Japanese Tough Constructions in HPSG Framework

Akira Ikeya
Tokyo Gakugei University

0. Introduction

In Japanese we have tough constructions like the following, (1) to (5).

(1) Watasi ni   wa kono hon wa   yomiyasui.
     I   Dat Top this book Top read easy
    (=For me this book is easy to read.)

(2) Kono hon wa yomiyasui.
    (=This book is easy to read.)

(3) KONO HON WA watasi ni   wa yomiyasui ga   ANO HON wa soo de mo nai.
    this book Top I   Dat Top read easy but that book Top so   not
    (=THIS BOOK is easy for me to read but THAT BOOK is not so easy.)

(4) Seito   ni wa uradoori   ga   arukiyasui. [1]
    pupils Dat Top back alleys Nom   walk easy
    (=Back alleys are easy for pupils to walk along.)

(5) Momenmono   wa   kawakiyasui. [2]
    cotton textiles Top   get dry easy
    (=Cotton textiles tend to get dry.)

(6) Watasi wa   kono hon   wo   yomu.
     I   Top   this book Obj   read (=I read this book.)

   In what follows we discuss the following issues.

1. What is a difference between (1) and (2) ?

2. If there is a stress on 'KONO HON '(=this book) in (3) ,and the phrase stands in contrast with 'ANO HON '(=that book),how can we formalize the fact ?

3. What is a difference ,if there is any, between (1) and (4) ?

4. How can (1) and non-tough construction (6) be related ?

5. What is a difference between (2) and (5),and how should it be formalized ?

Section 1. Adjectival Properties of a Tough Construction —— A Neglected Aspect

We treat 'yasui' or 'nikui' as a complex adjective forming morpheme combining with a 'renyoo' form of a verb. For example, 'yomu'(=read),a transitive verb, combines with 'yasui',forming a complex adjective 'yomiyasui'(=easy to read). The following two facts will support our view that 'yomiyasui' is a complex adjective. First, it will cooccur with an intensifier 'totemo' (=very) like 'totemo yomiyasui.' Secondly, it will cooccur with a noun forming suffix '-sa' forming a noun 'yomiyasusa'(=readability).

Section 1.1. Basic Framework

We adopt the framework proposed in Ikeya (1991) for the description of adjectives applicable not only to Japanese but also to Korean or English. In Japanese as well as in English , there is a group of adjectives whose interpretation is heavily dependent on contexts, pragmatic or linguistic. One of such contextual factors is what is termed THEMATIC DIMENSION (TD, for short) by Bartsch(1986/ 1987). In addition to TD , we propose that it is necessary to recognize other such contextual factors,which we name COMPARISON DIMENSION (CD ,for short) and DEGREE DIMENSION (DD,for short).It is only after these three contextual factors are specified ,is it possible to determine the truth condition of a sentence which contains an adjective expression.

When we say 'He is good,'this sentence has to be specified as 'in what respect he is good,'as compared to 'what he is good,'and 'to what degree he good.' Unless this sentence is given such specifications, it cannot be given a truth value.These dimensions or vectors we call TD, CD ,and DD, respectively.

Section 1.1.1. TD

Color,height,direction, humidity,temperature,price, weight,strength, personality,etc. are the thematic dimensions by which the properties denoted by adjectives can be specified. Unless specified by these dimensions, the properties remain vague so that the sentences in which these factors are left unspecified remain truth-conditionally undetermined. For example,let's take the following English senences.

(7)a. John is good at tennis.

   b. John is fine healthwise.

   c. John is fine with respect to health.

The underlined part is what we call TD, that is, a vector by which the property of 'good' or 'fine' is given a specification in terms of TD.

In Japanese TD is constantly marked by 'ga' as shown below.

(8) John wa <u>tenisu ga</u> umai.(=John is good at tennis.)
        nom at tennis   good

Section 1.1.2. CD

 A degree adjective like 'tall' implicitly encodes a comparison dimension like
'taller than X,'with X being given a specification either by a linguistic or
non-linguistic context. Take for example, the following sentences.

(9) a. He is tall.

    b. For a Vietnamese, he is tall.

In (9) a. a size like 'tallness' is always relative to some implicit measure
such as the height of an average person and it is nonsense to talk about tall-
ness except relative to such a comparison class. On the other hand,in (9) b. a
comparison class is explicitly encoded in the form of 'for a Vietnamese.' This
is the case of linguistic specification of a comparison dimension,while (9) a.
is the case of non-linguistic contextual encoding of a comparison dimension.
Klein(1980) uses the following notation to indicate such a contextual dimension.

(10) a. [tall (he)]$_c$

    b. [tall (he)]$_{c=Vietnamese}$

Henceforth,we will adopt the following notation to specify a comparison class.

(11) a. [CD=0 ,tall(he)]

    b. [CD=Vietnamese, tall(he)]

'CD=0' means that CD is implicitly encoded, while 'CD=Vietnamese' means that CD
is explicit and that it is Vietnamese. The parenthesis signifies the argument
position, and 'tall' means a core predicate.

Section 1.1.3. DD

(12) John is very tall.

 'very' is what we call DD ,about which no further comment will be necessary.
All in all a semantic structure of a sentence containing an adjective predicate
can be represented as follows.

(13) He is very tall for a basketball player.

    [TD=0, CD=basketball player, DD=very , tall(he)]

```
                              proposition

          contextual dimension                    core proposition

       TD        CD        DD              Core predicate          Theme

       0         +         +                      tall               he

              basketball   very
                player
```
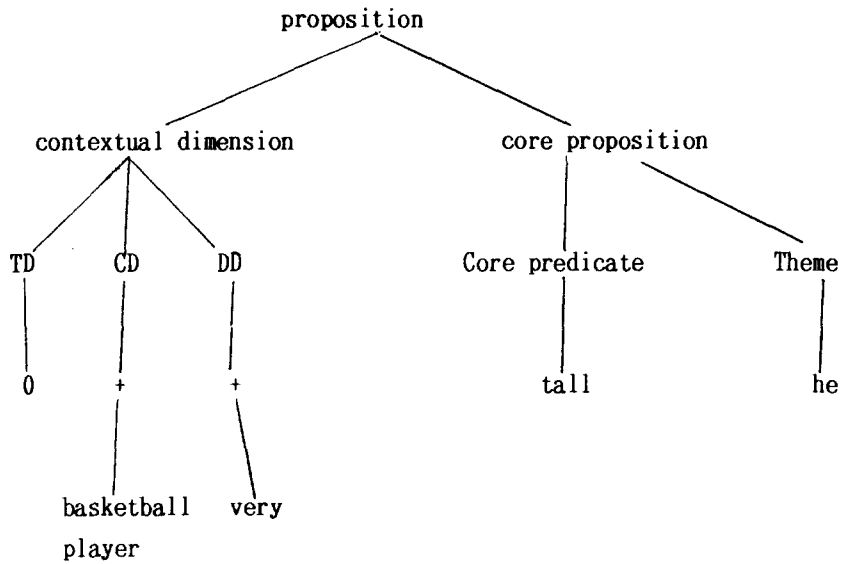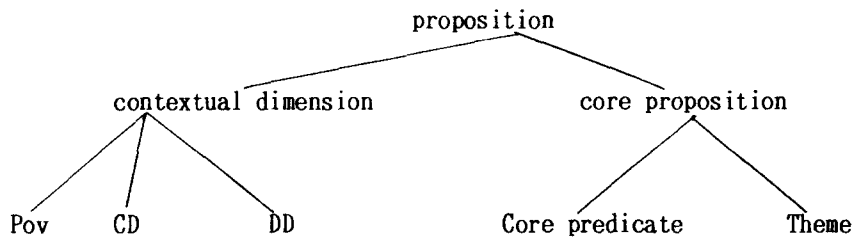
(+: explicit encoding; 0:implicit encoding)

In this paper we propose Pov (=Point of View), instead of TD as a contextual element.[3] So the whole schema of an adjectival construction will be as follows.

```
                              proposition

          contextual dimension                    core proposition

       Pov      CD        DD              Core predicate          Theme
```

In what follows we will try to incorporate this basic framework into that of HPSG,whose outline is contained in Pollard-Sag (1987).

Section 2. Feature Structure

Section 2.1. F.S. of 'Watasi ni wa kono hon wa totemo yomiyasui'

Let us start with a feature structure of the sentence (14).
(14) Watasi ni   wa   kono hon wa totemo yomiyasui.
    (=For me this book is very easy to read.)

We will begin with 'totemo yomiyasui'(=very easy to read).There are three
daughters of the phrase: head, complement ,and adjunct daughters. It is unsatu-
rated, with 'kono hon' acting as a filler,that is, its Subcat value is [3]. It
has three adjunct daughters: [6],[7],and [8] as shown below. The head daughter
of 'yomiyasui' is 'yasui',which subcategorizes verb 'yomu' and PP 'kono hon.'
'Yasui' denotes a property whose argument is a state of affairs 'i-to-read-this-
book.' 'To read',one of the two complement daughters of the head 'easy', has a
Subcat list whose first member is an object NP and has the semantic information
of being a 'readee'. The object NP also acts as a subject of the phrase 'is easy
to read.' This is what the index [5] means.   Next,we will discuss the problem
of adjuncts. 'For me' in English has been traditionally treated as a complement
of a tough adjective in a matrix clause, or a subject of an embedded clause, or
a dative noun phrase of a matrix clause. Semantically,it was pointed out that it
denotes either a point of view of a speaker or of an agent's. See the sentences
(15) and (16) below.

(15)* John is easy for Mary to please but she doesn't think so.

(16) That machine is dangerous for Bill to operate, but he doesn't think so.[4]

 We consider that 'For NP' phrase has a syntactic status of an adjunct because
of its relative movability and that its semantic status can be formalized within
our framework we have adopted in section 1.

 It should be pointed out that a phrase 'is easy to read' has three adjuncts:
explicit adjuncts like 'For NP'and 'very,' and what we call an implicit ad-
junct.

 Let's start with 'watasi ni wa'(=for me) in Japanese. The index [5] indicates
that semantically it corresponds to a subject NP of the verb 'read' ,that is ,
'reader.' Semantically it is termed Dimension $_i$ for ease of reference. If it de-
notes a point of view of a speaker, it has a notation like 'sem | Dim $_i$ | Pov |
speaker', and if that of view of a subject, 'sem | Dim $_i$ | Pov | subject',re-
spectively,which is shown below.

(17) Feature Structure of 'Watasi ni wa kono hon wa totemo yomiyasui.'

$$
\left[\left[
\begin{array}{l}
\text{phon yasui} \\
\text{syn | loc head[1] maj adjective} \\
\qquad\qquad\qquad\text{adjective form: bound} \\
\text{ | subcat <[2]V,[3]PP}_{[5]}\text{ >}
\end{array}
\right]\right]
$$

DTRS

Head-DTR
$$\begin{bmatrix} \text{sem } | \text{ con } | \text{ property } : \text{ 'easy'} \\ \qquad\qquad\qquad | \text{ SOA-Arg } : \text{I-to-read-this book} \end{bmatrix}$$

Comp-DTR

[2]
$$\begin{bmatrix} \text{phon} \quad \text{yomi} \\ \text{syn } | \text{ loc } \text{ Head } [\text{ maj } V \\ \qquad\qquad\qquad\qquad V \text{ form } \text{ renyoo}] \\ \quad \text{subcat} < \text{PP[wo]}_{[4]} \quad \text{PP[wa]}_{[5]} > \\ \text{sem } | \text{ con } \quad \text{Reln 'read'} \\ \qquad\qquad\qquad \text{reader } [5] \\ \qquad\qquad\qquad \text{readee } [4] \end{bmatrix}$$

[3]
$$\begin{bmatrix} \text{phon} \quad \text{kono hon} \\ \text{syn maj } N \\ \text{sem } |\text{con } [4] | \text{ entity: this book} \end{bmatrix}$$

Adj-DTR

[6]
$$\begin{bmatrix} \text{phon} \quad \text{watasi ni wa} \\ \text{syn } | \text{ loc } \text{ Maj } | P \\ \text{sem } | \text{ con } [5] |\text{Dim}_1 | \text{Pov } | \text{ speaker } | \text{ on the subject NP} \end{bmatrix}$$

[7]
$$\begin{bmatrix} \text{phon} \quad \text{null} \\ \text{syn } | \text{ loc} \\ \text{sem } | \text{ Dim}_2 | \text{CD}_1 | \text{implicit} | \text{contextually} \quad | \text{e.g} \\ \qquad\qquad\qquad\qquad\qquad\qquad \text{definable entity} \quad \text{'that} \\ \qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\quad \text{book'} \\ \qquad\qquad\qquad \text{CD}_2 | \text{implicit} | \text{contextually} \\ \qquad\qquad\qquad\qquad\qquad\qquad \text{definable entity} \quad | \text{e.g.} \\ \qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\quad \text{'they'} \end{bmatrix}$$

[8]
$$\begin{bmatrix} \text{phon} \quad \text{totemo} \\ \text{syn } | \text{ loc } | \text{ Maj } | \text{ Adv} \\ \text{sem } | \text{ Dim}_3 | \text{Degree } | \text{ highest degree} \end{bmatrix}$$

As was pointd earlier,tough sentences can be used in a wider context shown below,receiving an emphasis on a different constituent of a sentence.

(18) KONO HON WA watasi ni wa yomiyasui ga, ANO HON   wa   soo de mo nai

(=13)this book Top I   Dat Top read easy but that book Top so   not

   (=THIS BOOK is easy for me to read but THAT BOOK is not .)

(19) Kono hon wa WATASI NI WA yomiyasuiga,KARE NI WA soo de mo nai.

   (=This book is easy for ME but not for HIM.)

In some cases we have a combined emphasis shown below.

(20) KONO HON WA WATASI NI WA yomiyasui ga ANO HON WA KARE NI WA soo de mo nai.

    (=THIS BOOK is easy for ME to read but THAT BOOK is not for HIM.)

The second dimension, abbreviated as Dim_2 ,is a case of Comparative Dimension. Dim_2 has phonologically and syntactically a null shape so it is termed a case of implicit CD. When 'this book' is compared with 'that book' receiving an emphatic stress on both constituents in a wider context shown in (18) above, we consider that there is implicitly a contextually definable entity like 'that book.' On the other hand,when 'me' is constrasted with contextually specifiable entity such as 'him',we consider that this is a second case of CD, which is termed CD_2 .The relationship of CD_1 and CD_2 is either 'OR' or 'AND', as the case may be. For example, (20) is a case of 'AND' relationship.

As for the third dimension,that is ,Dim_3, there is not so much to be commented. It is explicitly expressed as 'totemo'(=very) denoting a highest degree.

Section 2.2.   F.S. of 'Kono hon wa yomiyasui'

 Below is shown a feature structure of (2) Kono hon wa yomiyasui(=This book is easy to read.),a sentence without 'watasi ni wa'(=for me).

It should be noticed,first of all,that although the sentence (2) has no For NP phrase ,we claim that it has an implicit phrase which is contextually definable. So the SOA-Arg should be 'Contextually-specifiable-person(s)-to-read-this-book.'

 Secondly, 'read',a Complement Daughter of 'easy',has the same Subcat value as the sentence with For NP phrase,that is,the verb subcategorizes for two NP's, one of which being phonologically a null NP.

 Thirdly, the sentence has an implicit Pov dimension,that is, it has an implicit point of view of a speaker of contextually definable person(s).

(21) Feature Structure of 'Kono hon wa totemo yomiyasui.'(=This book is very
     easy to read.)

$$
\begin{bmatrix}
\text{DTRS} \begin{bmatrix}
\text{Head-}\\\text{DTR}
\end{bmatrix}
\begin{bmatrix}
\text{phon \quad yasui}\\
\text{syn | loc head[1] \quad maj \quad adjective}\\
\qquad\qquad\qquad\text{adjective form: bound}\\
\qquad\text{| subcat <[2]V, [3]PP}_{[4]}\text{ >}\\
\text{sem | con | property \quad : 'easy'}\\
\qquad\qquad\text{| SOA-Arg \quad :contextually definable person(s)-to-}\\
\qquad\qquad\qquad\qquad\text{read-this-book}
\end{bmatrix}\\[2em]
\begin{bmatrix}
\text{Comp-}\\\text{DTR}
\end{bmatrix}
\text{[2]}\begin{bmatrix}
\text{phon \qquad yomi}\\
\text{syn | loc \quad Head [maj \quad V}\\
\qquad\qquad\qquad\text{V form \quad renyoo]}\\
\quad\text{subcat <[3]PP[wo]}_{[4]}\text{ ,[6] null PP}_{[5]}\text{ >}\\
\text{sem | con \qquad Reln: 'read'}\\
\qquad\qquad\qquad\text{reader \quad [5]}\\
\qquad\qquad\qquad\qquad\qquad\text{contextually definable}\\
\qquad\qquad\qquad\text{readee \quad [4]}
\end{bmatrix}\\[2em]
\text{[3]}\begin{bmatrix}
\text{phon \qquad kono hon}\\
\text{syn maj N}\\
\text{sem |con [4] | entity: this book}
\end{bmatrix}
\end{bmatrix}
$$

$$
\begin{bmatrix}
\text{Adj-}\\\text{DTR}
\end{bmatrix}
\begin{bmatrix}
\text{[6]}\begin{bmatrix}
\text{phon \quad null}\\
\text{sem | con [5] |Dim}_1\text{ | Pov | implicit | speaker | on}\\
\qquad\text{the contextually definable person(s)}
\end{bmatrix}\\[2em]
\text{[7]}\begin{bmatrix}
\text{phon \quad null}\\
\text{sem | Dim}_2\text{ | CD}_1\text{ | implicit | contextually definable}\\
\qquad\qquad\qquad\qquad\qquad\qquad\qquad\text{entity 1}\\
\qquad\qquad\text{CD}_2\text{ | implicit | contextually definable}\\
\qquad\qquad\qquad\qquad\qquad\qquad\qquad\text{entity 2}
\end{bmatrix}
\end{bmatrix}
$$

$$\left[\left[\left[\begin{array}{l} [8] \quad \begin{bmatrix} \text{phon} \quad \text{totemo} \\ \text{syn} \mid \text{loc} \mid \text{Maj} \mid \text{Adv} \\ \text{sem} \mid \text{Dim}_3 \mid \text{Degree} \mid \text{highest degree} \end{bmatrix} \end{array}\right]\right]\right]\right]$$
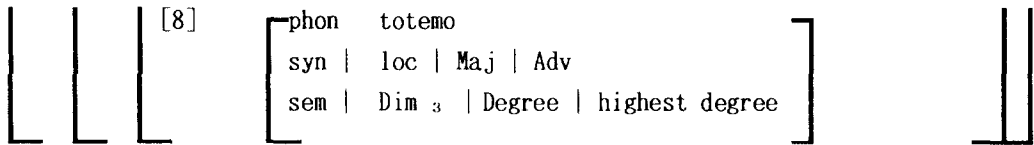
Section 2.3 . F.S. of 'Seito ni wa uradoori ga aruki nikui'

While in English only an object NP can be 'raised' to a subject position, in Japanese not only an object but also an adjunct phrase can be 'raised' to the position through what is called tough movement.

(22) Kodomo ni   wa <u>ano isu   ga</u>   suwarinikui.[5]
      child Dat Top that chair Nom   sit   hard
      (=That chair is hard for a child to sit on.)
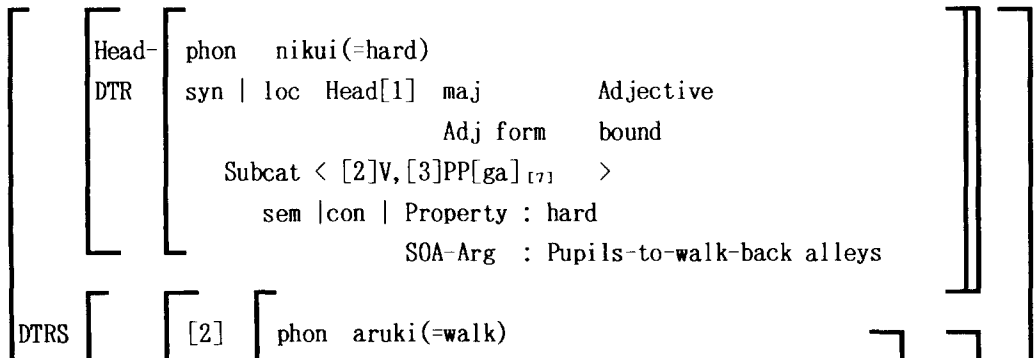
(22)' Kodomo ga <u>ano   isu   ni</u> suwaru.
      child   Nom that chair on sit
      (=A child sits on that chair.)

(23) Seito ni wa <u>uradoori   ga</u>   arukinikui.
      pupils Dat Top back alleys Nom   walk   hard
      (=Back alleys are hard for pupils to walk along.)

(23)' Seito ga <u>uradoori   o</u> aruku.
      pupils Nom back alleys walk along
      (=Pupils walk along back alleys.)

   As the examples show, a locative adjunct like 'ano isu ni' or 'uradoori o' can be 'raised' to a subject position. The 'derivational' relationship between (22) and (22)' can be incorporated into our framework as follows.

(24) The Feature Structure of 'Seito ni wa uradoori ga arukinikui.'

$$\begin{bmatrix} \begin{bmatrix} \text{Head-} \\ \text{DTR} \end{bmatrix} \begin{bmatrix} \text{phon} \quad \text{nikui}(=\text{hard}) \\ \text{syn} \mid \text{loc} \quad \text{Head}[1] \quad \begin{array}{ll} \text{maj} & \text{Adjective} \\ \text{Adj form} & \text{bound} \end{array} \\ \quad \text{Subcat} \langle [2]\text{V}, [3]\text{PP[ga]}_{[7]} \rangle \\ \quad \text{sem} \mid \text{con} \mid \begin{array}{l} \text{Property : hard} \\ \text{SOA-Arg : Pupils-to-walk-back alleys} \end{array} \end{bmatrix} \\ \text{DTRS} \begin{bmatrix} [2] \begin{bmatrix} \text{phon} \quad \text{aruki}(=\text{walk}) \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

```
       ┌                                                                          ┐
       │        ┌ syn | loc | Maj V                                           ┐   │
       │        │               V form  renyoo                               │   │
       │        │               Adjunct{ PP[wo][7] }                         │   │
       │ Comp-  │            Subcat  <PP[ga][7] >                            │   │
       │ DTR    │        sem | con Reln    'walk'                            │   │
       │        │                  walker   [6](i.e. pupils)                 │   │
       │        └                  location [7](i.e. back alleys)            ┘   │
       │                                                                          │
       │        ┌ phon    uradoori                                           ┐   │
       │   [3]  │ syn  | loc | Maj  NP                                       │   │
       │        │ sem  | con [7]                                             │   │
       │        └                                                            ┘   │
       │                                                                          │
       │ ┌      ┌ ┌ phon  seito (=pupils)                                   ┐ ┐  ┐│
       │ │  [4] │ │ syn | loc | Maj | N                                     │ │  ││
       │ │      │ │ sem |Dim 1| Pov | speaker | of pupils                   │ │  ││
       │ │      │ └      con [6]                                            ┘ │  ││
       │ │ AdJ- │ ┌ phon | null                                             ┐│  ││
       │ │ DTR  │ │ syn  | loc | null                                       ││  ││
       │ │  [5] │ │ sem  | Dim 2 | CD1 | implicit |contextually de- | e.g.  ││  ││
       │ │      │ │                               finable entity 1  'streets'│  ││
       │ │      │ │               CD2 | implicit |contextually de- |e.g.'old ││  ││
       │ └      └ └                               finable entity 2  people' ┘┘  ┘│
       └                                                                          ┘
```

Let's start with 'arukinikui'(=hard to walk), whose head is 'nikui' and whose
Subcat value is 'uradoori'(=back alleys). We claim that 'arukinikui' has two
adjuncts :[4] and [5]. The head DTR of 'arukinikui' is 'nikui'(=hard), which
has [2] and [3] as a Subcat value. The Comp DTR 'walk' denotes a relation
'walker'.Arukinikui' has two Adjunct DTR's, one denoting a Point of View of a
Speaker of pupils, the other denoting an implicit CD's. When 'back alleys' is
contrasted with 'streets',that is, contextually definable entity 1, or 'pupils',
that is,entity 2 in our term, is contrasted with 'old people,' we have a case of
an implicit CD.

Section 3. Five Problems

With this basic framework as background information ,let's start with the
first problem we raised above.

Section 3.1. Problem 1.

 What is the difference between (1) and (2) ,and what is the semantic role
of 'watasi ni wa' in (1) and how should it be formalized ?

(1) Watasi ni wa kono hon wa yomiyasui.(=This book is easy to read for me.)

(2) Kono hon wa yomiyasui. (=This book is easy to read.)

 As we mentioned,'watasi ni wa' in (1) is syntactically an adjunct, its semantic
role being to specify the point of view of a speaker ,which is encoded as Dim $_1$.
The difference between (1) and (2) lies in the fact that although (2) lacks For
NP ,we posit a contextually definable phrase so that SOA-Arg of property 'yasui'
(=easy) should be 'Contextually definable person(s)-to-read-this-book.' Fur-
thermore, we claim that the semantic feature structure of the phonologically
null adjunct denotes an implicit Point of Viw of a speaker of contextually de-
finable persons.

 The semantic feature structure of 'yomu' should have additional information
that 'reader' should be [+ person(s) determinable by context], instead of mere
'reader.'All this is shown in the feature structure (21) above.

Section 3.2. Problem 2

 If there is a stress on 'KONO HON WA' in (3) , how can we formalize the fact?

(3) KONO HON WA watasi ni wa yomiyasui.

Suppose that this sentence is uttered in a wider context like the following ,and
a focus is put on 'KONO HON WA , how should it be formalized as such ?

(17) KONO HON WA watasi ni wa yomiyasui ga, ANO HON wa soode mo nai.

In this sentence, 'kono hon ' (=this book) is contrasted with 'ano hon'(=that
book). This we call the case of 'book' acting as a Comparative Dimension.

(18) Kono hon wa WATASI NI WA yomiyasui ga, KARE NI WA yominikui.

When the sentence (3) is put in a wider context like (18), this time 'watasi'(=I
) as contrasted with 'kare'(=him) is put in a focus. This kind of specification
we call Comparative Dimension,as we have already mentioned. There are at least
two dimensions: 'ano hon' as contrasted with 'kono hon' and 'kare' as contrast-
ed with 'watasi . We call each dimension as CD_1 and CD_2 ,respectively. It
should be noticed that it is only when (3) is put in a wider context like (17)
or (18) that sentence (3) gets a focus. Therefore, we are going to enumerate
possible CD's so that we can make a choice of a possible reading out of them, if
given a wider context.

Section 3.3. Problem 3

What is a difference , if there is any, between (1) and (4) ?

(1) Watasi ni wa kono hon wa yomiyasui.(=For me this book is easy to read.)

(4) Seito ni wa uradoori ga arukiyasui.(=For pupils back alleys are easy to walk along.)

As shown in the feature structure of each sentence above, 'kono hon'(=this book) acts as an object of the verb 'yomu'(=read),while 'uradoori'(=back alleys) plays the role of locative adjunct of 'aruku'(=walk),which is a crucial difference between the two sentences. The difference can be formalized as in (17) and (24) above.

Section 3.4. Problem 4

How can (1) and a non-tough sentence like (6) be related ? Syntactically or semantically ?

(1) Watasi ni wa kono hon wa yomiyasui.

(6) Watasi wa kono hon o yomu.

We do not claim that (1) can be 'derived' from an underlying structure of (6) by applying a 'Predicate' like 'yasui'to it.[6] The only claim we can make is that 'yomu'(=read),which is a complement of 'yasui', has two Subcat values: 'kono hon' and 'watasi' and that 'watasi ni wa',which plays the role of adjunct in (1), is only semantically related to 'watasi', one of the Subcat values of 'yomu. '

Section 3.5. Problem 5

What is the difference of meaning of 'yasui' in (2) and (5) ?

(2) Kono hon wa yomiyasui.(=This book is easy to read.)

(5) Momenmono wa kawakiyasui.[7]

Inoue (1978) asserts that (5) has two meanings.

 a. Cotton textiles get dry easily.

 b. Cotton textiles tend to get dry.

The second meaning of 'yasui' can be easily described as denoting a property 'tend to' instead of 'easy',with its SOA-Arg being 'Cotton textiles get dry.'

4. Summary

In this paper we have tried to solve five issues involved in Japanese tough constructions by focusing on the adjectival properties of the constructions like 'easy to read.' The paper is formalized in the framework of HPSG by incorporating the proposal made in Ikeya (1991).

Firstly, we have shown that the notion of implicit encoding of TD has been of

use in clarifying the difference between the sentences 'Kono hon wa watasi ni wa yomiyasui' and 'Kono hon wa yomiyasui.'

Secondly, we have formalized the construction in the functional perspective, a neglected aspect of the study. This has been made possible through the notion of implicit encoding of Comparative Dimension.

Thirdly,we have attempted to give a formalization to the syntactic and semantic role of 'For NP' phrase. This is made possible through the notion of Point of View Dimension.

Footnotes

1), 2) The sentences are due to Inoue(1978).

3) It might be argued that Pov dimension is a variant of TD. In that case the new dimension will be unnecessary. On this point a further research will be necessary.

4) 'Easy' in the sentence (15) denotes the subject's judgment of infinitive VP, that is,'she'. Hence the ungrammaticality results. On the other hand, 'dangerous' in the sentence (16) denotes the judgment on the part of a speaker. This comment is due to Sanseido's Dictionary of English Grammar (s.v. Tough Adjective).

5) This example is due to Inoue (1978).

6) Inoue (1978) adopts such a solution.

7) This sentence is also due to Inoue (1978).

REFERENCES

Araki,Kazuo and M. Yasui eds. (1992) Sanseido's New Dictionary of English Grammar, Sanseido,Tokyo.
Bartsch,R.(1976 /7) "Foundations of Pragmatics and Lexical Semantics," Journal of Semantics 5.

_____. (1986) "Context-Dependent Interpretation of Lexical Items," in J. Groendijk et al.eds. Foundations of Lexical Items and Lexical Semantics, Foris, Hollad.

Farmer,A.K. (1984) Modularity in Syntax, The MIT Press,Massachusetts.

Hietaranta,P.(1984). " Some Functional Aspects of the Tough Construction," Studia Neophilologia 56,21-25.

Ikeya,Akira.(1991) "A Contextual Approach to Japanese Adjectives," in Ikeya,A. (ed.) The Sixth Japanese-Korean Joint Conference on Formal Linguistics. Tokyo.

Inoue,Kazuko (1978) " Tough Sentences in Japanese" in J.Hinds and I.Howard,eds., Problems in Japanese Syntax and Semantics, Kaitakusha, Tokyo.

Kuroda,Sigeyuki.(1987) "Movement of Noun Phrases in Japanese," in Imai,T.and Saito,M.(eds.) Issues in Japanese Linguistics. Foris, Holland.

Klein,E.(1980) "A Semantics for Positive and Comparative Adjectives," Linguistics and Philosophy 4.

Mair,C.(1978) "Tough-Movement in Present-Day British English ── A Corpus-based Study." Studia Linguistica 41,59-71.

Oehrle, R.T.(1979) "A Theoretical Consequence of Constituent Structure in Tough Movement." Linguistic Inquiry 10,583-593.

Pollard,Carl and Sag ,Ivan (1987) Information-based Syntax and Semantics ,CSLI, Stanford University.