

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. s

- (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 (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* (ban on association with subjects, 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 a gradable predicate and express excessiveness in the degree associated with the predicate. I refer to this use of *sugi* as the LOCAL USE. An example of the local use is 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.’

In (3), *sugi* attaches to the adjective *naga(i)* ‘long’, and expresses an excessiveness in the stick’s length.

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 (4) is an adverb case while those in (5) are adjective cases. Below, the gradable predicates that *sugi* is semantically associated with are underlined.

- (4) John-wa kyou hayaku oki-**sugi**-ta.
John-TOP today early get.up-SUGI-PAST
‘John got up too early today.’
- (5) 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 (4), although *sugi* attaches to the verb *oki* ‘get up’, the sentence expresses the excessiveness in the earliness of John’s getting up. In other words, *sugi* here seems to operate on the degree associated with the adverb *hayaku* ‘early’. In (5a), 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 (6c-6d), although those modifying a transitive or an unergative subject cannot, as shown in (6a-6b).²

- (6) 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)

¹There are other readings of V-*sugi* constructions that are not associated with overt degree predicates, namely the reading in which *the cardinality of events* is predicated of as excessive, as in (i), and one 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 (4-5) are ambiguous between the reading discussed in the main text and the cardinality reading. For example, (5a) can mean that Bill baked too many big cakes.

In this squib, I leave out this cardinality reading of *sugi* as a phenomenon 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 combined with an additional mechanism that turns event predicates into gradable predicates that *sugi* can locally operate on (i.e., the application of the covert function MANY/MUCH_c) in the LF. See also Li (2015) for an analysis of the cardinality reading of V-*sugi* that dispenses with the covert function MANY/MUCH.

²The unaccusativity of a Japanese verb can be independently tested by the possibility of numeral quantifier (NQ) floating (Miyagawa 1989).

- c. Ookina bakuhatsu-ga okori-**sugi**-ta.
 large explosion-NOM occur-SUGI-PAST
 ‘A too large explosion occurred.’ (unaccusative)
- d. ?Atsui ryuuhyo-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 definite article, this can be shown by the infelicity of the non-local use of *sugi* in B’s answer in the following discourse.

- (7) 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.

- (8) *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 (9-10) below.

- (9) *In the same situation as in (7), to the same question by A.*
 B: John-wa taka-**sugi**-ru hon-o kat-ta-yo.
 John-TOP expensive-SUGI-NONPAST book-ACC buy-PAST-PART
 ‘John bought the too expensive book.’
- (10) 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, (11) cannot be judged as false in the situation where everybody selected distinct too difficult textbooks, although the sentence would be false in such a situation if the indefinite takes scope over the the subject universal quantifier.³

- (11) Muzukashii kyookasho_i-o daremo-ga t_i erabi-**sugi**-ta.
 difficult textbook-ACC everybody-NOM select-SUGI-PAST
 ‘Everybody selected a too difficult book.’ ($\checkmark \forall > \exists$; $*\exists > \forall$)

In contrast, in the local use, the indefinite argument containing Adj-*sugi* can take wider scope than the subject universal quantifier. Sentence (12) has a reading which can be judged as false in the situation where everybody selected distinct too difficult books.

- (12) Muzukashi-**sugiru** kyookasho_i-o daremo-ga t_i eran-da.
 difficult-SUGI textbook-ACC everybody-NOM select-PAST
 ‘Everybody selected a too difficult book.’ ($\checkmark \forall > \exists$; $\checkmark \exists > \forall$)

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 (13) and in the attitude report in (14), neither can the adverb nor the adjective contained in the embedded clause be associated with *sugi* attaching to the matrix verb.

- (13) 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.’
 \checkmark ‘John continued for a too long time to get up early every day.’
- (14) John-wa [Mary-ga hayaku okita]-to sinji-**sugite**-iru.
 John-TOP Mary-NOM early get.up-COMP believe-SUGI-ASP
 *‘John believes that Mary got up too early.’
 \checkmark ‘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*

Following Nakanishi (2007), we can analyze *sugi* as a degree quantifier. A concrete implementation of such an analysis is given in (15).⁴ In prose, (15) takes a degree

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.

⁴To avoid a complication regarding the morphology of *sugi* and the tense suffix, I assume that the tense inflection on *sugi* (i.e., (*r*)*u* for non-past and *ta* for past) is lexicalized into the verbal lexical entry

predicate and returns true if and only if there is a non-past eventuality e such that the maximum degree satisfying the degree predicate in e is higher than a contextually given standard C (ϵ is a semantic type for eventualities, i.e., events or states).

$$(15) \quad \llbracket \text{sugi-ru} \rrbracket^C = \lambda P_{\langle d, \epsilon t \rangle}. \exists e [\mathbf{nonpast}(e) \wedge \mathbf{max}\{d: P(d)(e)\} > C]$$

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:

$$(16) \quad \llbracket \llbracket \llbracket \text{kono boo [naga } t_1 \text{] } \rrbracket_{\langle \epsilon, t \rangle} \lambda 1 \rrbracket \text{ sugi-ru} \rrbracket^C \\ \Leftrightarrow \exists e [\mathbf{nonpast}(e) \wedge \mathbf{max}\{d: \text{this stick is } d\text{-long in } e\} > C]$$

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. Nakanishi assumes that *sugi* attaching to a non-gradable verb (or ‘V-*sugi*’) is a raising verb embedding a clausal complement, following Sugioka (1985) and Koizumi (1998). Thus, *sugi* as a raising verb in V-*sugi* has a different syntactic status from the *sugi* in Adj-*sugi*, which originates from the degree argument position of an adjective. This assumption is important for her in accounting for the cardinality excessiveness reading of *sugi*, as in the following sentence (cf. footnote 1).

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

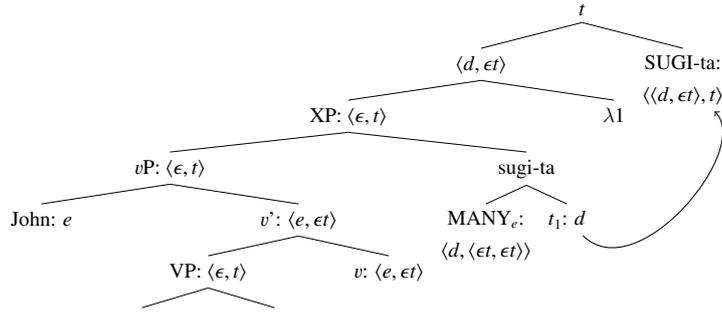
In accounting for this reading, Nakanishi proposes an LF as in (18), where *sugi* takes a ν P as its complement.⁵ What is crucial in (18) is that *sugi* in the sister of ν P is ‘decomposed’ into its quantificational component (notated as SUGI in (18)) having the denotation in (15) and MANY in (19), where the quantificational component QRs from the degree argument position of MANY. Given the lexical entries in (20), the truth conditions of the cardinality reading of (17) correctly come out as in (21) in this analysis.⁶

(e.g., Sells 1995). Accordingly, in addition to the degree quantification component, (15) involves the tense component which takes scope over predicates of eventualities. As a result, *sugi-ru/ta* takes scope over a type- $\langle d, \epsilon t \rangle$ meaning, where ϵ is a semantic type for eventualities.

⁵As is generally the case with Japanese syntactic V-V compounds, although *sugi* and the preceding predicate *tataki* do not form a constituent in the syntax, they form a phonological word. Following Shibatani & Kageyama (1988), Kageyama (1993), I assume that this is due to the ‘post-syntactic’ compounding at PF. This assumption also carries over to my analysis of non-local *sugi* in Section 4.

⁶The composition of the VP node of type $\langle \epsilon, t \rangle$ and ν of type $\langle e, \epsilon t \rangle$ is done with Kratzer’s (1996) Event Identification rule, which can be defined as follows: $\llbracket \alpha + \beta \rrbracket = \lambda x_e \lambda e_\epsilon. \llbracket \alpha \rrbracket(x)(e) \wedge \llbracket \beta \rrbracket(e)$

(18)

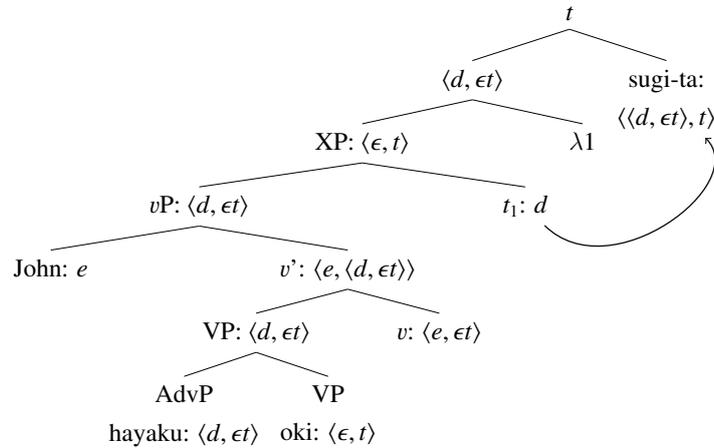
(19)
$$\llbracket \text{MANY} \rrbracket = \lambda d_d \lambda P_{\langle \epsilon, t \rangle} \lambda E_{\epsilon} . *P(E) = 1 \wedge \mu(E) = d$$

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 .

(20) a. $\llbracket v \rrbracket = \lambda x_e \lambda e_{\epsilon} . \mathbf{Ag}(e) = x$ b. $\llbracket \text{tatak} \rrbracket = \lambda x \lambda e . \mathbf{hit}(e) \wedge \mathbf{Th}(e) = x$ (21) $\llbracket (18) \rrbracket^C \Leftrightarrow \exists e [\mathbf{pst}(e) \wedge \mathbf{max}\{d : * \mathbf{hit}(e) \wedge \mathbf{Ag}(e) = \mathbf{j} \wedge \mathbf{Th}(e) = \mathbf{s} \wedge \mu(e) = d\} > C]$

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 (22) for sentence (4), an adverb-case of the non-local use.

(22)



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 (23-24), which pass up the degree argument of the adverb to *vP*.

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

Given these rules and the lexical entries in (25), the truth conditions of the sentence in (4) come out as in (26).

(25)

- a. $\llbracket \text{hayaku} \rrbracket = \lambda d_d \lambda e_e \cdot \mathbf{early}(e, d)$ b. $\llbracket \text{oki} \rrbracket = \lambda e_e \cdot \mathbf{get-up}(e)$
 (26) $\llbracket (22) \rrbracket^C \Leftrightarrow \exists e[\mathbf{pst}(e) \wedge \mathbf{max}\{d: \mathbf{Ag}(e) = \mathbf{j} \wedge \mathbf{get-up}(e) \wedge \mathbf{early}(e, d)\} > C]$

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.

- (27) 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 (27a) has a reading that John dug a too deep hole, (27b) 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 (27a) 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, (27b) 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 (27b) 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.

- (28) 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.

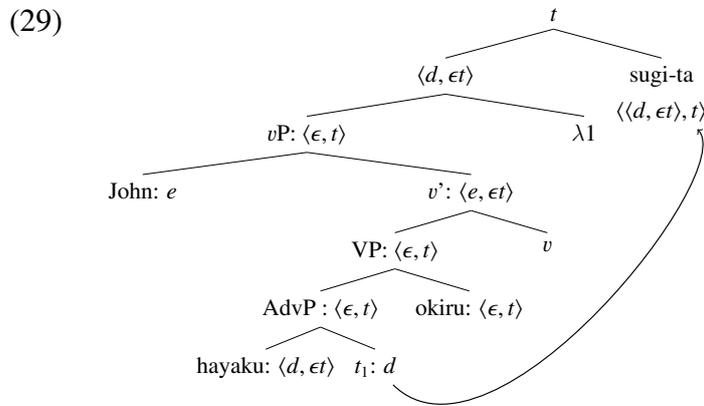
- (5) a. Bill-ga ookii keeki-o yaki-**sugi**-ta.
 Bill-NOM big cake-ACC bake-SUGI-PAST
 ‘Bill baked a cake that was too big.’

- 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 (5a), 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 (5b) is adapted from similar attested sentences in internet sources.⁷ Here, it is all the more evident that the relevant interpretation obtains independently from the event-cardinality reading since the event-cardinality reading of (5b) 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

4 Overt QR and semantic incorporation

Nakanishi’s (2007) analysis of the adverb cases of non-local *sugi* crucially depends on the syntactic assumption that a non-local *sugi* starts out from the sister position of *vP* at LF. In this squib, I propose an alternative analysis: *sugi* is in the degree argument position of the gradable adverb in the underlying structure, and undergoes an ‘overt QR’ (Fox & Nissenbaum 1999), as in the following structure:



That is, instead of analyzing the non-local *sugi* as a raising verb, I analyze it as a degree quantifier originating from the sister position of a gradable predicate, just like in the Adj-*sugi* case in (16). Only, the non-local *sugi* is moved overtly rather than covertly.

⁷<http://skc920510.ecgo.jp/blog151230004041.html>, <http://japanlawexpress.com/87> and <http://kandoradiary.jugem.jp/?eid=369> (accessed on 4/4/2017)

⁸Li (2015) proposes a unified account of V-*sugi* and Adj-*sugi* by analyzing *sugi* as establishing a subset-superset relationship between two predicates, either of individuals, events or degrees. Even if we take Li’s (2015) analysis, however, non-local *sugi* is a problem since there is a compositional problem of how to assign the desired denotation as a degree predicate to the *vP* preadjacent of *sugi*.

This LF derives the correct truth conditions as in [Nakanishi's](#) analysis for the adverb case, i.e., (26), given exactly the same denotations for the lexical items, i.e., (25).

The current analysis can be extended to the adjective case of non-local *sugi* and derive correct truth conditions by treating *sugi* as originating from the degree argument position of the relevant gradable adjective. Crucially, the account furthermore captures the restrictions on non-local *sugi* discussed above, assuming the following two points:

- (30) a. QR is possible from a bare NP but not from a DP.
 b. Bare NPs are only interpretable in an internal argument position through the mechanism of semantic incorporation ([Van Geenhoven 1998](#)).

The first point is defended extensively in the literature of covert QR in relation to the scope-island status of DPs ([May 1985](#), [Heim & Kratzer 1998](#)).⁹ The second point builds on the analysis of indefinite objects in West Greenlandic by [Van Geenhoven \(1998\)](#) and the analysis of bare NP predication in classifier languages by [Chierchia \(1998\)](#).

Below, I illustrate the latter mechanism by presenting the concrete analysis of (5a). The proposal is that *sugi* overtly QRs from the degree argument position of the adjective, as in the following structure for (5a).

- (31) $[[[{}_{vP} \text{Bill } [{}_{v'} [{}_{VP} [{}_{NP} [\text{ookii } t_1] \text{keeki }] \text{yaki}_{\text{INC}}] v]] \lambda 1] \text{sugi-ta }]$

Importantly, the object of the verb modified by the gradable adjective in (31) is a bare NP, which denotes a restriction (of type $\langle e, t \rangle$) of the internal argument of the verb. This internal argument is existentially quantified locally, as in the analysis for the West Greenlandic semantic incorporation by [Van Geenhoven \(1998\)](#). Compositionally, I here assume that the verb *yak(i)* ‘bake’ can be type-shifted into a property-taking variant *yak(i)_{INC}*, which involves existential quantification into the internal argument.¹⁰ With the relevant denotations in (32), the truth conditions of the sentence come out as in (33).

- (32) a. $[[\text{yak}]] = \lambda x \lambda e. \mathbf{bake}(e) \wedge \mathbf{Th}(e) = x$
 b. $[[\text{yak}_{\text{INC}}]] = \lambda P \lambda e. \exists x [\mathbf{bake}(e) \wedge \mathbf{Th}(e) = x \wedge P(x) = 1]$
 c. $[[[\text{ookii } t_1] \text{keeki}]]^g = \lambda x. \mathbf{big}(g(1))(x) \wedge \mathbf{cake}(x)$

- (33) $[[\text{(31)}]]^C \Leftrightarrow \exists e [\mathbf{pst}(e) \wedge \mathbf{max}\{d: [\exists x [\mathbf{bake}(e) \wedge \mathbf{Ag}(e) = \mathbf{b} \wedge \mathbf{Th}(e) = x \wedge \mathbf{cake}(x) \wedge \mathbf{big}(d)(x)]\} > C]$

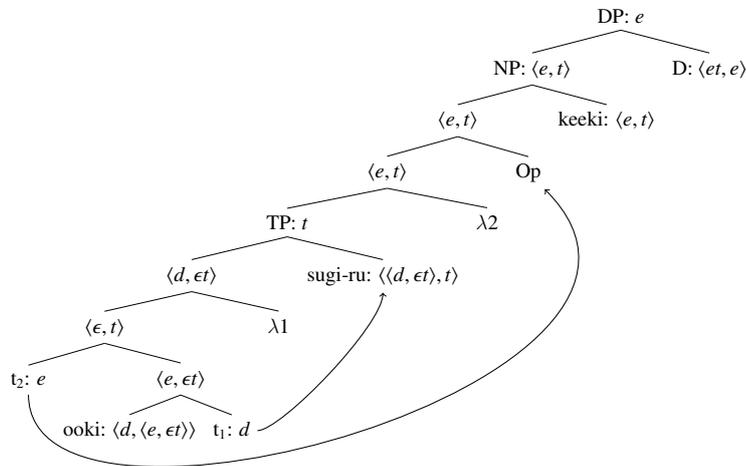
⁹See also [Sauerland \(2005\)](#) for arguments against the scope-island status of DPs, and [Charlow \(2010\)](#) for counterarguments against [Sauerland \(2005\)](#).

¹⁰A phenomenon similar to incorporation has been described for the combination of an 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.

The constraints on non-local *sugi* discussed above are consequences of the combination of the assumptions in (30). First, non-local *sugi* cannot be associated with an object with an explicit determiner since overt QR is impossible from a DP. Second, non-local *sugi* cannot be associated with transitive/unergative subjects since overt QR is impossible from within a DP, and the subjects are necessarily DPs (i.e., they cannot be bare NPs). Third, the obligatory low-scope indefiniteness of the object associated with non-local *sugi* is accounted for by the mechanism of semantic incorporation (cf. (32b)).¹¹

As we have seen above, in contrast to non-local *sugi*, a nominal containing a *local sugi* can be interpreted as definite and may contain an overt demonstrative. This fact can be accounted for since the relevant nominal can have the following structure involving a relative clause, within which *sugi* QRs, as in (34).

(34)



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 (31), where *sugi* must get out of the nominal to reach its surface position.

Finally, the fact that the association of non-local *sugi* and a gradable predicate must be clause-bound, as in (13-14), can be accounted for in terms of the clause-boundedness

¹¹The unavailability of the wide-scope indefinite in (11) could be an instance of Kennedy’s Generalization (Kennedy 1999, Heim 2000), which prohibits a degree quantifier to scope-out from within the scope of a quantificational DP. This is so if an indefinite does not count as a quantificational DP. By assumption, *sugi* QRs out of the object indefinite in (11). This means that if the universal scopes below the indefinite, we would have the *sugi* > ∃ > ∀ scope order, violating Kennedy’s Generalization. On the other hand, the ∀ > *sugi* > ∃ order does not violate it, again, assuming that the indefinite does not count as a quantificational DP. It can be independently shown that Kennedy’s Generalization holds with respect to non-local *sugi* by the following example using an ‘exactly’ differential (Heim 2000). The sentence does not have the interpretation that the latest person to get up did so exactly one hour too early.

- (i) Daremo-ga kyou tyoodo ichijikan hayaku oki-sugi-ta
 everyone-NOM today exactly 1.hour early get.up-SUGI-PAST
 ‘Everyone got up exactly one hour too early’

of the QR in general. The existence of such a restriction is evidenced by the behavior of local Adj-*sugi*, which involves covert QR. In (35-36), there is no reading that would be obtained by QRing *sugi* over the matrix predicate.¹²

- (35) 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 books that John bought every day was too high.’ (sugi > continue)
- (36) 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 buys a too expensive book.’ (believe > sugi)
 *‘The maximum expensiveness d such that John believes Mary buys a d -expensive book is too high.’ (sugi > believe)

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 distinction of *sugi* corresponds to whether its lower or higher copy gets pronounced (modulo the possibility of the parse with a relative clause for the local *sugi*; cf. (34)). 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,

¹²A local *sugi* cannot attach to an adverb locally. This is presumably due to the morphological reason that *sugi* does not have an adverbial form **sugiku*.

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.

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