COMPARATIVE DELETION AND VP-DELETION IN JAPANESE

Yoichi Miyamoto

Ohio University

1. Introduction

This paper examines properties of comparative deletion (CD) in Japanese, as exemplified in (1)

(1) Taroo-wa [CPHanako-ga katta yori(-mo)] takusan(-no) hon -o katta
-top -nom bought than(-even) many -gen book-acc bought
'Taroo bought more books than Hanako bought '

Kikuchi (1987) argues that CD in Japanese involves Op-movement Furthermore, building upon Kikuchi's work, Ishii (1991) claims that this Op is a floating quantifier (FQ) An example of FQs is provided in (2) (e g., Miyagawa 1989, Saito 1990, Shibatani 1977, Terada 1990, Ueda 1986, 1990)

(2) karera-ga ame -o ni -ko katta
they -nom candy-acc two-cl bought
'They bought two candies '

The main purpose of this paper is to show that apparent counterexamples to Ishii (1991) can be accounted for by principles of Universal Grammar (UG) with the analysis of VP-ellipsis put forth by Otani and Whitman (1991) By so doing, I support the analysis of CD argued for in Ishii 1991. This paper is organized as follows Section 2 introduces assumptions regarding secondary predicates (SPs) and FQs Then, data which cannot be accommodated under Ishii's (1991) original proposal are given in Section 3. In Section 4, however, we show that these data do not, in fact, constitute counterevidence to Ishii's analysis if Otani and Whitman's (1991) analysis of VP-ellipsis is incorporated into his analysis Section 5 contains consequences of our analysis to the theory of UG. Concluding remarks follow in Section 6

2. The SP-Status of FQs

Ishii (1991) argues that Op involving in Japanese CD is a FQ Following Miyagawa 1989 and Ueda 1986, he assumes that FQs, thus this Op, are secondary predicates (SPs) Therefore, we first introduce an analysis of SPs, thus FQs, which is assumed in this paper

2.1. Miyamoto (1994)

Rapoport (1991) found that in sentences containing an SP, the main predicate (MP) cannot be individual-level (Kratzer 1989) Consider the contrast between (3a) and (3b)

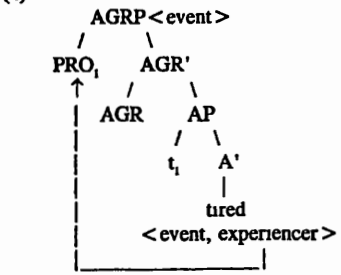
(3)a. *John is intelligent tired

b. John is happy tired

The difference between these examples is only MPs (3a) contains the individual-level predicate *intelligent*, and it is degraded On the other hand, the MP of (3b) is the stage-level predicate *happy*, and this example is grammatical

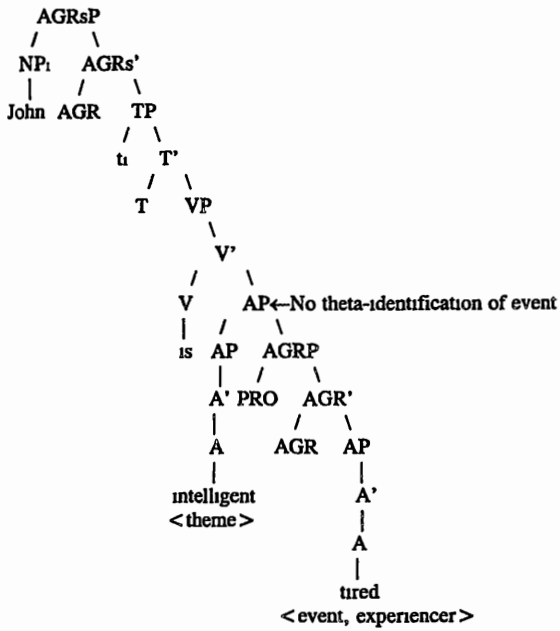
Miyamoto (1994) argues that this contrast follows from θ-Criterion To see how it does, let's first take a close look at the structure of a SP The following is the structure of the SP *tired* for which Miyamoto argues

(4)

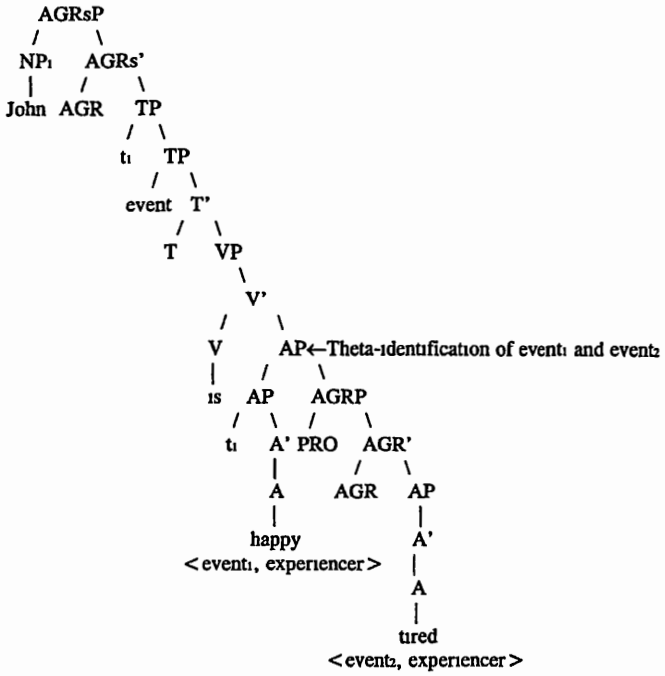


First, following Kratzer (1989), Miyamoto assumes that stage-level predicates have an event θ-role The SP *tired* in (4), thus, has an event θ-role in addition to an experiencer θ-role Secondly, following Chomsky (1981), he assumes that PRO is present in a SP Given these assumptions, within the structure given in (4), the experiencer θ-role is given to PRO while the event θ-role is unassigned This unassigned θ-role is θ-identified with the event θ-role of the MP in Higginbotham's (1985) sense, and it is assigned to the event argument in the matrix clause This indicates that unless the matrix clause has an event argument, in other words, the MP is stage-level, the unassigned event θ-role of the SP cannot be assigned, resulting in a θ-Criterion violation Then, the structures of (3a,b), for instance, are (5a,b) on the next two pages.

(5)a


AGRsP
NPi
AGRs'
John
AGR
TP
ti
T'
T
VP
V'
V
AP←No theta-identification of event
is
AP
AGRP
A'
PRO
AGR'
A
AGR
AP
intelligent
<theme>
A'
A
tired
<event, experiencer>

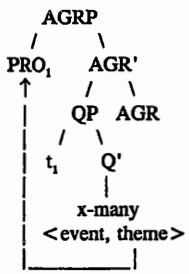
b.



2.2. NQs as SPs

Based on the analysis of SP above, Miyamoto (1994) proposes that (6) is the structure of FQs

(6)



On the assumption that FQs are stage-level, they have an event θ-role in addition to a theme θ-role The latter θ-role is assigned to PRO within the AGRP However, the former fails to be assigned in (6) Then, our prediction would be that the MP must be stage-level so that the event θ-role of the FQ can be assigned to the event argument in the matrix clause through θ-identification However, this prediction is not borne out. Consider (7) (See also Nishigauchi and Uchibori 1990)

(7) panda-ga ni -too mesu -da
-nom two-cl female-cop
'Two pandas are female '

The MP *mesu-da* 'female-cop' is individual-level Thus, it lacks an event θ-role, and the main clause does not have an event argument Given the structure above, the event θ-role of the FQ should fail to be assigned, resulting in a θ-Criterion violation However, this example is grammatical

In this respect, the following contrast provides a hint for this apparent problem

(8)a *That man is intelligent happy

b That happy man is intelligent

As Rapoport (1991) pointed out, (8a) shows that the individual-level MP *intelligent* cannot cooccur with the stage-level SP *happy* On the other hand, (8b) indicates that a stage-level predicate can cooccur with an individual-level MP if the former occupies the position inside the NP, as schematized in (9) (The order between the stage-level predicate and N is irrelevant)

(9) [NP[XPstage-level predicate] N]

Considering this, Miyamoto (1994) proposes that the structure of (7) is as follows

(10) [TP[NP[NPpanda][QPni-too]][T-[VPmesu-da]T]]

In sum, FQ-like elements are ambiguous between FQs, which are considered as instances of Williams' (1980) type of predication, and "apparent" FQs, which are taken as instances of Sportiche's (1988) type of structure, as exemplified above For terminology, let us call this latter type of structure an "adjoined quantifier" (AQ) in order to tell them from real FQs Given this "dual-structural" hypothesis, we are now returning to CD in Japanese

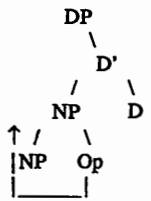
3. Comparative Deletion in Japanese

First, we have to consider two structures for the Op of CD in sentences like (1), repeated here as (11)

(11) Taroo-wa [CPHanako-ga katta yori(-mo)] takusan(-no) hon -o katta.
-top -nom bought than(-even) many -gen book-acc bought
'Taroo bought more books than Hanako bought '

Specifically, the question is whether the Op can be an AQ The answer is negative given Ishii's (1991) proposal that CP SPEC of CD must be occupied by QP In order to meet this requirement, Op must be extracted out of the AQ structure to CP SPEC, as illustrated below

(12)

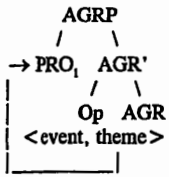


However, Stowell (1989) argues for (13):

(13) A referential category is a barrier to antecedent government.

This movement of the Op, therefore, violates the ECP since it moves out of DP, which is a barrier under (13) This, in turn, indicates that the structure of CD must be the one for FQs, which is shown in (14) on the next page

(14)



In sum, Japanese CD cannot contain Op which originates in the AQ structure Thus, also under Miyamoto's (1994) analysis of FQs, the Op of Japanese CD must be a FQ, as Ishii (1991) argues

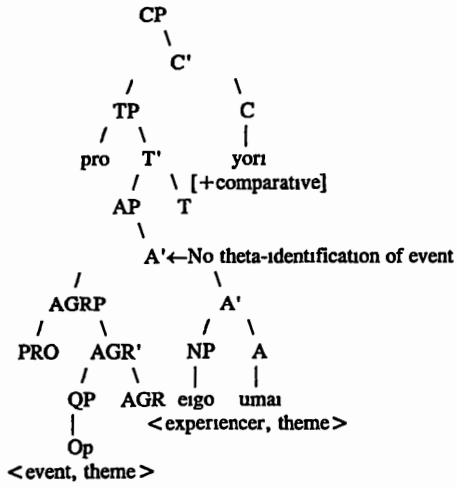
Then, our prediction would be that if the MP is individual-level, a sentence should be degraded since the event θ-role of the Op fails to be assigned. This prediction is borne out, as already pointed out in Ishii 1991, as shown in the contrast between (15a) and (15b)

(15)a ?*kono kurasu-dewa eigo -ga umai yori(-mo) takusan-no hito -ga
this class in English-nom good than(-even) many -gen people-nom
huransugo-ga umai
French -nom good
'More people are good at French than are good at English in this class '

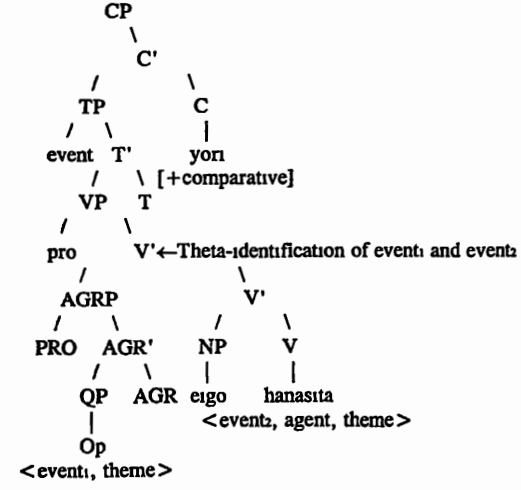
b kinoo -no kaigi -dewa eigo -o hanasita yori(-mo) takusan-no hito -ga
yesterday-gen meeting in English-acc spoke than(-even) many -gen people-nom
huransugo-o hanasita
French -acc spoke
'More people spoke French than spoke English in yesterday's meeting '

The structures of the *yori(-mo)*-clauses of these examples are shown in (16a,b) on the next page, respectively

(16)a.


CP
C'
TP
C
pro
T'
yori
[+comparative]
AP
T
A'←No theta-identification of event
AGRP
A'
PRO
AGR'
NP
A
QP
AGR
eigo
umai
<experiencer, theme>
Op
<event, theme>

b.


CP
C'
TP
C
event
T'
yori
[+comparative]
VP
T
pro
V'←Theta-identification of event1 and event2
AGRP
V'
PRO
AGR'
NP
V
QP
AGR
eigo
hanasita
<event2, agent, theme>
Op
<event1, theme>

Since the former example contains the individual-level predicate *umai* as a MP, the event θ-role of the Op fails to be assigned, which results in a θ-Criterion violation On the other hand, since the MP of the latter example is the stage-level predicate *hanasita* 'spoke', the event θ-role of the Op can be θ-identified with that of the MP, and thus, it can be assigned to the event argument in TP SPEC

So far, the analysis presented above nicely accounts for the data. However, in the next section, we will see that there are some examples which appear to be problematic for our analysis

4. A Problem

We have seen in the last section that the *yori(-mo)*-clause cannot contain an individual-level predicate as the MP However, consider (17a,b)

(17)a ?Masao-ga [Taro-ga umai -yori -mo] ooku -no kotoba -ga umai
-nom -nom good-than(-even) many-gen language-nom good
'Masao is good at more languages than Taro is good at '

b ?*Masao-ga [Taro-ga umai-yori-mo] ooku kotoba -ga umai
-nom -nom good-than(-even) many language-nom good
'Masao is good at more languages than Taro is good at '

Although (17b) is not problematic for the present analysis, (17a) is surprising since the *yori*-clause contains the individual-level MP *umai* and this example is still not as degraded as (17b) The only difference between these two examples is that the *yori(-mo)*-clause is within the NP with the genitive marker in (17a) whereas the *yori(-mo)*-clause is attached to the FQ in (17b) Notice that we cannot attribute this contrast to the stage-level/individual-level distinction of predicates simply because both of the examples contain the individual-level predicate *umai*. Given that our analysis is correct, we have to look for somewhere else to look for an account for why (17a) is basically grammatical

5. A Solution

A solution to the problem posed by the grammaticality of (17a), we believe, can be found in Japanese VP-ellipsis In this section, we first introduce Otani and Whitman's (1991) analysis of Japanese VP-ellipsis, which we assume in this paper, and then, provide our solution

5.1. Otani and Whitman (1991)

Otani and Whitman (1991) argue that (18b), for example, can be considered as an instance of VP-ellipsis

(18)a John-wa zibun-no tegami-o suteta
-top self -gen letter -acc threw away
'John$_1$ threw out self$_1$'s letters '

b Mary-mo suteta
-also threw away
= 'Mary$_2$ also threw out self$_2$'s letters '
= 'Mary also threw out John's letters '

Crucially, in the first interpretation which involves a bound variable, they argue that (18a,b) have the structures given in (19) and (20c) via (20a-b), respectively:

(19) John-wa [$_{VP}$ λx[x[$_{NP}$x-no tegami-o] tv]] sutev-ta

(20)a Mary-mo [$_{VP}$[$_{NP}$e][vsute]]-ta

b Mary-mo [$_{VP}$[$_{NP}$e] tv] sutev-ta

c Mary-mo [$_{VP}$ λx[x[$_{NP}$x-no tegami-o] tv]] sutev-ta

Otani and Whitman argue that after the verbs have moved out of VP in overt syntax, as shown in (19) and (20b), the VP of the former is copied to the empty VP of the latter, changing (20b) to (20c) Without further discussion of their analysis, this paper assumes Otani and Whitman's analysis of VP-ellipsis For details of this analysis, the reader is referred to Otani and Whitman 1991

5.2. Comparative Deletion

5.2.1. Quantifier Raising

It has been observed that examples like (21) are ambiguous (e g , Hasegawa 1972, Postal 1974, among others) It can mean that Mary is taller than John thinks she is It can also describe the situation in which John has the contradictory idea that "Mary is taller than she is".

(21) John thinks (that) Mary is taller than she is
(Hasegawa 1972)

Hasegawa argues that this ambiguity is an instance of scopal ambiguity The two interpretations are disambiguated by the following two representations

(22)a [taller than she is] John thinks [Mary is *e*]

b John thinks [[taller than she is] Mary is *e*]

(22a) represents the first non-contradictory interpretation whereas (22b) allows the contradictory interpretation

The same ambiguity is observed in Japanese CD as well Consider (23)

(23) Taro-wa [$_{TP}$Hanako$_i$-ga [$_{CP}$pro$_i$ katta -yori-mo] ooku-no okashi-o
-top -nom bought than(-even) many-gen candy-acc
katta] -to sinjiteiru
bought-that is believing
'Taro is believing that Hanako$_i$ bought more candies than she$_i$ bought '

This example can describe the situation in which Hanako bought more candies than Taro is believing she did It can also mean that Taro has the following contradictory idea

(24) Hanako$_i$ bought more candies than she$_i$ bought

Assuming that this is an instance of scopal ambiguity, (25a,b) represent the two interpretations The former represents the non-contradictory interpretation whereas the latter allows the contradictory interpretation

(25)a. [$_{TP}$[$_{QP}$[$_{CP}$pro$_i$ katta-yori-mo] ooku]$_1$[$_{TP}$Taro-wa [$_{TP}$Hanako-ga t$_1$ okasi-o katta]-to
sinjiteiru]]

b Taro-wa [$_{TP}$[$_{QP}$[$_{CP}$pro$_i$ katta-yori-mo] ooku]$_1$[$_{TP}$Hanako-ga t$_1$ okasi-o katta]]-to sinjiteiru

Following Hasegawa 1972, Postal 1974, among others, we assume that CD involves Quantifier Raising (QR) Now, the picture is that QR, as well as VP-ellipsis, is available in Japanese.

5.2.2. The Subject/Object Asymmetry

5.2.2.1. Object Examples

Now let's return to the relevant examples (17a,b). Recall that Kikuchi (1987) shows that Japanese CD observes island effects, which, in turn, indicates that Op-movement is involved in Japanese CD The Op is assumed to move to CP SPEC of the *yori*-clause. Also, given Otani and Whitman (1991), the predicate *umai* is raised to T in overt syntax After these two operations have applied, (17a) has (26) as its representation

(26) [$_{TP}$Masao-ga [$_{AP}$[$_{NP}$[$_{CP}$Op$_i$[$_{TP}$Taro-ga [$_{AP}$t$_i$ t$_A$] umai$_A$]-yori-mo] ooku-no kotoba]-ga t$_A$]
umai$_A$]

Still, the QR changes (26) to (27)

(27) [TP[QP[CPOp1 [TPTaro-ga [APt1 tA] umaiA]-yori-mo] ooku] [TPMasao-ga [AP[NPtQP kotoba]-ga tA] umaiA]]

The predicate copying in Otani and Whitman's sense of VP-ellipsis changes (27) to (28)

(28) [TP[QP[CPOp1 [TPTaro-ga [AP[NPtQP **kotoba]-ga tA**] umaiA]-yori-mo] ooku] [TPMasao-ga [AP[NPtQP **kotoba]-ga tA**] umaiA]]

Now, recall our discussion of the stage-level/individual-level distinction of predicates The Op cannot cooccur with an individual-level MP However, this stage-level/individual-level distinction of predicates with respect to the grammaticality of sentences is not present if a predicate occupies a position within NP Notice that in the structure given in (28), the trace of the Op is within the NP Therefore, it is not unnatural that although the predicate in the CD is individual-level, (26) does not violate either the θ-Criterion or the ECP

As opposed to this example, the predicate-copying operation does not affect the (un)grammaticality of (17a) After the raising operation of the Op and the predicate *umai*, the structure of this example is as in (29)

(29) Masao-ga [CPOp1 [TPTaro-ga [APt1 tA] umaiA]-yori-mo] ooku kotoba-ga umai

Then, the QR changes (29) to (30)

(30) [TP[QP[CPOp1 [TPTaro-ga [APt1 tA] umaiA]-yori-mo] ooku][TPMasao-ga [APtQP kotoba-ga tA] umaiA]]

Furthermore, the copying operation changes (30) to (31)

(31) [TP[QP[CPOp1 [TPTaro-ga [APtQP **kotoba-ga tA**] umaiA]-yori-mo] ooku][TPMasao-ga [APtQP **kotoba-ga tA**] umaiA]]

Crucially, in (31), unlike the previous example, the trace of the Op is a FQ Then, the event θ-role of the Op fails to be assigned, which results in a θ-Criterion violation Therefore, although the QR and the Copying Operation are available in Japanese CD, this example is correctly predicted to be ungrammatical

5.2.2.2. Subject Examples

We still have to make sure that these two operations do not affect the (un)grammaticality of examples in which the Op originates in the position to modify the subject As we noted above, when the Op is to be predicated of the subject, no difference in (un)grammaticality is

observed, no matter whether the matrix clause involves a FQ or a NP with the genitive marker Let us first repeat the relevant examples

(32)a ?*[$_{CP}$Op$_i$[$_{TP}$kono kurasu-dewa pro t$_i$ [$_{AP}$e$_i$go-ga t$_A$] uma$_{iA}$]-yori-mo] takusan-no hito-ga furansugo-ga umai

b ?*[$_{CP}$Op$_i$[$_{TP}$kono kurasu-dewa pro t$_i$ [$_{AP}$e$_i$go-ga t$_A$] uma$_{iA}$]-yori-mo] takusan hito-ga furansugo-ga umai

Recall that under Kratzer (1989), the subject of an individual-level predicate originates in TP SPEC, not in VP SPEC Therefore, it cannot be a target of the predicate-copying operation Thus, in (32a,b), the Op is always a FQ, and thus, unless the predicate is stage-level, a θ-Criterion violation results Therefore, sentences like (32a,b) do not pose any problems for our analysis

6. Implications for the Theory of Grammar

Now, we turn to consequences of our analysis to the theory of Universal Grammar Given the Projection Principle (Chomsky 1981, 1986), θ-relations must be maintained throughout the derivation, namely, d-structure, s-structure, and Logical Form (LF) However, recent development of syntactic theories reveals that θ-role assignment must be derivational (e g , Larson 1988, Chomsky 1992, 1995, Miyamoto 1994) Under this view, what is required is that θ-relations must be established by LF. Therefore, the Projection Principle cannot be maintained as stated in Chomsky 1981, 1986

Under our analysis, CD in Japanese provides a clue to determine which view of theta-role assignment is correct Let us repeat the relevant example with the overt movement operations completed

(33) [$_{TP}$Masao-ga [$_{AP}$[$_{NP}$[$_{CP}$Op$_i$[$_{TP}$Taro-ga [$_{AP}$t$_i$ t$_A$] uma$_{iA}$]-yori-mo] ooku-no kotoba]-ga t$_A$] uma$_{iA}$]

In (33), t$_i$ is the trace of the Op, which refers to the number of the languages at which Taro is good Crucially, it does not refer to the languages themselves This, in turn, indicates that this trace cannot receive the theme θ-role of the individual-level predicate *umai* at this point of the derivation, in overt syntax Then, the grammaticality of this example suggests that θ-relations do not have to be established by overt syntax In order to be properly interpreted, all the θ-relations must be established by LF in the course of the derivation

Let's now reconsider the ultimate LF representation of this example after the application of the QR and the predicate-copying operation

(34) [$_{TP}$[$_{QP}$[$_{CP}$Op$_i$ [$_{TP}$Taro-ga [$_{AP}$[$_{NP}$t$_{QP}$ **kotoba]-ga t$_A$**] uma$_{iA}$]-yori-mo] ooku] [$_{TP}$Masao-ga [$_{AP}$[$_{NP}$t$_{QP}$ **kotoba]-ga t$_A$**] uma$_{iA}$]]

Because of the predicate-copying operation, we now have a NP which can receive the theme theta-role of the individual-level predicate Therefore, although the theme θ-role cannot be assigned in overt syntax, it can be done in LF Therefore, to the extent that our analysis is correct, this example leads to the conclusion that θ-relations must be established by LF, which supports Larson 1988, Chomsky 1992, 1995, among others Accordingly, d-structure and s-structure do not play any crucial role for θ-role assignment, and thus, the significance of these two levels is weakened (Chomsky 1992, 1995)

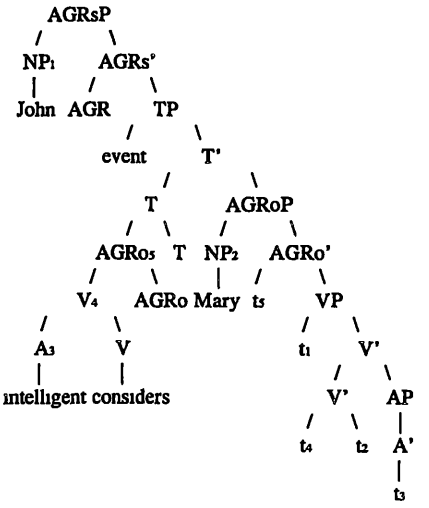
Furthermore, notice that the predicate is overtly raised to T, and thus, the predicate itself cannot assign the theme θ-role to the NP in LF, given the assumption that this θ-role assignment must be done in a local domain, that is, within the predicate Therefore, the grammaticality of (33) may show that θ-role assignment should be able to be done through chains To be more precise, the tail of a chain can assign the θ-role of the head of a chain In other words, in (34), it is tA that assigns the theme θ-role to the NP

This way of θ-role assignment may lead to some implications/consequences to other constructions For instance, Miyamoto (1994) argues that a predicate must be associated with tense in order to assign its most external θ-role For instance, in (35), the SP *intelligent* must be associated with tense in order to assign its theme θ-role

(35) John considers Mary intelligent

On the assumption that aspect is a temporal notion (e g , Vendler 1967), Miyamoto suggests that the SP can assign the theme θ-role when it combines with the MP On the other hand, if it is correct that θ-roles can be assigned through chains, the theme θ-role of the SP can be assigned in the LF representation given in (36) on the next page

(36)



(36) shows the point of the derivation where the complex of the MP and the SP is raised to T It may be the case that Mary receives the theme θ-role from t_5 at this point of the derivation This issue is particularly worth examining, considering the proposal that the SP of examples like (36) must create a complex unit with the MP (e g., Rapoport 1987, Campbell 1992, Stowell 1991) In order to determine whether the SP must adjoin to the matrix T or to the MP, more consequences should be examined, which is left for future research

7. Concluding Remarks

This paper shows that apparent counterexamples to Ishii's (1991) analysis of CD in Japanese, which is further elaborated by Miyamoto 1994, is nicely accommodated under the analysis of CD incorporating the analysis of VP-ellipsis put forth by Otani and Whitman (1991)

Furthermore, it was suggested that θ-role assignment must be derivational, which, therefore, supports Larson 1988, Chomsky 1992, 1995, among others This indicates that the Projection Principle cannot be maintained, as stated in Chomsky 1981, 1986, and that the significance of d-structure and s-structure is weakened In addition, UG may allow θ-role assignment through chains

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