(ga) Mary(ga) tensai da to sinzi-
ru]$_S$ rare-ta.[15]

Now compare (69), (70) and (71) with the following sen-
tences.

(73) a. Mary wa baka da to omow-are-te iru.
             fool is that think-Passive-ing is
'Mary is thought to be a fool.'
b. Mary wa tensai da to sinzi-rare-te iru.
           genius   believe-Passive-ing is
'Mary is believed to be a genius.'
c. Sono hon wa totemo omosiroi to omow-are-te iru.
the book   very interesting-is-Passive-ing is
'The book is thought to be very interesting.'

These sentences are grammatical as pure passives. This can
be seen by the acceptability of (73c), whose subject is not
a human or higher animal. Note that these sentences are
different from (69b), (70b) and (71b) in that the matrix
predicate gives a generic statement, and does not represent
a single action.
    I claim that the sentences of (73) are derived, not
from the active pattern of (69a) and (70a), but from the
very peculiar passive pattern shown below:

(74) a. [John ga Mary o korosi-ta] to sinzi-rare-te
                          kill-ed believe-Passive-ing
iru.
is
'It is believed that John killed Mary.'
b. [Homer ga kono zyozisi o kaita] to omow-are-te
              this   epic   wrote think-Passive-ing
iru.
is
'It is thought that Homer wrote this epic.'

(74a) and (74b) are pure passive sentences. I do not un-
derstand what status the to-clauses have in the sentences
because to-clauses in general cannot be in the subject posi-
tion. Whatever the analysis of these sentences might be,
it is clear that they are grammatical in the interpretation
in which John ga and Homer ga are the subjects of the to-
clauses. Now, if (74a) and (74b) appear in the structures
which have John wa and Homer wa as their themes, then the
pure-passive sentences of the pattern of (73) will result.
There are three interesting features about the pattern
of (74). First, these sentences become ungrammatical if
their matrix predicates represent nongeneric actions. Ob-
serve the following:

(75) a. *[John ga Mary o korosi-ta] to Jane ni sinzi-
          rare-ta.
          'It was believed by Jane that John killed Mary.'
     b. *[Homer ga kono zyozisi o kaita] to Tom ni
          omow-are-ta.
          'It was thought by Tom that Homer wrote this
          epic.'

The above phenomenon explains why (69b) and (70b) cannot
receive the pure passive interpretation. Namely, their
source sentences, which should be of the pattern of (75),
are ungrammatical.
Second characteristic of (74) is that the predicate
of the to-clause is not limited to adjectives or "Nominal
+ Copula". In (74) we have action verbs korosi-ta 'killed'
and kaita 'wrote'. Recall that the pattern of (17b) is
restricted to those cases in which the constituent predi-
cates are adjectives or "Nominal + Copula".

(17) a. John wa [Mary ga baka da] to omotta.
          'John thought that Mary was a fool.'
     b. John wa Mary o baka da to omotta.

(76) a. John wa [Mary ga Bill o korosita] to sinzita.
                                    killed   believed
          'John believed that Mary killed Bill.'
     b. *John wa Mary o Bill o korosita to sinzita.

(77) a. John wa [Bill ga Boston ni itte simatta]
                                 to   has-gone

          to omotta.
          thought
          'John thought that Bill had gone to Boston.'
     b. *John wa Bill o Boston ni itte simatta to
          omotta.

If (73) are derived, as I claim, from the pattern of (74),
then, it should be possible to have action verbs in the
constituent predicate. This prediction is borne out by
the following examples:

(78) a. Mary wa oozei no otoko o <u>korosita</u> to sinzi-
                many   men   killed   believe-
    rare-te iru.
    Passive-ing is
    'Mary is believed to have killed many men.'
  b. Mary wa Boston ni <u>itte simatta</u> to omow-are-te
                      to   has-gone   think-Passive-ing
    iru.
    is
    'Mary is thought to have gone to Boston.'

The grammaticality of (78) shows that the sources of these
sentences are not the patterns of (76b) and (77b), which
are ungrammatical. Thus, it gives additional support to
my hypothesis that the pattern of (69a) and (70a) are not
the source for the sentences of (73).
    The third characteristic of the pattern of (74) is
that verbs that cannot undergo Subject Raising can also
enter into this pattern. Observe the following sentences:

(79) a. [John ga Mary o korosi-ta] to iw-are-te iru.
                     killed   say-Passive-ing is
    'It is said that John killed Mary.'
  b. [Homer ga kono zyozisi o kaita] to tutae-rare-te
               this epic   wrote report-Passive-ing
    iru.
    is
    'It is said that Homer wrote this epic.'

Recall that saying verbs such as <u>iu</u> 'say' and <u>tutaeru</u> 're-
port' cannot undergo Subject Raising, as shown by the un-
grammaticality of (67).
    If the sentences of (73) are derived, as I claim, from
the pattern of (74), then, it should be possible to obtain
pure passive sentences of the pattern of (74) for saying
verbs, also. This prediction is also born out by the follow-
ing:

(80) a. Mary wa baka da to iw-are-te iru.
              fool is   say-Passive-ing is
    'Mary is said to be a fool.'
  b. Mary wa oozei no otoko o korosita to
             many   men   killed
    tutae-rare-te iru.
    report-Passive-ing is
    'Mary is reported to have killed many men.'

In case the matrix predicates of the pattern of (80) represent nongeneric actions, we obtain sentences of adversity-passive connotation.

> (81) a. Mary wa John ni baka da to iw-are-ta.
>   by fool is   say-Passive-ed
>   'To Mary's chagrin, John said that she was a
>   fool.'
>   b. Mary wa John ni tensai da to tutae-rare-ta.
>   by genius is   report-Passive-ed
>   'To Mary's chagrin, John reported that she was
>   a genius.'
>   c. *Kono hon wa John ni totemo omosiroi to
>   this book   very   interesting-is
>
>   iw-are-ta.
>   say-Passive-ed
>   '*To this book's chagrin, John said that it
>   was very interesting.'

Note in particular, the ungrammaticality of (81c).

On observing that the sentences of (67) are ungrammatical, but that the sentences of (80) and (81) are grammatical, one might be tempted to make the generalization that in Japanese, as well as in English, there are verbs that can undergo Subject Raising on the condition that the raised subject be preposed to sentence-initial position by some later transformations. I have shown above that this generalization, which would be interesting if true, cannot be maintained. This is because there is evidence to indicate that the raised subject of Subject Raising verbs, even when the derived sentences are grammatical, cannot undergo Pure Passivization. I have shown that adversity passives involving feeling and saying verbs have nothing to do with the raised subject. I have also shown that pure passives involving generic statements are derived not from subject-raised sentences, but from peculiar subjectless pure-passive sentences of the pattern of (74), which are acceptable only when they represent generic statements.

Footnotes

1.   Chomsky (to appear) claims that although <u>Mary</u> in (2b)
is the subject of the main sentence, <u>Mary</u> in (1b) is still
an element in the subordinate clause. There is, however,
overwhelming evidence that <u>Mary to come</u> in (1b) does not
constitute a subordinate clause (and for that matter, is
not even a constituent), and that <u>Mary</u> is the object of
<u>expect</u>, and therefore a constituent of the matrix clause.
See Postal (1972) for details.

2.   This generalization is related to three of Greenberg's
(1967) language universals:

Universal 3:   Languages with dominant VSO order are
always prepositional.

Universal 4:   With overwhelmingly greater than chance
frequency languages with normal SOV or-
der are postpositional.

Universal 12:   If a language has dominant order VSO in
declarative sentences, it always puts
interrogative words or phrases first in
interrogative word questions; if it has
dominant order SOV in declarative sen-
tences, there is never such an invariant
rule.

3.   Consider hypothetical sentences corresponding to
(i)   a. John says that he believes that the world
is flat.
b. That that the world is flat is obvious is
dubious.
In VSO languages, these two statements will be realized as
(ii) or (iii), depending upon whether conjunctions are
placed clause-initially or clause-finally:
(ii)   <u>VSO Clause-Initial</u>
a. Says John <u>that</u> [believes he <u>that</u> [is-flat
world]].
b. Is-dubious <u>that</u> [is-obvious <u>that</u> [is-flat
world]].

(iii) <u>VSO Clause-Final</u>
a. Says John [believes he [is-flat world]
   <u>that</u>] <u>that</u>.
b. Is-dubious [is-obvious [is-flat world]
   <u>that</u>] <u>that</u>.

Note that (ii) involves neither self-embedding nor con-
junction-juxtaposition, while (iii) involves both. It is
clear from the above that it is better to mark embedded
clauses at clause-initial position for VSO languages.

In SOV languages, (i) is realized as (iv) and (v),
depending upon whether conjunctions are placed clause-
initially or clause-finally, respectively.

(iv) <u>SOV Clause-Initial</u>
a. John <u>that</u> [he <u>that</u> [world is-flat]] believes
   says.
b. <u>That</u> [<u>that</u> [world is-flat] is-obvious] is-
   dubious.

(v) <u>SOV Clause-Final</u>
a. John [he [world is-flat] <u>that</u> believes]
   <u>that</u> says.
b. [[World-is-flat] <u>that</u> is-obvious] <u>that</u> is-
   dubious.

Both (iv-a) and (iv-b) involve self-embedding. (iv-b)
also involves conjunction-juxtaposition, and (iv-a) would
also result in conjunction-juxtaposition if <u>he</u> were deleted.
On the other hand, (v-b) involves neither self-embedding
nor conjunction-juxtaposition. (v-a) contains self-embed-
ding but no juxtaposition of conjunctions. Thus, it is
clear that for SOV languages, it is much better to mark
clause-final boundaries than to mark clause-initial bound-
aries.

4.   In other words, in SVO languages, Subject Raising
from the subject complement is much more common than Sub-
ject Raising from the object complement. This generaliza-
tion, as far as I know, was first made by Arlene Berman
(personal communication, 1969).

5.   French is an example of a language that has Subject
Raising from the subject complement, but not from the ob-
ject complement except for a few very restricted cases.

6.   This fact has been pointed out to me by Postal (per-
sonal communication, 1972).

7.   Assume that we had Subject Raising. After applica-
tion of this rule to (11a), deletion of the tense marker
-<u>ru</u> and subsequent application of tree-pruning rules, we
would obtain the following intermediate structure:

```
                    S
          _____/ | _____
        NP          V          V
       /  \        / \        / \
   koori (ga)    toke      das-u
      ice        melt      begins
```
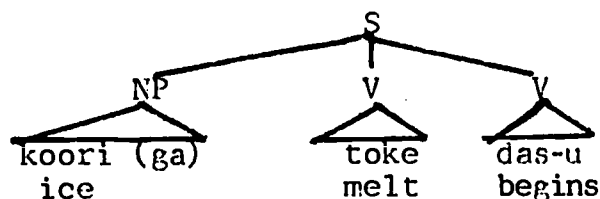
It is still necessary to have a rule that attaches <u>toke</u>
to <u>das-u</u>. But this is exactly what Verb Raising is in-
tended for, and if this transformation is applied to (11a),
we will obtain (11b) without necessitating Subject Raising.

8.   See Kuno (to appear, Chapters 2, 3, 21, 22) for some
aspects of Thematization and Focalization.

9.   The above observation does not mean that Japanese does
not have unbounded leftward movement rules.   Observe, for
example, the following:
   (i) a. Mary wa [John ga <u>sono hon o</u> sutete simatta]
                              the book   threw-away

          to omotta.
             thought
          'Mary thought that John had thrown away the
          book.'
       b. <u>Sono hon o</u>, John wa [Mary ga ∅ sutete simatta]
          to omotta.
   (ii) a. Kimi wa [John ga <u>dare to</u> kekkonsita] to
           you   who with married that

          omoimasu ka?
          think
          'Who do you think John married?'
       b. <u>Dare to</u>, kimi wa [John ga ∅ kekkonsita] to
          omoimasu ka?
It is not clear why (27b) and (28b) are ungrammatical, while
(i-b) and (ii-b) above are grammatical.   It might be that
the constraint is that the subjects of the matrix and con-
stituent clauses may not switch word order.

10.   I am indebted to Masayoshi Shibatani (personal commu-
nication, 1972) for calling the pattern of (45b) to my
attention.

11.   This statement does not apply when Verb Raising is
involved. Observe the following causative sentence:
       (i)   John wa kodomo <u>o</u> benkyoos-ase-ta.
                           child   study-make-ed
              'John made the children study.'

I claim that (i) is derived from the underlying Equi NP structure:

     (ii)   John(wa) kodomo ⌊kodomo(ga) benkyoosu-ru⌋
               child   child   study

        sase-ta.
        make

After Equi NP Deletion, Aux Deletion, and Verb Raising, with subsequent application of tree pruning, we obtain the structure corresponding to

     (iii)   John(wa) kodomo benkyoos-ase-ta.
               child   study-make-ed

Now, since <u>kodomo</u> has come to occupy the position of the direct object of the compound causative <u>benkyoos-ase</u>, it is marked with the accusative particle <u>o</u>. This is why the deep structure noun phrase object <u>kodomo</u> of the Equi NP verb <u>sase</u> 'make' appears in the surface sentence with <u>o</u>, and not with <u>ni</u>.

12.   I am indebted to Postal (1972) for this observation.

13.   <u>Da</u> 'is' is deleted obligatorily before the yes-no question marker <u>ka</u> and certain other sentence-final particles.

14.   See Kuno (to appear, Chapter 25) for the derivation of pure and adversity passives.

15.   That <u>Mary o</u> in (69a) and (70a), in spite of the fact that it occupies the object position of the matrix sentences, cannot undergo Pure Passivization is consistent with at least one other phenomenon in Japanese. We have two causatives --- <u>make</u>-causative and <u>let</u>-causative.

     (i) a. John wa Mary <u>o</u> benkyoos-ase-ta. (<u>make</u>-causative)
                     study-make-ed
          'John made Mary study.'
        b. John wa Mary <u>ni</u> benkyoos-ase-ta. (<u>let</u>-causative)
                  to   study-let-ed

The behaviors of these two causatives provide evidence that <u>make</u>-causatives are derived from the deep structure that contains the noun phrase object in the matrix sentence (namely, by Equi NP Deletion), while <u>let</u>-causatives are derived from the deep structure that does not contain the noun phrase object (see Kuno (to appear, Chapter 27) for more details).

     (ii) a. John(wa) Mary(o) [Mary(ga) benkyoosu-ru]$_S$
                                (<u>make</u>-causative)

       b. John(wa) ⌊Mary(ga) benkyoosu-ru]$_S$
                               (<u>let</u>-causative)

In other words, <u>Mary o</u> in (73a) is the object of the
matrix verb <u>(s)ase</u> 'make' all through the derivation of
the sentence, while <u>Mary ni</u> in (i-b) has come to occupy
the object position of the matrix verb <u>(s)ase</u> 'let' due
to Verb Raising applied to <u>benkyoos</u> 'study' and subsequent
tree-pruning.

Now, observe the following passive sentence:

(iii)   Mary wa John ni benkyoos-ase-rare-ta.
                          by   study make/let-Passive-ed
          'Mary was made by John to study.'

(iii) cannot mean that Mary was allowed (let) by John to
study. Namely, (iii) is the passive of (i-a), but not
the passive of (i-b). The generalization seems to be
that Pure Passivization does not apply to the object noun
phrase that was not in the same position in the underlying
structure. Namely, the rule does not apply to the object
produced either by Subject Raising or by Verb Raising (and
subsequent tree-pruning).

References

Chomsky, N. (to appear) "Conditions on Transformations", in S. Anderson and P. Kiparsky, eds., Studies Presented to Morris Halle, Holt, Rinehart, and Winston, New York.

Greenberg, J. H. (1963) "Some Universals of Grammar with Particular Reference to the Order of Meaningful Elements", in J. H. Greenberg, ed., Universals of Language, MIT Press, pp. 73-113.

Kuno, S. (1972) "Natural Explanations for some Syntactic Universals", Mathematical Linguistics and Automatic Translation, Report NSF-28, The Harvard Computation Laboratory, Cambridge, Mass.

Kuno, S. (to appear) The Structure of the Japanese Language, The MIT Press, Cambridge, Mass.

Postal, P. (1972) "On Raising" (mimeographed paper), IBM Thomas J. Watson Research Center, Yorktown Heights, N.Y.

Ross, J. R. (1967) Constraints on Variables in Syntax, unpublished Ph.D. thesis, M.I.T., Cambridge, Mass.

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