

Non-local use of the Japanese excessive marker *sugi* as an overtly QRed degree quantifier

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1 Introduction

This squib deals with what I refer to as the non-local use of *sugi* ‘too’ in Japanese, as exemplified in the following sentence.

- (1) Bill-ga ookii keeki-o yaki-**sugi**-ta.
Bill-NOM big cake-ACC bake-SUGI-PAST
‘Bill baked a cake that was too big.’

Just like English *too*, *sugi* expresses excessiveness in the degree associated with a gradable predicate. What is peculiar about the non-local use of *sugi* is that it is syntactically remote from the relevant gradable predicate whose degree it predicates of as excessive.

[Nakanishi \(2007\)](#) treats the non-local use of *sugi* as in (1) as expressing excessiveness in the cardinality of events. However, this analysis is problematic since the degree that is predicated of as excessive in a non-local use of *sugi* (e.g., the size of the cake in (1)) does not have to correlate with the cardinality of events (e.g., the number of cake-baking in (1)).

I will argue in this squib that the non-local use of *sugi* arises from an overt Quantifier Raising (QR) of *sugi* as a degree quantifier from the degree argument position of a gradable predicate to its surface position. Not only does this account capture the correct truth conditions of (1), but it also accounts for otherwise mysterious syntactic and semantic restrictions on non-local *sugi* (obligatory indefiniteness and clause boundedness, see §2.3), given general restrictions on QR.

If successful, the analysis serves as a new piece of evidence for the existence of overt QR, which has been put forward by [Fox & Nissenbaum \(1999\)](#). The local and non-local use of *sugi* simply correspond to the covert and overt movement of the degree quantifier.

Furthermore, to the extent that the proper analysis of the non-local *sugi* crucially requires degree quantification in Japanese, it provides an argument against the claim that degree quantification is absent in Japanese (Beck et al. 2004, Kennedy 2007b).

2 Data: the local and non-local use of *sugi*

2.1 The local use

The verb *sugi* in Japanese means ‘exceed’ or ‘pass’ when used as a main verb, as shown in (2).

- (2) Juuichi-gatsu-ga **sugi**-ta.
November-NOM pass-PAST
‘November has passed.’

In addition to its use as a main verb, *sugi* can attach to an adjective or to a degree achievement verb to express excessiveness in the degree associated with a gradable expression. I refer to this use of *sugi* as the LOCAL USE. The examples of the local use are given below.

- (3) Kono boo-wa naga-**sugi**-te tsuka-e-nai.
this stick-TOP long-SUGI-and use-able-NEG
‘This stick is too long, and so we cannot use it.’
- (4) Mary-wa sono-himo-o nobasi-**sugi**-ta.
Mary-TOP that-string-ACC lengthen-SUGI-PAST
‘Mary lengthened the string too much.’

In (3), *sugi* attaches to the adjective *naga(i)* ‘long’, and expresses an excessiveness in the stick’s length. In (4), *sugi* attaches to the degree achievement *nobas* ‘lengthen’, and the sentence conveys that the degree to which Mary lengthened the string was too much.

2.2 The non-local use

In the non-local use, *sugi* is syntactically attached to a verb, but is semantically associated with a gradable adverb that modifies the VP (or *vP*) or with a gradable adjective that modifies the object of the verb that *sugi* attaches to. The example in (5) is an adverb case while those in (6) are the adjective cases. Below, the gradable predicates that *sugi* is semantically associated with are underlined.

- (5) John-wa kyou hayaku oki-**sugi**-ta.
John-TOP today early get.up-SUGI-PAST
‘John got up too early today.’

- (6) a. Bill-ga ookii keeki-o yaki-**sugi**-ta.
 Bill-NOM big cake-ACC bake-SUGI-PAST
 ‘Bill baked a cake that was too big.’
- b. Ken-wa erai chichi-o mochi-**sugi**-ta-node pressyaa-o kanji-ta.
 Ken-TOP great father-ACC have-SUGI-PAST-so pressure-ACC feel-PAST
 ‘Because Ken had a father who was too great, he felt pressure.’

In (5), although *sugi* attaches to the verb *oki* ‘get up’, the sentence expresses the excessiveness in the earliness of John’s getting up. That is, the interpretation is such that *sugi* operates on the degree associated with the adverb *hayaku* ‘early’. In (6a), on the other hand, although *sugi* attaches to the verb *yak* ‘bake’, it is semantically associated with the adjective modifying the object, expressing excessiveness in the size of the cake that Bill baked.¹

Yumoto (2005) claims that the non-local use is impossible if the relevant adjective is modifying the subject, irrespective of whether the verb is unaccusative or unergative. However, I disagree with Yumoto’s judgments with regard to the unaccusative cases. An adjective modifying an unaccusative subject *can* be associated with a non-local *sugi*, as shown in (7c-7d), although those modifying a transitive or an unergative subject cannot, as shown in (7a-7b).²

¹There are other readings of verb-*sugi* constructions that are not associated with overt degree predicates, namely the reading in which *the cardinality of events* described by the sentence is predicated of as excessive, as in (i), and that in which *the cardinality of event participants* is predicated of as excessive, as in (ii).

- (i) Kare-wa musuko-o tataki-**sugi**-ta.
 he-TOP son-ACC hit-SUGI-PAST
 ‘He hit his son too many times.’
- (ii) Mado-ga hiraki-**sugi**-teiru-kara samui. Hitotsu-dake ake-nasai.
 window-NOM open-SUGI-ASP-so cold one-only open-IMPERA
 ‘It is cold because too many windows are open. Open only one of them.’

Therefore, the sentences in (5-6) are potentially ambiguous between the reading discussed in the main text and the cardinality reading. For example, (6a) can mean that Bill baked too many big cakes.

In this squib, I leave out this cardinality reading of *sugi* as a phenomena that can be analyzed independently of the non-local use on the basis of the fact that the excessiveness meaning is associated with an overt gradable predicate in the latter, but it isn’t in the former. Specifically, I assume, following Nakanishi (2007), that the cardinality reading of *sugi* arises from the basic ‘degree-excessiveness’ meaning plus an additional mechanism of turning event predicates into gradable predicates that *sugi* can locally operate on (i.e., the application of the covert function MANY/MUCH_e) in the LF. Thus, the non-local use of *sugi* remains as a puzzle even when we have an analysis for the cardinality use because the analysis does not answer how *sugi* can be semantically associated with a gradable predicate that is syntactically non-local to it. See also the criticism against Nakanishi’s (2007) account of non-local use in §3 below.

²The unaccusativity of a Japanese verb can be independently tested by the possibility of numeral

- (7) a. *Sono hashigo-wa omoi hito-ga nobori-**sugiru**-to kowareru.
 that ladder-TOP heavy person-NOM climb-SUGI-then break
 ‘The ladder will break if a too heavy person climbs it.’ (subject of a transitive)
- b. *Sono kooen-de-wa urusai kodomo-ga asobi-**sugiru**.
 that park-in-TOP loud children-NOM play-SUGI
 ‘At the park, students who are too loud play.’ (intended) (unergative)
- c. Ookina bakuhatsu-ga okori-**sugi**-ta.
 large explosion-NOM occur-SUGI-PAST
 ‘A too large explosion occurred.’ (unaccusative)
- d. ?Atsui ryuuhyoo-ga toke-**sugi**-ta-node, suii-ga agat-ta.
 thick drift.ice-NOM melt-SUGI-PAST-so water.level-NOM rise-PAST
 ‘A too thick drift ice melt, and so the water level rose.’ (unaccusative)

In addition to the restriction against association with an adjective inside an unergative subject, the non-local use of *sugi* has further restrictions on its interpretation and syntactic distribution. First, *sugi* can be non-locally associated with an adjective only when the NP containing the adjective is indefinite. Although Japanese lacks an overt determiner, this can be shown by the infelicity of the non-local use of *sugi* in B’s answer in the following discourse.

- (8) A: ‘Which book did you buy, the too heavy one or the too expensive one?’
 B: #John-wa takai hon-o kai-**sugi**-ta-yo.
 John-TOP expensive book-ACC buy-SUGI-PAST-PART
 ‘John bought the too expensive book.’ (intended)

B’s answer would be felicitous if *takai hon* ‘expensive book’ could function as a definite DP referring to the too expensive book. The infelicity of B’s answer suggests that the nominal involved in the non-local use of *sugi* cannot be interpreted as definite. Also, the non-local use is impossible if the nominal involving the relevant adjective has an overt demonstrative/quantifier, as in the following example.

- (9) *John-wa {sono/ni-satsu-no/subete-no} takai hon-o kai-**sugi**-ta.
 John-TOP that/two-CL-gen/all-GEN expensive book-ACC buy-SUGI-PAST
 ‘John bought {that/2/all the} too expensive book(s).’ (intended)

These behaviors of the non-local use contrast with the local use, where the DP containing the adjective+*sugi* can be interpreted as definite, as illustrated by the felicity/acceptability of (10-11) below.

- (10) *In the same situation as in (8), to the same question by A.*

quantifier (NQ) floating (Miyagawa 1989).

B: John-wa taka-**sugiru** hon-o kat-ta-yo.
 John-TOP expensive-SUGI book-ACC buy-PAST-PART
 ‘John bought the too expensive book.’

- (11) John-wa {sono/ni-satsu-no/subete-no} taka-**sugiru** hon-o kat-ta.
 John-TOP that/two-CL-gen/all-GEN expensive-SUGI book-ACC buy-PAST
 ‘John bought {that/2/all the} too expensive book(s).’

Furthermore, the indefinite NP containing the relevant adjective in the non-local use of *sugi* obligatorily takes narrow scope with respect to other operators. In the following example, there is no reading where the indefinite object takes scope over the subject universal quantifier. That is, (12) cannot be judged as false in the situation where everybody selected distinct too difficult textbooks, although the sentence could be false in such a situation if the indefinite takes scope over the the subject universal quantifier.³

- (12) Muzukashii kyookasho_i-o daremo-ga t_i erabi-**sugi**-ta.
 difficult textbook-ACC everybody-NOM select-SUGI-PAST
 ‘Everybody selected a too expensive book.’ (✓ ∀ > ∃; *∃ > ∀)

In contrast, in the local-use, the indefinite argument containing the relevant adjective-*sugi* sequence can take wider scope than the subject universal quantifier. Sentence (13) has a reading which can be judged as false in the situation where everybody selected distinct too difficult books.

- (13) Muzukashi-**sugiru** kyookasho_i-o daremo-ga t_i eran-da.
 difficult-SUGI textbook-ACC everybody-NOM select-PAST
 ‘Everybody selected a too expensive book.’ (✓ ∀ > ∃; ✓ ∃ > ∀)

Finally, the gradable predicate associated with a non-local *sugi* cannot be in a clause that is embedded by the verb *sugi* attaches to. For example, in the control construction in (14) and in the attitude report in (15), neither can the adverb nor the adjective contained in the embedded clause be associated with *sugi* attaching to the matrix verb.

- (14) a. John-wa [PRO mainichi hayaku oki]-tsuzuke-**sugi**-ta
 John-TOP everyday early get.up-continue-SUGI-PAST
 *‘John continued to get up too early every day.’
 ✓‘John continued for a too long time to get up early every day.’
- (15) a. John-wa [Mary-ga hayaku okita]-to sinji-**sugite**-iru.
 John-TOP Mary-NOM early get.up-COMP believe-SUGI-ASP

³Since a Japanese sentence has a rigid surface scope reading in the ordinary SOV word order, the objects in the relevant sentences here have to be scrambled to the left of the subjects so that the Object > Subject scope relation is in principle available.

*‘John believes that Mary got up too early.’

✓‘John believes too strongly that Mary got up early.’

These examples suggest that the ‘non-local’ association between a non-local *sugi* and a gradable predicate is in fact clause-bound.

3 Nakanishi’s (2007) analysis of non-local *sugi*

Nakanishi (2007) analyzes *sugi* as a (generalized) degree quantifier, as in (16).⁴ In prose, (16) takes a degree predicate and returns true if and only if the maximal degree that is true of the degree predicate in the evaluation world is higher than the maximal degree that is true of the degree predicate in a world compatible with goals salient in the context.

$$(16) \quad \llbracket \text{sugi} \rrbracket^{w,C} = \lambda P_{\langle s,dt \rangle}. \mathbf{max}\{d: P(w)(d)\} > \mathbf{max}\{d': \exists w' \in \text{Go}_C(w)[P(w')(d')]\}$$

where $\text{Go}_C(w)$ is the set of worlds accessible from w that are compatible with the goals salient in C

The degree quantifier undergoes QR from the degree argument position of a gradable predicate, leaving a trace of type d . The LF and the truth conditions for (3) are as follows:

$$(17) \quad \llbracket \llbracket \llbracket \llbracket \text{kono boo [naga } t_1 \text{]] } \lambda 1 \text{] sugi} \rrbracket \rrbracket^{w,C} = 1 \text{ iff } \mathbf{max}\{d: \text{this stick is } d\text{-long at } w\} > \mathbf{max}\{d': \exists w' \in \text{Go}_C(w)[\text{this stick is } d'\text{-long at } w']\}$$

Although this analysis correctly accounts for the local-use of *sugi*, it does not straightforwardly extend to the non-local use since it is unclear in the surface how the degree argument of the gradable predicate and *sugi* can be semantically associated. In her analysis of the non-local use, Nakanishi assumes that *sugi* attaching to a non-gradable verb is a raising verb embedding a clausal complement, following Sugioka (1985) and Koizumi (1998). This assumption is important for her in accounting for the cardinality excessiveness reading of *sugi*, as in the following sentence (cf. footnote 1).

- (18) John-wa musuko-o tataki-**sugi**-ta.
John-TOP son-ACC hit-SUGI-PAST
‘John hit his son too many times.’

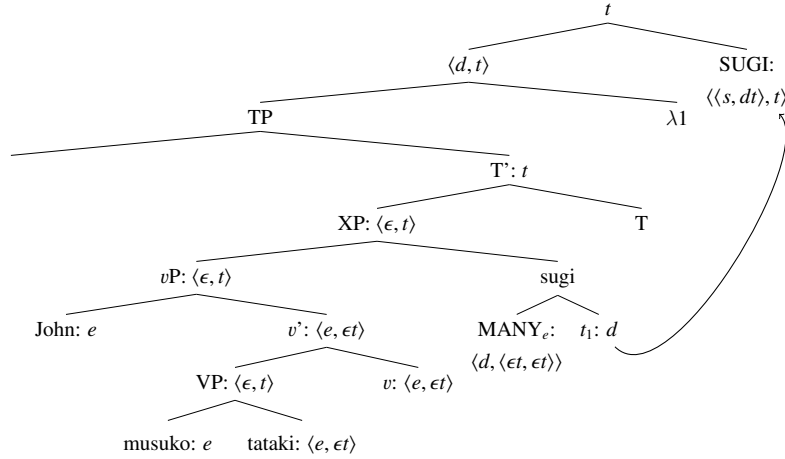
In accounting for this reading, Nakanishi proposes an LF as in (19),⁵ where *sugi* takes a vP as its complement. What is crucial in (19) is that *sugi* in the sister of vP is ‘decomposed’ into its quantificational component (notated as SUGI in (19)) having the denotation in

⁴The denotation in (16) is modified from Nakanishi’s original definition based on Heim’s (2000) intensional analysis of *too* in English.

⁵The subject is assumed to be reconstructed in the vP -internal position in LF.

(16) and MANY in (20),⁶ where the quantificational component QRs from the degree argument position of MANY. Given the lexical entries in (21), the truth conditions of the cardinality reading of (18) correctly come out as in (22) in this analysis.⁷

(19)



(20) $\llbracket \text{MANY} \rrbracket = \lambda d_d \lambda P_{\langle \epsilon, t \rangle} \lambda E_{\epsilon}. *P(E) = 1 \wedge \mu(E) = d$

where $\forall X[*P(X) \leftrightarrow \forall x < X[P(x)]]$ (where $<$ is a part-of relation) and $\mu(E)$ returns the cardinality of atomic events consisting E .

(21) a. $\llbracket v \rrbracket = \lambda x_e \lambda e_{\epsilon}. \mathbf{Ag}(e) = x$

b. $\llbracket \text{tatakai} \rrbracket^w = \lambda x \lambda e. \mathbf{hit}(e)(w) \wedge \mathbf{Th}(e) = x$

(22) $\llbracket (19) \rrbracket^{w,C} = 1$ iff $\mathbf{max}\{d : \exists e[*\mathbf{hit}(e)(w) \wedge \mathbf{Ag}(e) = \mathbf{j} \wedge \mathbf{Th}(e) = \mathbf{s} \wedge \mu(e) = d]\}$
 $> \mathbf{max}\{d' : \exists w' \in \text{Go}_C(w)[\exists e'[*\mathbf{hit}(e')(w') \wedge \mathbf{Ag}(e') = \mathbf{j} \wedge \mathbf{Th}(e') = \mathbf{s} \wedge \mu(e') = d']\}$

The syntactic assumption that *sugi* at LF starts out from the sister of *vP* is preserved in Nakanishi's analysis of the non-local use of *sugi*. She assumes the LF in (23) for sentence (5), an adverb-case of the non-local use.

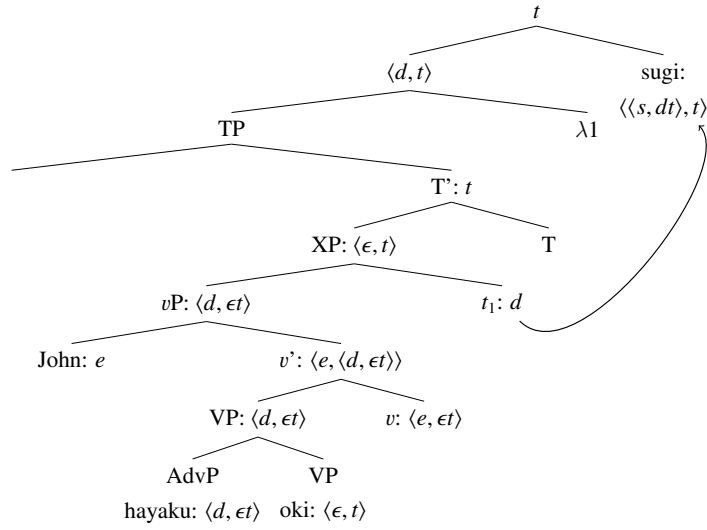
⁶I write the semantic type for events as ϵ .

⁷The composition of the VP node of type $\langle \epsilon, t \rangle$ and v of type $\langle e, \epsilon t \rangle$ is done with Kratzer's (1996) Event Identification rule:

(i) $\llbracket \alpha + \beta \rrbracket = \lambda x \lambda e. \llbracket \alpha \rrbracket(x)(e) \wedge \llbracket \beta \rrbracket(e)$

where $\llbracket \alpha \rrbracket$ is of type $\langle e, \epsilon t \rangle$ and $\llbracket \beta \rrbracket$ is of type $\langle \epsilon, t \rangle$, and $\alpha + \beta$ designates a subtree having α and β as its daughters with any linear order

(23)



In order for this LF to derive the correct truth conditions, the trace of *sugi* must fill the degree argument slot of the gradable adverb. Nakanishi's account achieves this by positing two rules in (24-25), which pass up the degree argument of the adverb to *vP*.

$$(24) \quad \llbracket \text{AdvP} + \text{VP} \rrbracket = \lambda d \lambda e. \llbracket \text{AdvP} \rrbracket(d)(e) \wedge \llbracket \text{VP} \rrbracket(e) \quad (\llbracket \text{AdvP} \rrbracket \in D_{\langle d, \epsilon t \rangle}; \llbracket \text{VP} \rrbracket \in D_{\langle \epsilon, t \rangle})$$

$$(25) \quad \llbracket \text{VP} + v \rrbracket = \lambda x \lambda d \lambda e. \llbracket v \rrbracket(x)(e) \wedge \llbracket \text{VP} \rrbracket(d)(e) \quad (\llbracket \text{VP} \rrbracket \in D_{\langle d, \epsilon t \rangle}; \llbracket v \rrbracket \in D_{\langle e, \epsilon t \rangle})$$

Given these rules and the lexical entries in (26), the truth conditions of the sentence in (5) come out as in (27).

$$(26) \quad \text{a. } \llbracket \text{hayaku} \rrbracket^w = \lambda d_d \lambda e_e. \mathbf{early}(e, d, w)$$

$$\text{b. } \llbracket \text{oki} \rrbracket^w = \lambda e_e. \mathbf{get-up}(e, w)$$

$$(27) \quad \llbracket (23) \rrbracket^{w,C} = 1 \text{ iff } \mathbf{max}\{d: \exists e[\mathbf{Ag}(e) = \mathbf{j} \wedge \mathbf{get-up}(e, w) \wedge \mathbf{early}(e, d, w)]\} \\ > \mathbf{max}\{d': \exists w' \in \text{Go}_C(w)[\exists e'[\mathbf{Ag}(e') = \mathbf{j} \wedge \mathbf{get-up}(e', w') \wedge \mathbf{early}(e', d', w')]]\}$$

Regarding the adjective cases of the non-local use, Nakanishi claims that they can be reduced to the event cardinality reading, referring to the following examples.

(28) a. John-ga hukai ana-o hori-sugi-ta.
John-NOM deep hole-ACC dig-SUGI-PAST
'John dug a too deep hole.'

b. John-ga hosoi ana-o hori-sugi-ta.
John-NOM deep hole-ACC dig-SUGI-PAST
'John dug a too narrow hole.'

Nakanishi (2007) claims that, although (28a) has a reading that John dug a too deep hole, (28b) does not have a reading that John dug a too narrow hole. Accordingly, she argues that what I refer to as the adjective non-local use of *sugi* can be accounted for by her analysis of the event cardinality/amount reading of *sugi*. That is, *sugi* in (28a)

is not associated with *hukai* ‘deep’ in a compositional fashion, but it operates on the cardinality/amount of the event of John’s digging a hole in the way illustrated above. In this story, the interpretation that John dug a too deep hole is just an inference from the event-amount excessive reading that John dug a hole for an excessive amount of time, given the world knowledge. On the other hand, since digging a hole for an excessive amount of time does not lead to the inference that John dug a too narrow hole, (28b) is predicted not to have the adjective-related reading.

Nevertheless, I claim that this account is based on an incorrect description of the fact. That is, the adjective cases of the non-local use of *sugi* is available even when the verb that *sugi* is attaching to does not have the semantically monotonic relationship with the relevant adjective. For example, I disagree with Nakanishi’s judgment about (28b) that it lacks the reading that John dug a too narrow hole. The reading can be made salient by making a purpose clause explicit as in the following sentence.

- (29) John-wa [hito-ga toorinukeru]-ni-wa hosoi ana-o hori-**sugi**-ta.
 John-TOP human-NOM go.through-to-TOP narrow hole-ACC dig-SUGI-PAST
 ‘For a man to go through it, John dug a too narrow hole.’

The first examples I have given in §2.2 to introduce the phenomenon, which I repeat below, does not fit Nakanishi’s description, either.

- (6) a. Bill-ga ookii keeki-o yaki-**sugi**-ta.
 Bill-NOM big cake-ACC bake-SUGI-PAST
 ‘Bill baked a cake that was too big.’
 b. Ken-wa erai chichi-o mochi-**sugi**-ta-node pressyaa-o kanji-ta.
 Ken-TOP great father-ACC have-SUGI-PAST-so pressure-ACC feel-PAST
 ‘Because Ken had a father who was too great, he felt pressure.’

In (6a), since the size of the cake does not necessarily increase according to the amount of the event of Bill’s baking it, we cannot infer that he baked a too big cake from the event-cardinality reading. The example in (6b) is adapted from similar attested sentences in internet sources.⁸ Here, it is all the more evident that the relevant interpretation obtains independently from the event-cardinality reading since the event-cardinality reading of (6b) only has a pragmatically odd interpretation that Ken had a (possibly different) father too many times, which has nothing to do with the actual interpretation of the sentence.

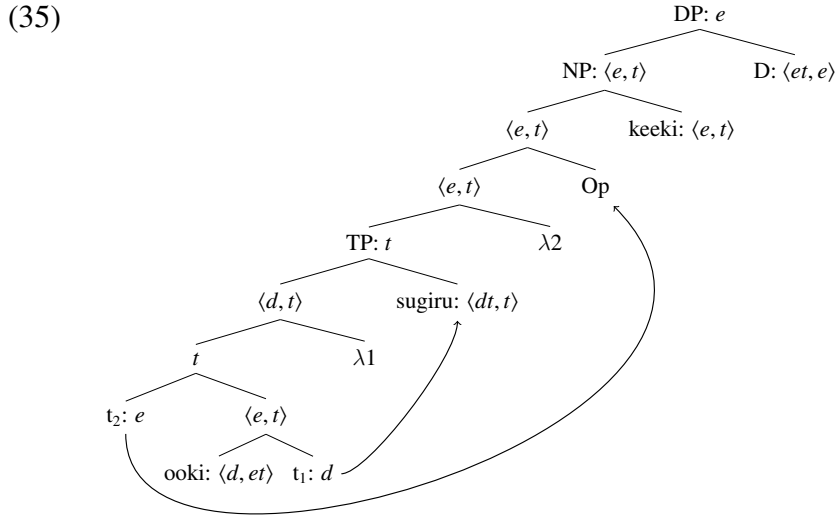
⁸<http://skc920510.ecgo.jp/blog151230004041.html>, <http://japanlawexpress.com/87> and <http://kandoradiary.jugem.jp/?eid=369> (accessed on 4/4/2017)

quantification over the internal argument (Van Geenhoven 1998).⁹ With the relevant denotations in (33), the truth conditions of the sentence come out as in (34).

- (33) a. $\llbracket \text{yak} \rrbracket^w = \lambda x \lambda e. \mathbf{bake}(e)(w) \wedge \mathbf{Theme}(e) = x$
 b. $\llbracket \text{yak}_{\text{INC}} \rrbracket^w = \lambda P \lambda e. \exists x [\mathbf{bake}(e)(w) \wedge \mathbf{Theme}(e) = x \wedge P(x) = 1]$
 c. $\llbracket [\text{ookii } t_1] \text{ keeki} \rrbracket^{w,g} = \lambda x. \mathbf{big}(g(1))(x)(w) \wedge \mathbf{cake}(x)(w)$
- (34) $\llbracket (32) \rrbracket^{w,C} = 1$ iff $\mathbf{max}\{d : \exists e [\exists x [\mathbf{bake}(e)(w) \wedge \mathbf{Ag}(e) = \mathbf{b} \wedge \mathbf{Th}(e) = x \wedge \mathbf{cake}(x)(w) \wedge \mathbf{big}(d)(x)(w)]]\} > \mathbf{max}\{d' : \exists w' \in \text{Go}_C(w) [\exists e' [\exists x' [\mathbf{bake}(e')(w') \wedge \mathbf{Ag}(e') = \mathbf{b} \wedge \mathbf{Th}(e') = x' \wedge \mathbf{cake}(x')(w') \wedge \mathbf{big}(d')(x')(w')]]]\}$

The direct composition of a verb and a bare NP is a precondition in the adjective cases of non-local use of *sugi*, assuming that DP is a scope island (May 1985, Heim & Kratzer 1998). That is, in order for the overt QR of *sugi* from the degree argument position of an adjective to be possible, the nominal containing the adjective must not be a DP, and thus can only be a bare NP combining with a property-taking variant of a transitive verb. Thus, the fact that the nominal containing the gradable adjective in the non-local *sugi* must be interpreted as a narrow-scope indefinite falls out in the overt QR analysis.

On the other hand, the fact that a nominal containing a local *sugi* can be interpreted as definite and that it may contain an overt demonstrative can be accounted for by analyzing the relevant nominal as involving a relative clause in which *sugi* QRs, as in (35).



⁹A phenomenon similar to incorporation has been described for the combination of an accusative object and a verbal noun in Japanese (e.g., Shibatani & Kageyama 1988), but semantic incorporation for the combination of an object and a plain verb in Japanese has not been discussed to my knowledge. I have to leave open if there is independent evidence for the property-taking denotations of transitive verbs in Japanese.

In this analysis, a nominal containing a local *sugi* can have a determiner without *sugi* QRing out of the DP containing it. This is in contrast to the non-local case as in (32), where *sugi* must get out of the nominal to reach its surface position.

Furthermore, the fact that the association of a non-local *sugi* and a gradable predicate must be clause-bound can also be accounted for in terms of a restriction on QR. In fact, a parallel restriction can be observed in the covert QR of *sugi*. In the following examples, there is no reading that would be obtained if QRing *sugi* over the matrix predicate was possible.¹⁰

- (36) John-wa [PRO mainichi taka-**sugiru** hon-o kai]-tsuzuke-ta.
 John-TOP everyday expensive-SUGI book-ACC buy-continue-PAST
 ✓‘John continued to buy a too expensive book every day.’ (continue > sugi)
 *‘The maximum expensiveness of the expensive books that John bought every day was too high.’ (sugi > continue)
- (37) John-wa [Mary-ga taka-**sugiru** hon-o kau]-to sinjite-iru
 John-TOP Mary-NOM expensive-SUGI book-ACC buy-COMP believe-ASP
 ✓‘John believes that Mary bought a too expensive book.’ (believe > sugi)
 *‘The maximum expensiveness *d* such that John believes Mary bought a *d*-expensive book is too high.’ (sugi > believe)

Thus, the clause-boundedness of the non-local use of *sugi* for both the adverb case and the adjective case is given a unified explanation in terms of the general restriction on QR.

5 Conclusions

This squib has proposed an analysis of the non-local use of *sugi* ‘too’ in Japanese in terms of overt QR. According to the analysis, a non-local *sugi* is a degree quantifier that has undergone an overt QR from the degree argument position of a gradable predicate. The observed syntactic and semantic restrictions on the non-local *sugi*, namely the indefiniteness requirement and the clause boundedness falls out from the restriction on QR. I have also argued that Nakanishi’s (2007) analysis of non-local *sugi* fails to capture the correct truth conditions in the adjective case.

The notion of overt QR has been discussed by Fox & Nissenbaum (1999) as a consequence of the ‘phonological’ view on movement operations, where movement is a copying operation with one copy in the chain being targeted for pronunciation (Groat & O’Neil 1996, Pesetsky 1998, Fox 2000, Bobaljik 2002). The present analysis of *sugi* can be seen as providing another piece of evidence for this view: the local/non-local

¹⁰A local *sugi* cannot attach to an adverb locally, presumably to a morphological reason that *sugi* does not have an adverbial form **sugiku*, which will be needed if the gradable adverb + *sugi* were to precede a VP or a *vP*.

distinction of *sugi* corresponds to whether its lower or higher copy gets pronounced. I have to leave open the question of why there is optionality in the choice of the pronounced copy of *sugi*, especially in relation to the behavior of other (degree) quantifiers in Japanese (cf. Aihara 2009).

The current proposal also concerns the discussion on the cross-linguistic variation in the properties of degree quantification (Beck et al. 2004, Kennedy 2007a). Specifically, the present proposal crucially depends on the assumption that degree quantification (and accordingly, degree abstraction) exists in Japanese, contra Beck et al. (2004). It is unclear how the scopal restrictions on the local and non-local *sugi* can be accounted for under the assumption that degree quantification is non-existent in Japanese. To the extent that this suspicion is warranted, the current analysis of *sugi* is considered as a new argument in favor of the existence of degree quantification in Japanese.

References

- Aihara, Masahiko. 2009. The scope of *-est*: evidence from Japanese. *Natural Language Semantics* 17(4). 341–367.
- Beck, Sigrid, Toshiko Oda & Koji Sugisaki. 2004. Parametric variation in the semantics of comparison: Japanese vs. English. *Journal of East Asian Linguistics* 13(4). 289–344.
- Bobaljik, Jonathan David. 2002. A-chains at the PF-interface: Copies and covert movement. *Natural Language & Linguistic Theory* 20(2). 197–267.
- Chierchia, Gennaro. 1998. Reference to kinds across languages. *Natural Language Semantics* 6. 339–405.
- Fox, Danny. 2000. *Economy and Semantic Interpretation*. Cambridge, MA: The MIT Press.
- Fox, Danny & Jon Nissenbaum. 1999. Extraposition and scope: A case for overt QR. In *Proceedings of the 18th West Coast Conference on Formal Linguistics*, vol. 18, 132–144.
- Van Geenhoven, Veerle. 1998. *Semantic Incorporation and Indefinite Descriptions: Semantic and Syntactic Aspects of Noun Incorporation in West Greenlandic*. Stanford: CSLI Publications.
- Groat, Erich & John O’Neil. 1996. Spell-out at the LF interface. In Werner Abraham, Samuel David Epstein, Höskuldur Thráinsson & C. Jan-Wouter Zwart (eds.), *Minimal Ideas: Syntactic Studies in the Minimalist Framework*, 113–139. John Benjamins.
- Heim, Irene. 2000. Degree operators and scope. In Brendan Jackson & Tanya Matthews

- (eds.), *Proceedings of Semantics and Linguistic Theory X*, 40–64. Ithaca, New York: CLC Publications.
- Heim, Irene & Angelika Kratzer. 1998. *Semantics in Generative Grammar*. Oxford: Blackwell.
- Kennedy, Christopher. 2007a. Modes of comparison. In Malcolm Elliott, James Kirby, Osamu Sawada, Eleni Staraki & Suwon Yoon (eds.), *Papers from the 43rd Regional Meeting of the Chicago Linguistic Society*, .
- Kennedy, Christopher. 2007b. Vagueness and grammar: the semantics of relative and absolute gradable adjectives. *Linguistics and Philosophy* 30(1). 1–45.
- Koizumi, Masatoshi. 1998. Invisible Agr in Japanese. *The Linguistic Review* 15. 1–37.
- Kratzer, Angelika. 1996. Severing the external argument from its verb. In J. Rooryck & A. Zaring (eds.), *Phrase Structure and the Lexicon*, 109–137. Dordrecht: Kluwer.
- May, Robert. 1985. *Logical Form: Its Structure and Derivation*. Cambridge, MA: The MIT press.
- Miyagawa, Shigeru. 1989. *Structure and case-marking in Japanese*. New York: Academic Press.
- Nakanishi, Kimiko. 2007. *Formal Properties of Measurement Constructions*. Berlin: Mouton de Gruyter.
- Pesetsky, David. 1998. Some optimality principles of sentence pronunciation. In Pilar Barbosa, Daniel Fox, Paul Hagstrom, Martha McGinnis & David Pesetsky (eds.), *Is the Best Good Enough? Optimality and Competition in Syntax*, 337–383. Cambridge, MA: The MIT Press.
- Shibatani, Masayoshi & Taro Kageyama. 1988. Word formation in a modular theory of grammar: Postsyntactic compounds in Japanese. *Language* 64(3). 451–484.
- Sugioka, Yoko. 1985. *Interaction of Derivational Morphology and Syntax in Japanese and English*. New York: Garland.
- Yumoto, Yoko. 2005. *Hukugoo Doosi/Hasee Doosi no Imi to Toogo: Mojuuru keetai-ron kara mita Nichiei-go no Doosi Keesee [The Semantics and Syntax of Compound/Derived verbs: Verb-formations in Japanese and English in the Modular Theory of Morphology]*. Tokyo: Hituji Shobo.