DegP Projection in Japanese: An Analysis of Excessiveness Expressions*

Yuki Ito

University of Tokyo

1. Introduction

Recent studies in phrase structure of natural languages have revealed the necessity to posit various functional projections on top of lexical projections. One of the major proposals on this line is the so-called 'DP (Determiner Phrase) analysis', which takes a D (Determiner) to be the head of a nominal expression. In the adjectival domain, the existence of DegP (Degree Phrase) has been advocated since the first proposal in Abney (1987). According to this 'DegP analysis', pre-adjectival degree words such as *too*, *as*, *so*, *how* are considered to be functional heads taking AP as its complement. In the field of Japanese linguistics, however, it has been claimed that DegP does not exist in this language, based on the *prima facie* absence of Deg^0 items in this consistently head-final language[1] (See Ishii (1993), Snyder et al. (1995), Beck et al. (2004)).

This paper focuses on the excessiveness expressions formed with -*sugi*. *Sugi*(*ru*) is a verb, meaning 'to pass' or 'to exceed', as shown in (1).

(1) a. San-nen-ga   sugi-ta.
       three-year-NOM   pass-PAST
       'Three years have passed.'
     b. Joodan-ga   sugi-ta.
       joke-NOM   exceed-PAST
       '(I) took a joke too far.'

It can also attach to an adjective, as in (2), and denote excessiveness.

(2) a. Kono   hon-wa   omosiro-sugi-ru.
       this   book-TOP   interesting-**sugi**-PRES
       'This book is too interesting.'
     b. Taroo-wa   yasasi-sugi-ru.
       Taro-TOP   kind-**sugi**-PRES
       'Taro is too kind.'

In the following, I refer to these cases as A-*sugi*(*ru*) constructions.

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[1] Most of the degree words in this language occur in a pre-adjectival position.
(i)   Ie-ga   totemo   ookii.
       house-NOM   very   big
       'The house is very big.'
(ii) a. Ie-ga   dore-kurai   ookii-no?
       house-NOM   which-degree   big-Q
       'How big is the house?'
     b. Dore-kurai   ie-ga   ookii-no?
       Lit. 'How is the house big?'
Notice that *wh*-questions of degree in Japanese are not subject to the Left Branch Constraint.

The aim of this paper is to argue that DegP does exist in Japanese, proposing that -*sugi*, which has been analyzed as a raising verb, is an overt manifestation of DegP in head format. I show that, when -*sugi* takes a negated complement, an affix -*sa* is obligatorily inserted. This phenomenon of *sa*-support, which has not been systematically investigated before, is taken up as the main evidence for the proposal submitted in this paper.

Interestingly, -*sugi* also attaches to a verb, and denotes excess.

(3) a. Taroo-ga   ne-sugi-ta   (koto)[2].
　　　Taro-NOM   sleep-**sugi**-PAST fact
　　　'Taro slept too long.'

　　b. Hanako-ga   kaimono-ni   iki-sugi-ta   (koto).
　　　Hanako-NOM   shopping-to   go-**sugi**-PAST   fact
　　　'Hanako went shopping too many times.'

I call these cases V-*sugi*(*ru*) constructions and propose that it is necessary to posit DegP in the verbal domain, as well.

The organization of this paper is as follows. Section 2 discusses DegP projection in the adjectival domain. As a basis for the discussion, Corver's (1997) analysis of the extended adjectival projection in English is introduced, and we look into the A-*sugi*(*ru*) construction in Japanese. I present several pieces of empirical evidence to support the analysis, and *sa*-support phenomenon is systematically accounted for by this DegP analysis. In section 3, I briefly discuss DegP projection in the verbal domain. I show that *sa*-support operation also applies in V-(*sugi*)*ru* constructions, supporting the adequacy of the DegP approach in the verbal domain. Section 4 summarizes the discussion and makes some concluding remarks on DegP projection in Japanese.

2. DegP Projection in the Adjectival Domain

2.1. DegP Projection and Much-support in English

Analyzing the contrast in (5)-(6), Corver (1997) proposes to distinguish between determiner-like degree items (Deg^0) such as *so*, *as*, *too*, *how* and quantifier-like degree items (Q^0) such as *more*, *less*, *enough* and, following the spirit of Bresnan (1973), he proposes the 'split degree system hypothesis,' schematized in (4).

(4) Split Degree System Hypothesis
　　　[$_{DegP}$ Deg [$_{QP}$ Q [$_{AP}$ A]]]
　　　Deg: too, as, so, how
　　　Q: more, less, enough

(5) a. John is **fond of Mary**. Bill seems much less (*much) **so**.
　　b. Of all the **careless** people, no one is more (*much) **so** than Bill.
　　c. John is **good at mathematics**. He seems enough (*much) **so** to enter our graduate program.

(6) a. John is **fond of Mary**. Maybe he is too *(much) **so**.
　　b. John is **fond of Mary**. Maybe he is as *(much) **so** as Bill.
　　c. The weather was **hot** in Cairo─so *(much) **so** that we stayed indoors all day.
　　d. John told me he was **afraid of spiders**, but I wonder how *(much) **so** he really is.

(Corver (1997: (21)(23)(24)))

Sentences (5) remarkably contrast with sentences in (6); *much* must appear when degree items *too*, *as*, *so*, *how*

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[2] *Koto* 'the fact that' is added to the end of the example sentence to avoid the unnaturalness resulting from the lack of topic in a matrix sentence. I ignore *koto* in the translation.

take the pro-form *so* as its complement whereas *much* cannot appear in the case of *more, less, enough*.

As a basis for his analysis, Corver (1997), extending the concept of θ-binding in Higginbotham (1985), posits an operator-variable relation between a degree word and an adjective. In his system, a degree item occupying Deg^0 or Q^0 functions as an operator and binds the Deg variable G (Grade), which an adjectival predicate contains as its referential argument.

(7) $[_{QP}$ more/less$_i$ $[_{AP}$ intelligent$_{<Gi>}]]$
        $[_{QP}$ more/less$_i$ $[_{AP}$ so$_{<Gi>}]]$

The key here is that like many other licensing relations, this operator-variable relation obeys locality conditions. In (7), this locality is realized as a local head-head relation between the Deg operator Q^0 and A^0. In the case of *so, as, how, too*, however, this locality requirement cannot be satisfied because of the intervening null Q head as shown in (8a). In the configuration (8a), the lexically empty Q^0 is a closer potential binder for the adjective and hence blocks the binding by the higher Deg^0 because of Relativized Minimality. Therefore, Corver (1997) claims, in order to obtain a proper configuration, A^0-to-Q^0 raising operation applies as diagrammed in (8b).

(8)   a. $[_{DegP}$ too/as/so/how $[_{QP}$ e $[_{AP}$ intelligent$_{<G>}]]]$

      b. $[_{DegP}$ too/as/so/how$_i$ $[_{QP}$ intelligent$_{<Gi>K}$ $[_{AP}$ t_k $]]]$

Unlike in (8), in (9) where *so*-pronominalization takes place, the A^0-to-Q^0 raising operation cannot apply. As a last resort, the dummy-quantifier *much* is inserted in the Q^0 position and copies the Deg variable associated with the pro-form *so*. Thus, the Deg variable is in a minimal configuration with the Deg^0, enabling the Deg^0 to bind a Deg variable.

(9)   *$[_{DegP}$ too/as/so/how $[_{QP}$ e $[_{AP}$ so$_{<G>}]]]$
        $[_{DegP}$ too/as/so/how$_i$ $[_{QP}$ much$_{<Gi>}$ $[_{AP}$ so$_{<Gi>}]]]$

Corver (1997) refers to this operation as *much*-support by analogy with *do*-support, which is also a language-particular rule, and hence most costly, used as a last resort.

To summarize this section, pre-adjectival degree words are functional heads taking AP as its complement. Each Deg^0 and Q^0 item functions as a Deg operator binding a Deg variable associated with adjectives. This operator-variable relation obeys locality conditions and hence, when an Deg operator and a Deg variable are not in a minimal configuration, an adjective containing a Deg variable raises to Q^0 position, in order to obtain a proper configuration (see (8)), and, in cases where the raising operation cannot apply, *much*-support applies as a last resort (see (9)).

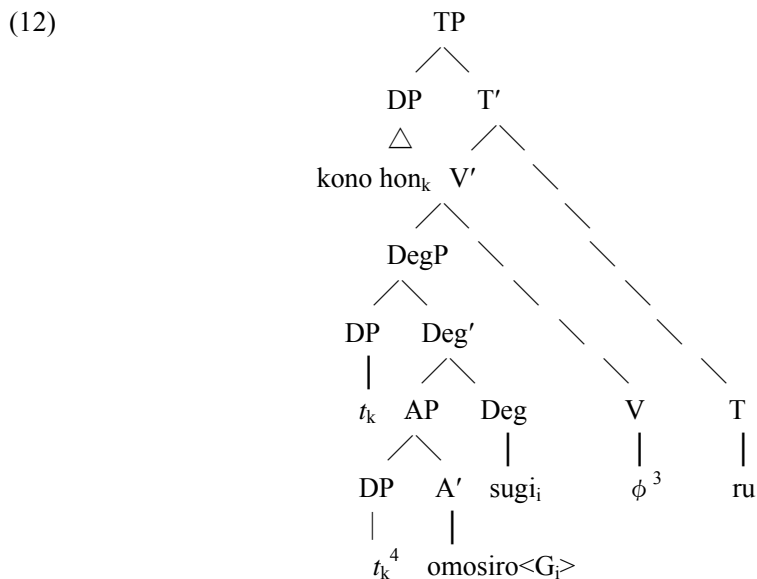## 2.2. A-*sugi(ru)* Construction in Japanese

In this section, I focus on the A-*sugi(ru)* construction in Japanese as in (10).

(10)   Kono   hon-wa   omosiro-sugi-ru.
         this   book-TOP   interesting-**sugi**-PRES
         'This book is too interesting.'

Compared to the V-*sugi(ru)* construction, which will be taken up in section 3, the A-*sugi(ru)* construction has received much less attention in the literature, but drawing the analogy with the prevalent analysis of the V-*sugi(ru)* construction where *-sugi* is considered to be a raising verb taking VP as its complement (Sugioka (1984), Kageyama (1993), Yumoto (1997)), the hypothesis would be that *-sugi* is a raising predicate that takes a small clause complement, as schematized in (11).

(11)   [$_{TP}$ [$_{VP}$ [$_{SC}$ [$_{DP}$ kono hon] omosiro] sugi] ru]

I will pursue a different approach. Following the DegP analysis reviewed in the last subsection, I posit *-sugi* as a functional Deg^0 item and assign the structure (12).

(12)

There are three pieces of empirical evidence suggesting that *-sugi* should be treated as a functional Deg^0 item rather than a raising verb. First, A-*sugi(ru)* constructions are not compatible with the *su*-support operation in so-called predicate focus constructions. It is well known that Japanese exhibits a *su*-support operation in predicate focus constructions (Aoyagi (2006), Kubo (1992), and others). In predicate focus constructions, an emphatic particle such as *sae* 'even', *mo* 'also', or *wa* 'at least' separates a verb stem from the tense affix and then, in order to rescue the stranded tense affix, *su* 'do' is inserted, as shown in (13).

(13) a.   Taroo-ga   susi-o   tabe-{sae/mo/wa}   si-ta.
          Taro-NOM   sushi-ACC   eat-{even/also/at least}   do-PAST
          'Taro {even/also/at least} ate sushi.'

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[3] I assume that a covert copula-like predicate occupies this position. As noted above, *-sugi* originates as a verb and, on the assumption here, has been grammaticalized as a function word. It is widely argued that, when content words are grammaticalized into functors, there is a cross-linguistic tendency for them to retain their morphological properties (See Hopper and Traugott (2003)). Hence, I tentatively conclude that some morphological property associated with *-sugi* blocks the overt realization of a copula verb.

[4] Quite tentatively, I assume that a subject is initially merged predicate-internally, and then moves step by step to [Spec, TP]. This is not relevant to the discussion here. Besides, I adopt the multiple specifier theory of Chomsky (1995), as a phrase specifying a difference value (e.g., *sukosi* 'a little' below) is also assumed to occupy the position of [Spec, DegP] (cf. Kikuchi (2002), Neeleman et al. (2004)).

(i)   Kono   hon-wa   sukosi omosiro-sugi-ru.
       this   book-TOP   a.little interesting-DEG-PRES
       'This book is a little too interesting.'

b. Hanako-ga   tegami-o   kaki-wasure-{sae/mo/wa}   si-ta.
   Hanako-NOM letter-ACC write-forget-{even/also/at least} do-PAST
   'Hanako {even/also/at least} forgot to write a letter.'

With this basic fact in mind, let us observe the sentences (14).

(14) a. *Kono   syoosetu-wa naga-sugi-{sae/mo/wa}   su-ru.
        This   novel-TOP   long-sugi-{even/also/at least} do-PRES
        Lit. This novel is {even/also/at least} too long.
     b. *?Miti-ga   hiro-sugi-{sae/mo/wa}   si-ta.
        road-NOM wide-sugi-{even/also/at least} do-PAST
        Lit. The road was {even/also/at least} too wide.'

The data in (14) show that A-*sugi*(*ru*) constructions are not compatible with the *su*-support operation. This cannot be made sense of if -*sugi* is regarded as a raising verb[5]. On the other hand, in the functional head analysis proposed here, the data (14a-b) automatically follow[6].

   Second piece of evidence comes from the fact that A-*sugi*(*ru*) constructions cannot occur in a position where verbs are normally allowed. An embedded clause selected by *hosi*(*i*) 'want' provides a case in point. Kishimoto (2007) discusses that *hosi*(*i*) imposes a restriction on its complement clause to the effect that it is a verbal clause.

(15) a. John-wa   Mary-ni   ki-te/hasit-te   hosikat-ta.
        John-TOP Mary-DAT come-TE/run-TE   want-PAST
        'John wanted Mary to come/run.'
     b. John-wa   kono-hon-ga   ure-te   hosikat-ta.
        John-TOP this-book-NOM sell.can-TE   want-PAST
        'John wanted this book to sell well.'
     c. *John-wa   Mary-ga   utukusiku-te   hosikat-ta.
        John-TOP Mary-NOM   beautiful-TE   want-PAST
        'John wanted Mary to be beautiful.'   (Kishimoto (2007: (26)-(27)))

Sentences (15a-b) are well-formed, but (15c) is ungrammatical. This contrast can be ascribed to the categorial difference of the complement clauses; the embedded clause is verbal in (15a-b) but adjectival in (15c).
With this in mind, let us observe the following sentences.

(16) a. ? Taroo-wa Hanako-ga   kakuteru-o   nomi-sugi-te   hosikat-ta.
        Taro-TOP Hanako-NOM cocktail-ACC drink-sugi-TE   want-PAST
        'Taro wanted Hanako to drink too much cocktail.'

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[5] One may suspect that the lack of agentivity causes the ungrammaticality, but in fact the agentivity of a subject is not necessary for the *su*-support operation, as pointed out in Kubo (1992).
(i)   Hanako-wa   eigo-ga   wakari-sae   su-ru.
      Hanako-TOP English-NOM understand-even do-PRES
      'Hanako even understands English.'
(ii) Hanako-wa   okane-ga   iri-sae   si-ta.
      Hanako-TOP money-NOM need-even do-PAST
      'Hanako even needed money.'   (Kubo (1992: (8b), (9b)))
[6] Compare the compatibility of the *su*-support operation with V-*sugi*(*ru*) constructions.
(i)   Taroo-ga   biiru-o   nomi-sugi-{sae/mo/wa}   si-ta.
      Taro-NOM beer-ACC drink-sugi-{even/also/at least} do-PAST
      'Taro {even/also/at least} drank too much beer.'

b. ?Taroo-wa ame-ga   huri-sugi-te   hosikat-ta.
   Taro-TOP rain-sugi-TE   want-PAST
   'Taro wanted it to rain too much.'

c. *Taroo-wa Hanako-ga   utukusi-sugi-te   hosikat-ta.
   Taro-TOP Hanako-NOM beautiful-sugi-TE want-PAST
   'Taro wanted Hanako to be too beautiful.'

d. *Taroo-wa atarasii-heya-ga hiro-sugi-te   hosikat-ta.
   Taro-TOP new-room-NOM   large-sugi-TE want-PAST
   'Taro wanted the new room to be too large.'

The ill-formedness of (16c-d) shows that A-*sugi*(*ru*) constructions do not count as a verbal clause, but as an adjectival one. Notice that their counterparts in the V-*sugi*(*ru*) construction (i.e. (16a-b)) are well-formed[7]. This contrast cannot be explained on the assumption that -*sugi* is a raising verb, thus lending empirical support to the functional head analysis.

    Further motivation for positing -*sugi* as a functional Deg head comes from the following facts on the (un)acceptability of co-occurrence with a copula -*da*.

(17) a. *Kono   hon-wa   [$_{AP}$ omosiro]-da.
      this   book-TOP interesting-is
      Lit. 'This book is interesting.'

   b. Taroo-wa [$_{NAP}$ sinsetsu]-da.
      Taro-TOP kind   is
      'Taro is kind.'

   c. Taroo-wa [$_{NP}$ ii-hito]-da.
      Taro-TOP good-man is
      Taro is a good man.'

(18) a. *?Kono hon-wa [$_{AP}$ omosiro]-sugi-da.

   b. Kare-wa [$_{NAP}$ sinsetsu]-sugi-da.

   c. Kare-wa [$_{NP}$ ii-hito]-sugi-da.

As shown in (17), a copula verb -*da* is known to co-occur with Nominal Adjectives (17b) and Nouns (17c), but not with Adjectives (17a). (18) shows that the same selectional restrictions hold in -*sugi* constructions[8]. Hence, it is clear that the categorial properties of the inner lexical heads project to the outer functional projections headed by -*sugi*, which is in accordance with the usual principle by which categorial information projects through the extended projections (Grimshaw 1991). The contrast shown in (18) cannot be accounted for by the analysis regarding -*sugi* as a verb.

2.3 Sa-support in Japanese

    Now that the grammatical status of -*sugi* is identified as Deg^0, let us next consider peculiar facts about the A-*sugi*(*ru*) construction, as shown in (19).

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[7] The sentences sound somewhat odd, owing to the semantic mismatch between the negative connotation (associated with -*sugi*) and *hosi*(*i*).

[8] Note that V-*sugi*(*ru*) constructions can also co-occur with the copula -*da*.

(i)   Taroo-wa sake-o   nomi-sugi-da.
      Taro-TOP alcoholic.drink-ACC drink-**sugi**-is

I propose that, in these cases, verbs are in gerundive forms. Notice that verbs can assign accusative case in these cases.

(19) a. Kono hon-wa omosiro-ku-na-*(sa)-sugi-ru.

        this book-TOP interesting-ku[9]-NEG-**sa**-DEG-PRES

        'This book is too uniteresting.'

        (Lit. 'This book is too not-intersting.')

    b. Taroo-wa kasiko-ku-na-*(sa)-sugi-ru.

        Taro-TOP intelligent-ku-NEG-**sa**-DEG-PRES

        'Taro is too unintelligent.'

        (Lit. 'Taro is too not-intelligent.')

The data show that, when -*sugi* takes a negated complement, an affix -*sa* obligatorily appears[10]. The affix -*sa* is known as a nominalizer.

(20) a. [$_A$ utukusi]-sa   'beautiful-ness'

    b. [$_A$ taka]-sa   'high-ness'

    c. [$_{NA}$ odayaka]-sa   'calm-ness'

    d. [$_{NA}$ sizuka]-sa   'quiet-ness'

I propose that an affix -*sa* is inserted to salvage a Deg operator -*sugi* that would otherwise remain vacuous in violation of LF interface conditions. Adopting the view that negation has a quantificational structure (Beck (1996), Kratzer (1989), Rizzi (2004)), I assume that Neg^0 functions as a Deg operator which denotes that the referent's degree of 'adjectiveness' lies below a contextually-determined standard degree. Since Neg^0 counts as a potential binder for a Deg variable, the more local binder Neg^0 binds the Deg variable associated with the adjective, owing to Relativized Minimality[11]. Consequently, the Deg^0 remains as a vacuous quantifier, and hence would be an illegitimate entity at LF.

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[9] To identify the grammatical status of -*k*(*u*) following an adjective is a perennial issue in the field of Japanese linguistics. Following the proposal in Larson and Yamakido (2002, 2008) and Yamakido (2000), I tentatively assume that it is a case morpheme heading its own projection Case phrase (CaseP). Besides, I take the view in Nishiyama (1999, 2005) that /u/ is an epenthetic vowel.

[10] A modal word -*soo* 'seem' shows a parallel morphology.
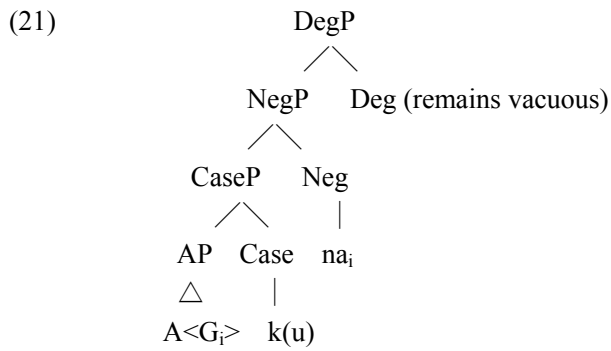
(i)   Kono hon-wa omosiro-soo-da.

          this book-TOP interesting-seem-is

          'This book seems interesting.'

(ii)   Kono hon-wa omosiro-ku-na-sa-soo-da.

          this book-TOP interesting-ku-NEG-**sa**-seem-is

          'This book seems uninteresting.'

I assume that the analysis provided for -*sugi* also applies to this word.

Note that -*soo* and -*sugi* cannot co-occur in a sentence.

(iii)   *Kono hon-wa omosiro-soo-sugi-ru.

          this book-TOP interesting-seem-DEG-PRES

(iv)   *Kono hon-wa omosiro-sugi-soo-da.

          this book-TOP interesting-DEG-seem-is

(v)   *Kono hon-wa omosiroku-na-sa-soo-sugi-ru.

          this book-TOP interesting-ku-NEG-sa-seem-DEG-PRES

(vi)   *Kono hon-wa omosiro-ku-na-sa-sugi-soo-da.

          this book-TOP interesting-ku-NEG-sa-DEG-seem-is

[11] Note that, despite the presence of the intervening CaseP projection, A^0 and Neg^0 are in a minimal configuration, for $Case^0$ is not a potential binder for A^0.

(21)
```
                        DegP
                      /      \
              NegP        Deg (remains vacuous)
             /    \
        CaseP      Neg
        /   \       |
      AP    Case   na_i
      △      |
   A<G_i>   k(u)
```

In this line of reasoning, I claim that an affix *-sa* introduces a Deg variable to be bound by the Deg^0 *-sugi*[12]. It is a natural conjecture in view of its normal usage shown in (20).

(22)
```
                      DegP
                    /      \
              SaP        Deg_j
             /    \
        NegP       sa<G_j>
        /    \
    CaseP     Neg
    /   \      |
  AP    Case  na_i
  △      |
A<G_i>  k(u)
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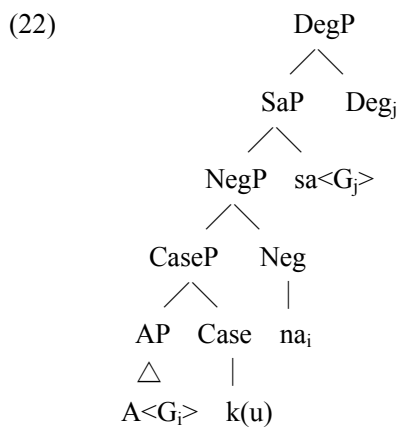
Thus, the Deg^0 *-sugi* successfully binds the Deg variable in a local configuration. The structure of (19a) is as in (23).

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[12] Specifically, I assume that *-sa* introduces a Deg variable associated with a property denoted by its complement (i.e., NegP in (22)).

(23)

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                        TP
                       /  \
                     DP    T′
                     △    /  \
              kono hon_k  VP   T
                         /  \  |
                      DegP   V  ru
                      /  \   |
                    DP   Deg′ φ
                    |    /  \
                   t_k  SaP^13  Deg
                       /  \      |
                    NegP   sa   sugi_j
                    / \   <G_j>
                CaseP  Neg
                /  \    |
              AP    Case na_i
             /  \    |
           DP   A′   k(u)
           |    |
          t_k  omosiro
               <G_i>
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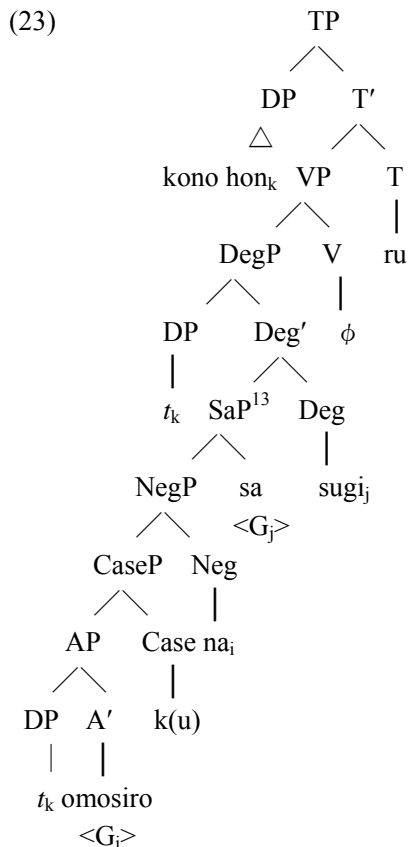
I refer to this operation as *sa*-support by analogy with *much*-support in Corver (1997), because they are analogous in that both operations are necessitated to obtain a proper operator-variable relation in DegP projection.

To sum up this section, I have proposed to posit *-sugi* as a functional Deg^0 item taking AP as its complement. Based on this functional head hypothesis, I have provided a systematic account for the appearance of an affix *-sa* in cases where *-sugi* takes a negated complement. Neg^0 binds a Deg variable associated with an adjective, hence the Deg^0 remains vacuous. To evade vacuous quantification, an affix *-sa* is inserted and introduces a Deg variable to be bound by the Deg^0, thus yielding a proper output for semantic component.

3. DegP Projection in the Verbal Domain

It has been assumed that *-sugi* in the V-*sugi*(*ru*) construction such as (24) is a raising verb that takes VP as its complement (Sugioka 1984, Kageyama 1993, Yumoto 1997, Nakanishi 2007).

(24)   Taroo-ga   ne-sugi-ta   (koto).
        Taro-NOM   sleep-sugi-PAST   fact
        'Taro slept too long.'

Now, let us see what happens when *-sugi* takes a negated complement.

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[13] By inserting an affix *-sa*, NegP becomes nominalized. Compare (ia) with the unacceptable (18a) repeated here as (ib).
(i)   a.   Kono hon-wa omosiro-ku-na-sa-sugi-da.
       b. *? Kono hon-wa omosiro-sugi-da.
An anonymous reviewer points out that, in this logic, the sentence as in (ii) is predicted to be grammatical by the nominalization, contrary to fact.
(ii)   ＊Kono hon-wa omosiro-sa-sugi-da.
The ungrammaticality of (ii) shows that the insertion of an affix *-sa* is a costly operation.

(25)   Taroo-ga ne-na-*?(sa)-sugi-ta (koto).

        Taro-NOM sleep-NEG-sa-sugi-PAST (koto)

        'Taro slept too little.'

Interestingly, an affix -*sa* is obligatorily inserted when -*sugi* takes a negated complement in the V-*sugi*(*ru*) construction[14]. For this reason, I propose that it is necessary to posit DegP projection in the verbal domain, as well.

   Notably, postulation of DegP in the verbal domain is advocated by Morzycki (2006) on independent grounds. Morzycki proposes to posit DegP projection cross-categorially, focusing on the similarity between the licensing of measure phrases (MP) in AP and PP on the one hand (26), and the atelicity restriction which temporal modifiers impose on the verbs they modify, on the other hand (27).

(26)   The enormous vulture is 3 feet ⎰ long / *short / above the barn / *near the barn ⎱ .   (Morzycki 2006: (2))

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[14] Some informants accept *sa*-dropped forms, as shown below.

(i)   Taroo-ga   daigaku-ni   ika-na-?(sa)-sugi-ta   (koto).

        Taro-NOM   college-to   go-NEG-DEG-PAST   fact

        'Taro went to college too rarely.'

(ii)   Taroo-ga   yasai-o   tabe-na-??(sa)-sugi-ru   (koto).

        Taro-NOM   vegetables-ACC   eat-NEG-DEG-PRES   fact

        'Taro eats vegetables too rarely.'

I propose that this *sa*-drop phenomenon is a matter of morphology; that is, -*sa* is dropped after the derivation is handed over to the PF component. The reason for this morphological treatment comes from the observation that generally *sa*-dropped forms are more acceptable in consonant-ending verbs than in vowel-ending verbs. Relevant data are below.

consonant-ending verbs

(iii)   Taroo-ga   hataraka-na-(?sa)-sugi-ru   (koto).

        Taro-NOM   work-NEG-sa-DEG-PRES   fact

        'Taro works too rarely.'

(iv)   Hanako-ga   aruka-na-(?sa)-sugi-ru   (koto).

        Hanako-NOM   walk-NEG-sa-DEG-PRES   fact

        'Hanako walks too little.'

(v)   Taroo-ga   sake-o   noma-na-(sa)-sugi-ru   (koto).

        Taro-NOM   alcoholic.drink-ACC   drink-NEG-sa-DEG-PRES   fact

        'Taro drinks too rarely.'

(vi)   Taroo-ga   sina-na-(?sa)-sugi-ru   (koto).

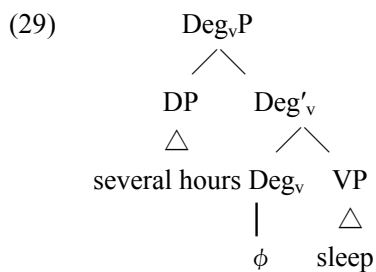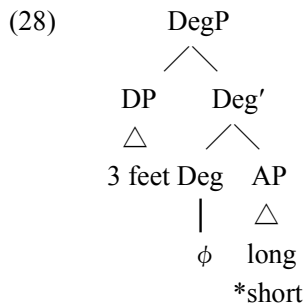   Taro-NOM   die-NEG-sa-DEG-PRES   fact

        'Taro dies too rarely.'

vowel-ending verbs

(vii)   Taroo-ga   oki-na-*?(sa)-sugi-ru   (koto).

        Taro-NOM   get.up-NEG-sa-DEG-PRES   fact

        'Taro simply doesn't get up.'

(viii) Hanako-ga   nyuusu-o mi-na-*?(sa)-sugi-ru   (koto).

        Hanako-NOM   news-ACC watch-NEG-sa-DEG-PRES   (fact)

        'Hanako watches the news too rarely.'

(ix)   Taroo-ga   ne-na-*?(sa)-sugi-ta   (koto).

        Taro-NOM sleep-NEG-sa-DEG-PAST (koto)

        'Taro slept too little.'

(x)   Hanako-ga   suupu-ni sio-o   ire-na-*?(sa)-sugi-ta   (koto).

        Hanako-NOM   soup-into salt-ACC   put-NEG-sa-DEG-PAST   (fact)

        'Hanako put too little salt into the soup.'

I tentatively conclude that the three-time repetition of /a/ vowel in consonant-ending verbs causes some morphological problem, leading to *sa*-drop phenomenon.
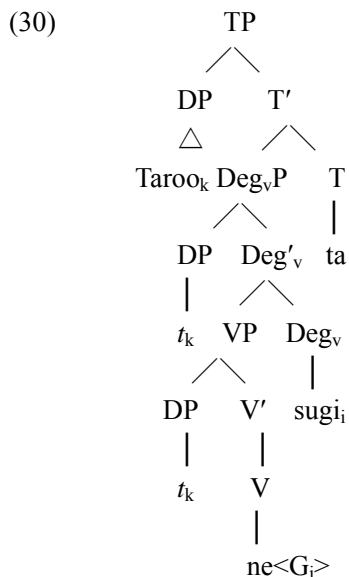
(27) Floyd { slept / *built a bridge / *died } { 20 minutes / several hours }.

(Morzycki (2006: (1)))

Just as MP modifying AP or PP is analyzed as occupying a specifier position of DegP, Morzycki places temporal modifiers in the specifier of Deg$_v$P[15].

(28)
```
              DegP
             /    \
          DP      Deg′
          △       /   \
       3 feet   Deg    AP
                 |      △
                 ϕ    long
                     *short
```

(29)
```
                 Deg_vP
                /      \
             DP        Deg′_v
             △         /     \
      several hours  Deg_v    VP
                      |        △
                      ϕ      sleep
```

(Morzycki (2006: (24))slightly modified)

Following Morzycki (2006), I claim that *-sugi* in the V-*sugi*(*ru*) construction is a functional Deg$_v$ item and assign a structure (30) for (24).

(30)
```
                    TP
                   /   \
                DP      T′
                △       /  \
           Taroo_k  Deg_vP   T
                    /    \    |
                  DP    Deg′_v  ta
                  |      /  \
                 t_k   VP   Deg_v
                      /  \    |
                    DP   V′  sugi_i
                    |    |
                   t_k   V
                         |
                      ne<G_i>
```

Compared to Deg$_v$P constructions analyzed in Morzycki (2006), V-*sugi*(*ru*) constructions yield various readings such as duration, quantity, and frequency, as has been discussed in preceding studies (e.g. Yumoto (1997, 2005),

---

[15] He assumes that the surface order is obtained by verb movement.
(i)   sleep$_i$ [$_{DegvP}$ several hours Deg$_v$ [$_{VP}$ t_i]]

Nakamura (2003), Nakanishi (2007), Imoto (2008)). I tentatively assume that this variability of interpretation is caused by the fact that verbs, unlike adjectives, assume gradability along multiple scales. However, the exact process of the semantic interpretation is beyond the scope of this paper.

4. Concluding Remarks

This paper focuses on the excessiveness expressions formed with -*sugi*. I have shown that -*sugi* is an overt realization of Deg^0 in the extended adjectival projection. I have presented three pieces of empirical evidence denying the verbal status of -*sugi*.   In addition, I have shown that, when -*sugi* takes a negated complement, an affix -*sa* is obligatorily inserted. Adopting the 'DegP analysis' allows this phenomenon to be explained in terms of Relativized Minimality. Following the proposal in Corver (1997), I posit an operator-variable relation between Deg^0 and A^0. I have argued that the insertion of the affix -*sa* introduces a Deg variable to be bound and thereby salvages the Deg operator that would otherwise remain vacuous in violation of interface conditions.

This DegP analysis is opposite to the widely-held view that DegP does not exist in Japanese (Ishii 1993, Snyder et al. 1995, Beck et al. 2004). Primary characteristics of the overt degree words in Japanese are (i) their pre-adjectival position and (ii) the status as a maximal projection.

(31) a. Ie-ga   totemo ookii.
         house-NOM   very   big
    a′. Totemo ie-ga   ookii.
         very   house-NOM   big
         'The house is big.'
    b.   Ie-ga   dore-kurai   ookii-no?
         house-NOM   which-degree big-Q
    b′. Dore-kurai   ie-ga   ookii-no?
         which-degree house-NOM   big-Q
         'How big is the house?'

Based on the DegP analysis, I deduce that these degree words occupy a specifier of the DegP headed by a phonetically null Deg[16].

As a conclusion of the argumentation in this paper, I propose (32) as the structure of the Japanese extended adjectival projection.

(32)
```
            DegP
           /    \
       CaseP     Deg
       /   \
     AP     Case
     △
```
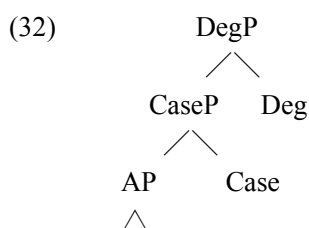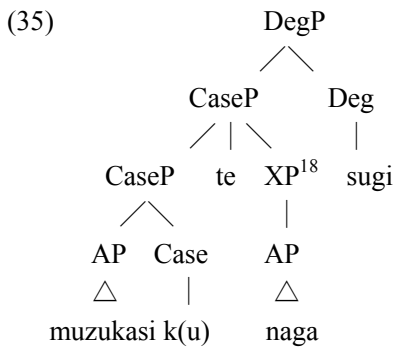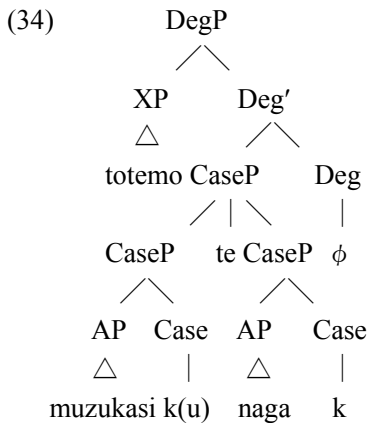
The adequacy of placing DegP on top of CaseP is corroborated by the structural ambiguity as shown in (33).

(33) a. Kare-no sakuhin-wa   totemo [CaseP [AP muzukasi]-ku] te   [CaseP [AP naga]-k]-at-ta.
         his   work-TOP   very   difficult-Case and   long-Case-be-PAST
         '(i) His work was [very difficult] and long.'
     OR '(ii) His work was very [difficult and long].'

---

[16] Baker (2003) mentions this possibility.

b. Kare-no sakuhin-wa [CaseP [AP muzukasi]-ku] te   [AP or CaseP[17] naga]-sugi-ta.
    his   work-TOP   difficult-Case   and   long too-PAST
    '(i) His work was [too difficult] and long.'
OR '(ii) His work was too [difficult and long].'

The sentences in (33) have ambiguous readings. Crucially, for the sentences to yield the reading in (ii), Deg^0 must be in a position structurally high enough to c-command both CasePs.

(34)
```
            DegP
           /  \
        XP      Deg'
        /\      /  \
    totemo  CaseP   Deg
            /|\      |
        CaseP te CaseP  φ
         /\      /\
      AP  Case AP  Case
      /\    |  /\    |
  muzukasi k(u) naga  k
```

(35)
```
              DegP
             /  \
         CaseP    Deg
         /|\       |
     CaseP te XP[18]  sugi
      /\        |
   AP  Case    AP
   /\    |     /\
muzukasi k(u) naga
```

Thus, the ambiguity of the sentences (33) empirically supports the placement of DegP above CaseP.

   This paper further argues that it is necessary to posit DegP projection in the verbal domain, as well. Unlike adjectives, verbs assume gradability along multiple scales, as a result of which V-*sugi*(*ru*) constructions yield various readings. I have shown that *sa*-support operation also applies in the V-*sugi*(*ru*) construction, thus lending support to the DegP analysis in the verbal domain.

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[17] I leave open the question whether (i) CaseP projection exists, headed by a phonetically null Case^0, or (ii) CaseP is simply not projected in the complement of *-sugi*.
[18] See the footnote 17.

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