Implicit Adjuncts :

The Cases of Degree Modifiers in Japanese and English

Akira Ikeya

Faculty of Humanities, Toyo Gakuen University

1660, Hiregasaki, Nagareyama-shi, Chiba,

270-01 Japan

Email: ikeya@yk.rim.or.jp

Hisako Ikawa

Department of English, Tsurumi University

2-1-3 Tsurumi-ku, Yokohama-shi, Kanagawa,

230-8501, Japan

Email: ikawa@gc4.so-net.ne.jp

The issue of adjuncts has long been a neglected field of linguistic study whether it be syntactic or semantic. It is only in Pustejovsky (1995) that we find a brief mention of adjuncts. In addition to what the author calls true arguments, default arguments, and shadow arguments, he sets up a class of true adjuncts citing the following sentence , *Mary drove down to New York on Tuesday*. We will take up a small lexical item *sugiru* in Japanese, and we will argue that we should posit the notion of implicit adjuncts in describing the properties with the small Japanese lexical item *sugiru*. Throughout the discussions that follow we will demonstrate how the notion is independently motivated irrespective of what linguistic theory we are going to adopt.

1. Three Issues

We will start with the discussion by looking at the following sentences.

(1) a. Kono   kohii   wa   atu-sugiru.
        this   coffee   Top hot excessively

'This coffee is too hot.'

(2) a.   Taroo wa kinoo   sake -o nomi sugi   ta

      Taroo Top yesterday sake Acc. drink excessively past

      'Taro drank too much *sake* yestereday.'

   b.   Taroo wa kinoo   sake -o tskusan nomi- sugi   ta

      Taroo Top yesterday sake Acc much drink excessively past

      'Taro drank too much *sake* yestereday.'

(3)   Taroo wa   eki ni hayaku tsuki -sugi   ta

      Taroo Top station to early   arrive excessively Past

      'Taro arrived at the station too early.'

(4)   Kono hon wa omottayorimo   muzukasi-sugiru

      this book Top than I thought it to be tough excessively

      'This book is tougher to read than I thought.'.

The sentence in (1) shows that the modifier *sugiru* 'excessively' is placed not before but after the modifiees *atui* 'hot'. The sentence in (2a) demonstrates that *sugiru* modifies an implicit adjunct *much* in (2a). This becomes clearer if we compare the Japanese example with the English counterpart, which has *much* as is shown in sentence (5) below. The sentence in (3) shows that *sugiru* modifies the non-adjacent modifiee *hayaku* 'early', which is placed not after the modifier *sugiru* but before it.

    One of the issues to be discussed is a view point or a criterion by which an action or a property of something or someone is judged to be in an excessive degree, beyond what is right, desired or needed (s.v. *too* Pocket Oxford Dictionary 5th edition). The sentence in (4) exemplifies this.

    In view of these data, there are three main issues to be discussed. The intrinsic nature of these data will become clear if we compare these with the following English data[1].

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[1] Korean *neomu* 'too' is very much like English in that *neomu* precedes *manhi* 'much' and it cannot be omitted.

    (i) Taroo eoje suleul <u>neomu</u> manhi masyeossda.

      'Taro drank too much sake yesterday. '

In Chinese there are three expressions roughly equivalent to *sugiru*:

    (tai....le, guoyu, and guoduo /guofen,/guotou)

    (ii) a. Tailang zuotian hejiu he de <u>tai</u> duo <u>le</u>.

      b. Tailang zuotian hejiu he <u>guotou</u> le.

    (iii) a. Huazi ba toufa jie de <u>tai</u> duan <u>le</u>.

(5) Taro drank *sake* too much yesterday.

(6) He arrived at a station too early.

The sentence in (5) demonstrates that the adjunct *much* cannot be omitted, while in the Japanese counterparts (cf. sentence (2a) above) this kind of adjuncts are not necessary, or even redundant as is shown in (2b) above. The sentence in (6) shows that the modifier *too* is put just before the modifiee *early* so that the adjacency relation holds between the modifier-modifiee.

The first question to be discussed is how to formalize what we call implicit adjuncts in Japanese. The second issue to be addressed is how to formalize the non-adjacent modifier-modifiee relation in Japanese, which is quite different from English and Korean counterparts as shown in footnote 1. The last issue we should discuss is a "criterion" by which something or someone is judged to be too tough, too early, too hot, too clever or whatever. Is it right to always ascribe the judgement to a speaker of the sentence in question ? In other words, is the default value of judgement always a speaker ? If not, how can we deal with this issue ?

'Hanako cut her hair too short.'

b. Tailang guoyu zebei nuer te.

'Taro scolded her daughter too harshly. '

c. Tailang yanhui canjia de tai duo le.

' Taro went to parties too often.'

In either case the rule of adjacency is observed, although the modifiee intervenes between *tai* and *le* as is shown in sentence (iii c). There is no cases where the non-adjacency relation between a modifier and a modifiee is observed. It is interesting to note that in Chinese there seems to be implicit adjuncts as well See sentence (iiic). The sentence can mean that Taro came to a party too <u>often</u> without any explicit adjuncts like *frequently*. Roughly we can have the following generalization.

	adjacency relation	implicit adjunct
Chinese	OK	OK
Japanese	NO	OK
Korean	OK	NO

2. Basic Strategies to Deal with Our Issues

2.1. Lexicalism

(7)a. Taroo wa gakkoo no sobao toori sugi ta.

Taroo Top school of besides pass by Past

'Taro passed by the school.'

b. Taroo wa musume o sikari-sugi ta.

Taroo Top his daughter Acc scold excessively Past

'Taro scolded his daughter too harshly.'

It has been a long-standing tradition in Japanese linguistics to deal with the two occurrences of *sugiru* in the sentences (7) as a separate and independent lexical item. No attempt has been made to treat them as a single item. From a lexical semantics point of view advocated by Pustejovsky (1995) we will consider the two occurrences as a single item.

(8)a. The lamb is running in the field.

b. John ate lamb for breakfast.

Arguing against what Pustejovsky terms as Sense Enumeration Lexicon (SEL), he proposes to store complementary senses in a single entry. The two cases of lamb above are logically related so that they are one occurrence of a single lexical item. This stance is called lexicalism which often refers to the doctrine that the internal structure of words is independent of how words are put together to make a sentence. Such theories as Categorial Grammar, Lexical Functional Grammar or Head-driven Phrase Structure Grammar have highly structured lexical entries and a small number of very general rule schemata.

2.2. Enrichment of a Lexicon

The second strategy we are going to adopt, which is closely related to the first one, is to enrich the information contained in verbs. To put our conclusion first, we assert that any verb stores several implicit adjuncts and that when it is followed by *sugiru* one of the implicit adjuncts is activated and it becomes explicit. For example, we consider that *nomu* 'drink' has several adjuncts stored in it: adjuncts of quantity, time point, place, time length, degree and so forth. When the verb is followed by

sugiru, one of these implictly stored adjuncts is activated and becomes explicit.

(9) Taro wa   kinou   sake o nomi- sugi   ta.
    Taroo Top yesterday sake Acc drink excessively Past
    Taro   drank too much *sake* yesterday.

As   is   clear   from   the   English   translation,   the   adjunct   of   quantity *much*,   which   is   not   explicit   in   the   Japanese   sentence   become   activated when   the   verb   *nomu* 'drink' is   followed   by *sugiru*. There is another piece of evidence that supports the notion of implicit adjunct.

(10) Taroo   wa   kinou   sake o takusan
     Taroo Nom. yesterday wine Obj. much
     nomi- sugi   ta.
     drink excessively Past
     Taroo   drank too much sake yesterday.

When   we   add   *takusan* 'much' in   English   to   the   sentence   (6),   most   Japanese speakers   judge   that   it   is   redundant as   shown   in the sentence (10). This means that the sentence   already   contains   the   implicit   adjunct *takusan* 'much' in it. There are four cases   in which an implicit adjunct is activated when combined with *sugiru*.

A. Priority of an Adjunct

The   case   in   which   one   of   the   several   implicit   adjuncts   has   a priority   without   any   help   from   other   elements,   that   is,   a   particular implicit   adjunct   becomes   explicit   when   combined   with *sugiru*.   The   sentence   in (10) is the case in point. The sentence has the reading *Taro   drank   too   much   sake yesterday* as it is, without any help from a context or an additional word like *takusan* 'much',   as   was   mentioned   above.   This   means   that   the   implicit adjunct of quantity *much*   among   others   has   a   priority   with   respect   to *sugiru*, though   other   adjuncts   like   those   of   a   degree,   time   point,   time   span,   place, frequency   and   so   forth   can   be   a   possible   candidate with   respect   to   this   lexical   item.   This   phenomenon   we   will   call   the   priority of an implicit   adjunct problem.

B. Activation of an Implicit Adjunct by the Support of a Context.

This   is   the   case   in   which   one   of   the   implicit   adjuncts   a   verb   has   is

activated by the support of wider contexts.

(11) Taroo wa sake o nomi-sugite, kenkyu ga
     Taroo Top wine Acc drink excessively, research Nom
     orosokani nat ta.
     neglected become Past
     Taro drank *sake* too frequently so that his research has been neglected.

Given the context like *kenkyuu ga orosokani natta* meaning *his research has been neglected*, an implicit adjunct like *frequently* is activated. This is a case where a context coarces a sentential meaning. This we will term as activation of an implicit adjunct by the support of a context.

C. Modifier-Modifiee Relationship Change

We mentioned above that without a context, one of the implicit adjuncts has a priority over others so that it is selected as an explicit adjunct. But when an appropriate context is given, an adjective which has nothing to do with an implicit adjunct is modified by *sugiru* meaning *too*.

(12) Siken ni yasasii mondai o dasisugite,
     a test for easy   problems-Acc give too
     (mantensha   ga
     the ones who have got full marks-Nom
      zokusyutusi   ta)
     occur in succession Past

He gave too easy problems for a test so that the ones who have got full marks occurred in succession. Without the context in parentheses, that is, the part of the sentence (12) *siken ni yasasii mondai o dasisugite* means that he gave too many easy problems for a test but given a context shown in parentheses the whole sentence (12) means that he gave too easy problems for a test so that the one who has got full marks occurred in succession. This means that *sugiru* modifies an implicit adjunct *many* but given a context it modifies *easy*. This we call modifier-modifiee relationship change.

D. Indefinite Subject Requirement

The case in which *sugiru* requires an indefinite subject when it

97

modifies the subject. This is exemplified by the following sentence.

(13) Kono tokoro takusanno hitoga sini-sugiru.
     these days many people die excessively
     'These days too many people die.'

This phenomenon we call indefinite subject requirement.

3. Formalizations

In this section we will try to formalize our Japanese data on *sugiru* based on the basic framework adopted in Sag and Wasow (1999). The basic framework consists of the following several proposals.

1. Unification based grammar
2. Context-free grammar
3. Unification of syntactic and semantic components
4. Syntactic categories: head, complement and adjunct
5. Adoption of situational semantics
6. Composition of meaning
7. Modifier as a head

3.1. Modifications

We will adopt the following basic framework adopted by Sag-Wasow (1999) and make the following three modifications to describe our data.

We will treat *sugiru* as a modifier, hence it is a head and it has the following complements.

1. Adjectives: atsu-sugiru 'too hot'
2. Verbs: nomi-sugiru ' drink too much'

The syntactic bracketing of *yukkurito nomi-sugiru* 'drink too slowly' should be ((yukkurito nomu) sugiru) and (too (drink slowly)), with an adverb *slowly* and a verb drink forming a verb phrase *drink slowly*. By Head Feature Convention the meaning of *sugiru* as a head is carried over to the top of the sentence.

98

3.2. Viewpoint as an Intentional Notion

As is pointed out in Nakamura (1997), a property or action of someone or something being an excessive degree, frequency and so forth is judged by a speaker as a default value but sometimes the judgement is given by a subject of a sentence as the following example shows.

(14) Taroo-wa osake-o sukosi nomi-sugita to hansei sita.

　　Taro-Top　sake-Acc a little drink too much reflected

　　'Taro regretted that he drank too much.'

If we introduce such an intentional notion as a viewpoint, the issue can be handled nicely. As an extensional default value it has a speaker as extension but it can be a subject given another index.
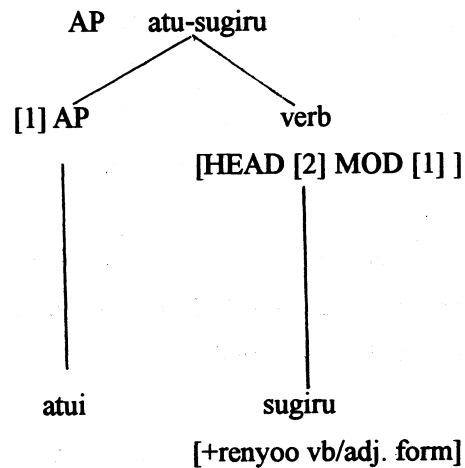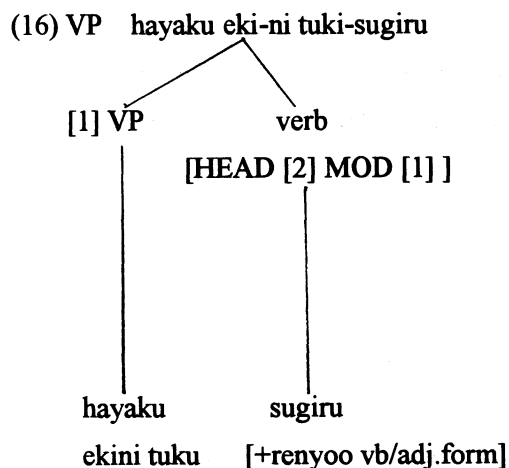
3.3. Non-adjacency Problem

We will begin by looking at the following example.

(15) Taroo-wa eki-ni hayaku tuki-sugi ta.

　　Taroo-Top station to early arrive excessively Past

　　' Taro arrived at a station too early.'

As was pointed out, there is no adjacency relationship between a modifier and modifiee in the case of *sugiru*. But the syntactic non-adjacency problem can be handled successfully if *sugiru* is treated as a verb phrase modifier and is given such type as $<\,<e,t>, <e,\,t>>$. The bracketing of the phrase *hayaku tuki-sugiru* should be (hayaku tuki) sugiru)). This corresponds to English (too (arrive early)), not ((too early) (arrive)). A verb phrase should be given a type $<e,t>$. As long as function-argument relationship holds between *hayaku* and *tuku,* modifier-modifiee relationship also holds at no matter how distant places the two elements occur syntactically. Below is shown the syntactic diagram of *hayaku eki ni tukisugiru* meaning 'arrive at a station too early'. *Sugiru* is treated as a head and a preceding verb phrase *hayaku ekini tuku* 'arrive at a station early' is treated as a modifiee. [HEAD [2] MOD [1]] shows this relationship. On the left is a tree diagram of *hayaku ekini tuku* and on the right is a tree diagram of *atu-sugiru.*

(16) VP   hayaku eki-ni tuki-sugiru

[1] VP   verb
                      [HEAD [2] MOD [1]]

hayaku   sugiru
ekini tuku   [+renyoo vb/adj.form]

AP   atu-sugiru

[1] AP   verb
                      [HEAD [2] MOD [1]]

atui   sugiru
                [+renyoo vb/adj. form]

[+renyoo vb/adj. form] is syntactic information telling that *sugiru* follows after the specific verb form or adjective form called *renyoo* form.

The following is both syntactic and semantic information of *sugiru*.

(17)

$$
\text{SYN}
\begin{bmatrix}
\text{verb} \\
\text{HEAD} \quad \text{MOD} \quad \text{VP} \quad [\text{INDEX} \quad t] \\
\text{SPR} \quad <\text{VP}> \\
\text{COMPS} < \quad >
\end{bmatrix}
$$

$$
\text{SEM}
\begin{bmatrix}
\text{INDEX} & s \\
\text{MODE} & \text{none} \\
\\
& \text{RELN (PASS, EXCEED A CERTAIN DEGREE,} \\
& \quad \text{FREQUENCY, LIMIT, TIME POINT, TIME SPAN,} \\
& \quad \text{etc....)} \\
\text{SIT} & s \\
\text{ARG} & t \\
\text{VIEWPOINT} & \text{SPEAKER / NON-SPEAKER}
\end{bmatrix}
$$

1. SPR   < VP > : This means that *sugiru* has a specifier VP.

2. COMPS <   >: COMPS = complements other than a subject.

    Thus, COMPS <   > means that the complement position
    is saturated.

2.   RELN (PASS, EXCEED A DESIRABLE DEGREE OF,   TIME SPAN, etc....)

100

RELATION abbreviated as RELN bears a substantial part of semantic information. Closely following the criticism against Sense Enumeration Lexicon advocated by Pustejovsky (1995), we do not distinguish the verbal meaning 'pass' between the intensifier meaning of *sugiru* (e.g. *toori-sugiru* ' pass' *tabe-sugiru* 'eat too much' *tataki-sugiru* 'tap too frequently'). As shown above, we will store such various meanings of *sugiru* under the single item of *sugiru*.

3. VIEW POINT SPEAKER/ NON-SPEAKER: As an extensional default value it has a speaker as extension but can be a subject of a sentence if given another index.

Below is shown a diagram of *sake o nomu* which has IMPLICIT ADJUNCT as semantic information: IMPLICIT ADJUNCT [QUANTITY, PLACE, TIMEPOINT< TIME SPAN, FREQWUENCY, etc.] means that the bold faced implicit adjunct QUANTITY has a priority among several possible implicit adjuncts.

(18)

$$
\begin{bmatrix}
\text{Word / phrase} & \text{sake o nomu} \\
\text{SPECIFIER} & <\; ① \;\; \text{NP}> \\
\text{MODE} & \text{proposition} \\
\text{INDEX} & \text{s}
\end{bmatrix}
$$

$$
\text{RESTR} \quad
\begin{bmatrix}
\text{RELATION} \\
\text{SITIATION} \\
\text{DRINKER OF sake} \;\; ① \\
\text{IMPLICIT ADJUNCTS [QUANTITY, PLACE, TIME, POINT,} \\
\qquad\qquad\qquad\qquad \text{TIME SPAN, FEQUENCY, etc....]}
\end{bmatrix}
$$

When *sake-o nomu* combines with *sugiru* forming *sake-o nomi-sugiru*, we can automatically get a desirable reading 'drink *sake*' beyond a desirable quantity since *sake-o nomu* stores an implicit adjunct of quantity having a topmost priority.

(19)   sake o nomi sugiru

$$
\begin{bmatrix}
\text{SPECIFIER} & < \text{①} \ \text{NP} \ > \\
\text{MODE} & \text{proposition} \\
\text{INDEX} & s \\
\text{RELATION} & \text{drink } \textit{sake} \text{ beyond a desirable degree}
\end{bmatrix}
$$

Since bold faced IMPLICIT ADJUNCT is stored in the verb *sake o nomu* having a priority status, *sake o nomisugiru* is given a desirable reading like *drink sake* beyond a desirable degree.

4. RESIDUAL PROBLEMS

So far we have discussed mainly on the problems of implicit adjuncts stored in "verbs" in our lexicon.   It is highly possible that the kinds of implicit adjuncts stored in a verb vary from a verb to a verb and that an adjunct given a priority status also differs from a verb to a verb.   An indefiniteness of a subject noun phrases slightly touched upon discussing the sentence in (13) also poses an intriguing issue yet to be solved.   This may also be related to the problem of quantification over events.

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