【Forum】

The Presuppositional Nature of *izyoo(-ni)* and *gurai* Comparatives: A Note on Hayashishita (2007)

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Abstract: Recognizing an important semantic difference between *izyoo(-ni)* and *gurai* comparatives and the standard *yori* comparative in Japanese regarding implications to the positive standard, Hayashishita (2007) proposes an analysis that essentially treats *izyoo(-ni)* and *gurai* comparatives as instances of comparison of deviation. This analysis predicts that the standard-oriented positive implications for the matrix degree and the comparative degree should have the same status with respect to their (non-)presuppositionality. I provide novel data that counterexemplify this prediction, and sketch an alternative that treats these constructions as standard comparative and equative constructions with one extra presupposition for the comparative degree. The proposed alternative is shown to capture the relevant facts better than Hayashishita's (2007) analysis, casting doubt on the validity of Hayashishita's (2007) key analytic idea wherein *izyoo(-ni)* and *gurai* comparatives are identified as instances of comparison of deviation.[*]

Key words: comparative, comparison of deviation, *izyoo(-ni)*, *gurai*, presupposition

1. Introduction

Hayashishita (2007) (henceforth H) proposes a detailed analysis of comparative constructions involving the words *izyoo(-ni)* and *gurai* in Japanese. An important contribution of H's work is that it identifies a hitherto unnoticed semantic difference between these comparative constructions and the more 'standard' comparative construction in Japanese involving the *yori* phrase: unlike the *yori* comparative, *izyoo(-ni)* and *gurai* comparatives cannot be used to express pure comparisons of absolute degrees, since they additionally convey the meaning that the compared objects both satisfy the (contextual) standard of comparison for positive assertion. Based on this observation, H proposes an analysis of *izyoo(-ni)* and *gurai* comparatives that essentially equate these constructions with 'comparison of deviation' (Kennedy 2001) in English (see also Bierwisch 1989), and argues that their

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semantic difference from the standard *yori* comparative immediately follows from this analysis. The purpose of this paper is to examine critically the validity of this key analytic idea of H's proposal. Specifically, I provide novel data showing that there is an asymmetry between the presuppositional statuses between the standard-oriented implications for the two objects being compared: run-of-the-mill presupposition tests consistently show that only the implication for the standard object (i.e. the object denoted by the expression introduced by *izyoo(-ni)* or *gurai*) should be treated as the true presupposition. As I argue below, such an asymmetry is not predicted by H's analysis, which, as a consequence of adopting a comparison of deviation analysis, treats the two degrees being compared in a parallel fashion. I sketch an alternative analysis in which *izyoo(-ni)* and *gurai* comparatives are treated as standard comparative and equative constructions with an extra presupposition for the standard object and show that this alternative better captures the relevant data. This leads us to the conclusion that H's identification of *izyoo(-ni)* and *gurai* comparatives as cases of comparison of deviation is unwarranted.

2. Hayashishita's (2007) Analysis of *izyoo(-ni)* and *gurai* Comparatives

In addition to the familiar *yori* comparative (in (1)), whose semantic and syntactic properties have received much attention in the recent literature (see, e.g., Beck et al. 2004 and Kennedy 2009), Japanese has two comparative constructions with the words *izyoo(-ni)* and *gurai*, as exemplified by (2) and (3).

(1) John-wa   Mary-**yori**   se-ga   takai.
     John-TOP Mary-than   height-NOM   tall
     'John is taller than Mary.'
(2) John-wa   Mary-**izyoo-ni** se-ga   takai.
     John-TOP Mary-more-DAT height-NOM   tall
     'John is taller than Mary.'
(3) John-wa   Mary-**gurai**   se-ga   takai.
     John-TOP Mary-as   height-NOM   tall
     'John is (about) as tall as Mary.'

At first sight, it might seem that (2) and (3) are ordinary instances of comparative and equative constructions, with (2) being truth-conditionally equivalent to (1). As noted by H, however, there is an important difference between the *yori* comparative and the other two: in addition to the comparison meanings (that John's height exceeds Mary's for (2) and that their heights are about the same for (3)), (2) and (3) also mean that both John and Mary's heights exceed the contextually determined standard of tallness, that is, that both individuals do actually count as 'tall' (in the positive sense); such an implication is totally lacking in (1), just as in English comparatives with the overt comparative morpheme *-er/more*.[1] This can be

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[1] For now, I leave it deliberately vague what kind of meaning this implication is. This is in fact the central question that I take up in this paper and a careful discussion needs to wait until section 3.

tested by following up the sentences in (1)–(3) by the utterance 'But neither John nor Mary is actually tall.' Only (1) is compatible with such a follow-up.

H proposes a compositional semantic analysis of *izyoo(-ni)* and *gurai* comparatives by treating them as constructions that are necessarily interpreted as 'comparison of deviation', that is, comparison of objects which both exceed the norm-related standard for some property and where the comparison is made in terms of the degrees to which the compared objects *exceed* (or deviate from) the norm-related standard.[2] Thus, in his analysis, sentences like (2) and (3) compare the degrees to which the two individuals exceed the contextually given standard of tallness: (2) is true just in case the difference between John's height and the contextual standard of tallness is larger than the difference between Mary's height and the contextual standard; similarly, (3) is true just in case these two differential degrees are approximately the same. More formally, in H's analysis, (2) and (3) are assigned the truth conditions given in (4) and (5).

(4) $\mathbf{max}(\lambda d_2 \exists d_1 [\mathbf{standard}(d_1)(d_2)([\![\text{tall}]\!])(C) \wedge \delta_{tall}(\mathbf{j}) = d_1]) >$
     $\mathbf{max}(\lambda d_2 \exists d_1 [\mathbf{standard}(d_1)(d_2)([\![\text{tall}]\!])(C) \wedge \delta_{tall}(\mathbf{m}) = d_1])$

(5) $\mathbf{max}(\lambda d_2 \exists d_1 [\mathbf{standard}(d_1)(d_2)([\![\text{tall}]\!])(C) \wedge \delta_{tall}(\mathbf{j}) = d_1]) \approx$
     $\mathbf{max}(\lambda d_2 \exists d_1 [\mathbf{standard}(d_1)(d_2)([\![\text{tall}]\!])(C) \wedge \delta_{tall}(\mathbf{m}) = d_1])$

Here, the **standard** operator encodes reference to the contextual standard. That is, $\mathbf{standard}(d_1)(d_2)(g)(C)$ is true just in case the degree d_1 exceeds the standard for the gradable property g denoted by an adjective relative to context C by degree d_2.

H's analysis correctly captures the fact that, for (2) and (3) to be felicitous and true, both John's height and Mary's height need to exceed the contextual standard of tallness. This is so because, in (4) and (5), the **max** operator returns the (largest) degrees by which John's height and Mary's height exceed the contextual standard, but if one of these individuals fails to satisfy the standard, the output of the **max** operator will be undefined (since there will be no differential degree that satisfies the relevant description).[3] Thus, sentences like (2) and (3) are predicted to incur presupposition failure, correctly accounting for their unacceptability in such a situation.

I hasten to add here that H states in the text that both of the two standard-

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[2] Comparison of deviation is exemplified by (the underlined part of) examples like (i) in English (together with Kennedy's (2001) paraphrase for it):

(i) The Red Sox will be scrutinized as closely as the Orioles to see whether they are any more legitimate than the Orioles are fraudulent.
     'The degree to which the Red Sox deviate from a standard of legitimacy exceeds the degree to which the Orioles exceed a standard of fraudulence.'

See Kennedy (2001) for further discussion.

[3] Unless d_2 in (4) and (5) could have negative values; but note that allowing for this option would lead to a disastrous consequence (and hence is clearly not intended by H), since it would make (4) fully equivalent to *yori* comparatives (and an essentially identical problem would arise for (5)).

oriented implications are entailments (i.e. part of the assertion), without, however, providing any evidence for this claim other than that they are uncancellable implications. The exact statuses of the two implications and whether H's analysis makes correct predictions about them are both important issues, but it turns out that answering this question requires careful thinking.[4] In the matrix environments, for the reason I stated above, the two implications come out as presuppositions on H's analysis (since they pertain to the definedness conditions for the **max** operator). But this does not mean that the same presuppositions are predicted to be present when these comparative sentences are embedded under intensional operators such as modals, antecedents of conditionals and questions—which are standard tests for presupposition. This is so because in these intensional contexts, unless one makes special assumptions about the way in which the **max** operator (or a lexical item that introduces it) is interpreted (this is actually a possibility that H entertains for the case involving modals; cf. the discussion in the next section for why his solution here wouldn't work), the definedness conditions for the **max** operator are relativized to the worlds in which the relevant propositions expressing comparison are evaluated. As I show in the next section, this prediction turns out to be too weak. Specifically, when we examine hitherto unnoticed data relevant for resolving this question, there emerges a striking contrast between the presuppositional statuses between the two implications: while the standard-oriented implication for the comparative degree (i.e. the degree that the object introduced by *izyoo(-ni)* or *gurai* possesses on the relevant scale; Mary's height in (2) and (3)) projects under the scope of presupposition holes, that for the matrix degree (i.e. the degree that the object occupying a matrix argument position possesses on the relevant scale; John's height in (2) and (3)) doesn't. This suggests that only the former is the true presupposition associated with *izyoo(-ni)* and *gurai* comparatives and that the latter is something else. However, in H's comparison of deviation analysis in which the matrix and comparative degrees are compared in terms of their deviances from the shared contextual standard, there is no way to capture this asymmetry, which casts doubt on H's key analytic idea of treating *izyoo(-ni)* and *gurai* comparatives as cases of comparison of deviation.

3. The Nature of Presupposition of *izyoo(-ni)* and *gurai* Comparatives

As is attested by the following examples, the standard-oriented implication for the comparative degree projects beyond the scope of questions, modals and antecedents of conditionals, standard tests for presupposition (negation is excluded from consideration here due to an irrelevant complication it involves; I will come back to the case of negation below), whereas that for the matrix degree does not, suggesting that it does not have the same presuppositional status that its counterpart for the comparative degree does. (The examples in (8) should be judged against the contexts given in the English translations.)

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[4] I would like to thank the reviewers for clarification questions on this point.

(6) a. (Watasi-wa John-ga   sonnani se-ga   takaku-nai-hazu-da-to
         I-TOP   John-NOM very   height-NOM tall-NEG-must-COP-COMP
         omot-te   i-ta-kedo,)   John-wa   hyottosite
         think-TE COP-PAST-though John-TOP perhaps
         Mary-{**izyoo-ni/gurai**} se-ga   takai-no?
         Mary-more-DAT/as   height-NOM tall-Q
         '(I thought that John shouldn't be very tall, but) is John perhaps taller
         than / as tall as Mary?'

    b. #(Watasi-wa Mary-ga   sonnani se-ga   takaku-nai-hazu-da-to
         I-TOP   Mary-NOM very   height-NOM tall-NEG-must-COP-COMP
         omot-te   i-ta-kedo,)   John-wa   hyottosite
         think-TE COP-PAST-though John-TOP perhaps
         Mary-{**izyoo-ni/gurai**} se-ga   takai-no?
         Mary-more-DAT/as   height-NOM tall-Q
         '(I thought that Mary shouldn't be very tall, but) is John perhaps taller
         than / as tall as Mary?'

(7) a. (Watasi-wa John-ga   sonnani se-ga   takaku-nai-hazu-da-to
         I-TOP   John-NOM very   height-NOM tall-NEG-must-COP-COMP
         omot-te   i-ta-kedo,)   John-wa hyottosite
         think-TE COP-PAST-though John-TOP perhaps
         Mary-{**izyoo-ni/gurai**} se-ga   takai-no-kamo.
         Mary-more-DAT/as   height-NOM tall-COP-might
         '(I thought that John shouldn't be very tall, but) John might perhaps be
         taller than / as tall as Mary.'

    b. #(Watasi-wa Mary-ga   sonnani se-ga   takaku-nai-hazu-da-to
         I-TOP   Mary-NOM very   height-NOM tall-NEG-must-COP-COMP
         omot-te   i-ta-kedo,)   John-wa   hyottosite
         think-TE COP-PAST-though John-TOP perhaps
         Mary-{**izyoo-ni/gurai**} se-ga   takai-no-kamo.
         Mary-more-DAT/as   height-NOM tall-COP-might
         '(I thought that Mary shouldn't be very tall, but) John might perhaps be
         taller than / as tall as Mary.'

(8) a. John-ga   Mary-{**izyoo-ni/gurai**} se-ga   takak-ereba,
         John-NOM Mary-more-DAT/as   height-NOM tall-COND
         basukebu-ni   hairu-yooni   susumeru-nodaga.
         basketball.club-DAT join-COMP   recommend-though
         '(It's too bad that John is short.) If he was taller than / as tall as Mary,
         I'd recommend him to join the basketball club.'

    b. i. #John-ga   Mary-**izyoo-ni** se-ga   takak-ereba,
           John-NOM Mary-more-DAT height-NOM   tall-COND
           taisoobu-ni   hairu-yooni-wa susume-nai-nodaga.
           gymnastics.club-DAT join-COMP-TOP recommend-NEG-though
           '(Mary, being a gymnast, is short for an average teenager.) If John was
           taller than Mary, I wouldn't recommend him to join the gymnastics club.'

ii.#John-ga   Mary-**gurai** se-ga   takak-ereba,
  John-NOM   Mary-as   height-NOM tall-COND
  taisoobu-ni   hairu-yooni susumeru-nodaga.
  gymnastics.club-DAT join-COMP   recommend-though
  '(Mary, being a gymnast, is short for an average teenager.) If John was
  as tall as Mary, I'd recommend him to join the gymnastics club.'

In (6), there is a clear contrast in acceptability between (6a) and (6b). In (6a) and (6b), the information provided by the preceding context is incompatible with the standard-oriented implications for the matrix and comparative degrees, respectively. The fact that only (6a) is felicitous thus suggests that only the implication for the comparative degree projects under the scope of the interrogative operator, a signature property of presuppositions. A similar account can be given for the contrast between (7a) and (7b) involving a modal. The conditional examples in (8) show essentially the same point. (8a) is uttered in a context which is incompatible with the standard-oriented implication for the matrix degree for the comparative sentence embedded in the antecedent of a conditional. That this example is felicitous suggests that this implication does not project in this environment, which is a standard presupposition hole. By contrast, the examples in (8b), uttered in a context that is incompatible with the standard-oriented implication for the comparative degree, are infelicitous, suggesting that this implication does indeed project through the presupposition hole of conditional antecedent. Again, we see an asymmetry between the presuppositional statuses of the standard-oriented implications for matrix and comparative degrees.

Thus, the pattern is consistent: only the standard-oriented implication for the comparative degree is the presupposition associated with *izyoo(-ni)* and *gurai* comparatives. But then, how does it come about that in simple declarative sentences like (2) and (3), the standard-oriented implication for the matrix degree is also felt to be part of the conventional meaning of the sentence? There is a simple explanation for this. *Izyoo(-ni)* and *gurai* comparatives truth-conditionally entail that the matrix degree is about as large as the comparative degree (in the case of *gurai*) or larger (in the case of *izyoo(-ni)*). That is, in both cases, the matrix degree is asserted to be at least (about) as large as the comparative degree. But we independently know (from the presupposition for the comparative degree) that this comparative degree satisfies the contextual standard. It then logically follows that the matrix degree also satisfies the standard. In other words, in simple declarative sentences, the standard-oriented implication for the matrix degree is derived through an interaction of the truth conditions and the presupposition.

Importantly, although this standard-oriented implication for the matrix degree is neither a genuine presupposition nor a genuine entailment, it does not follow from this that it is a conversational implicature. Conversational implicatures arise from the presuppositions and entailments of the sentence *together with* defeasible inferences of various kinds associated with the cooperative principle (in the sense of Grice 1967). However, the implication in question here arises purely from an

interaction of a presupposition and an entailment, and general conversational inferences do not play any role. Thus, my analysis correctly predicts that this derived implication is uncancellable, just like genuine presuppositions and genuine entailments.[5] This is so because, if entailments and presuppositions are uncancellable, it follows that purely logical consequences of them should be as well.

H in fact seems to be (somewhat vaguely) aware of the asymmetry in the presuppositional status of the standard-oriented implications for the matrix and comparative degrees. In his discussion of examples with sentence-final modals analogous to (7), he notes that such sentences require the comparative degree (but not the matrix degree) to be already known to the speaker for their felicity. He then attributes this to the relative syntactic scope between the comparative clause (headed by *izyoo(-ni)* and *gurai*) and the matrix modal: according to him, the comparative clause obligatorily takes scope over the matrix modal at LF.

Unfortunately, this syntactic solution does not work. Note, first of all, that such a solution is impossible for interrogative sentences like (6) and implausible for conditional sentences like (8) (antecedent clauses of conditionals are standardly taken to be scope islands (Fodor and Sag 1982)). But these examples exhibit the same asymmetry between the matrix and comparative degrees regarding their presuppositional statuses as with the modal examples. Moreover, the assumption that the comparative clause scopes over the matrix modal yields incorrect truth conditions for sentences containing modals with universal quantificational force and the equative *gurai*. For example, assuming that the comparative clause scopes over the matrix modal, in H's analysis, the truth conditions for (9) comes out as (11).[6] Here, crucially, the **max** operator for the matrix degree scopes over the universal quanti-

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[5] A reviewer raises the possibility that this implication might be cancellable, noting that the following examples might be acceptable in certain contexts ((s)he doesn't, however, explicate what such a context would be; the judgment in (i) is the reviewer's):

(i) ?John-wa Mary-{**izyoo-ni/gurai**} se-ga   takai-ga, kare-wa musiro
     John-TOP Mary-more-DAT/as   height-NOM tall-but he-TOP   rather
     se-ga   hikui-hoo-da.
     height-NOM   short-if.anything-COP
     'John is taller than / as tall as Mary, but he's rather short.'

I (and the native speakers that I consulted) do not agree with this judgment. I conjecture that the reason that examples like (i) are not totally unacceptable for certain speakers (assuming that the judgment by the reviewer here represents the judgments of a non-negligible body of speakers) is that such speakers are more tolerant with presupposition failure than speakers who reject such examples. In the analysis that I propose in this paper, the second clause of (i) does not directly deny the presupposition of the first clause but only an entailment *from* the presupposition. This indirectness might be one reason that such sentences are judged relatively acceptable by speakers who tolerate them.

[6] Here, the measure function δ_{tall} is extended to take a world variable as an argument to take into account intensionality. The free variable w_0 in (11) designates the actual world. Depending on one's assumptions, the **standard** relation might need to be parameterized for the world variable as well (cf. the discussion in the text below), a detail which I ignore here.

fier over worlds introduced by the modal. This is a consequence of H's analysis in which the **max** operators for both the matrix and comparative degrees are encoded in the lexical meanings of *izyoo(-ni)* and *gurai* as in (10), which, by assumption, raise above the modal in sentences like (9).

(9)   John-wa   Mary-**gurai**   se-ga   takai-ni-tigainai.
       John-ᴛᴏᴩ   Mary-as   height-ɴᴏᴍ   tall-ᴄᴏᴩ-must
       'John must be as tall as Mary.'

(10)   a. $\llbracket$izyoo$\rrbracket$ = $\lambda P \lambda Q.$ **max**(P) > **max**(Q)
       b. $\llbracket$gurai$\rrbracket$ = $\lambda P \lambda Q.$ **max**(P) ≈ **max**(Q)

(11)   **max**$(\lambda d_2 \forall w \in Acc. \exists d_1[$**standard**$(d_1)(d_2)(\llbracket$tall$\rrbracket)(C) \wedge \delta_{tall}(\mathbf{j})(w) = d_1]) \approx$
       max$(\lambda d_2 \exists d_1[$**standard**$(d_1)(d_2)(\llbracket$tall$\rrbracket)(C) \wedge \delta_{tall}(\mathbf{m})(w_0) = d_1])$

The logical translation in (11) raises, first of all, the question of whether the standard of tallness can be assumed to be constant across different epistemically accessible worlds (if not, John's heights in the relevant worlds are not required to be the same as Mary's height in the actual world, which is obviously a wrong result). But even if we somehow ensure that the contextual standard of tallness is constant across worlds, (11) is too weak as the truth conditions for (9). Given the monotonicity of degrees, the set of degrees that is given as the argument of the **max** operator in the lefthand side of (11) (which corresponds to the meaning contribution from the matrix clause) is the set of all degrees d_2 such that John's height exceeds the contextual standard by *at least d_2* in *all* of the worlds epistemically accessible to the speaker. Taking the maximum value of this set is equivalent to identifying the maximum degree by which John exceeds the standard in the world in which he is the shortest (among all the epistemically accessible worlds). But then, (11) merely asserts that John is (about) as tall as Mary in the world in which he is the shortest, which does not exclude the possibility that he is much taller than Mary in some of the speaker-conceivable worlds. But this is simply wrong as the truth conditions for (9) since the sentence intuitively means that (for all the speaker knows) John's height is approximately the same as Mary's.

4. An Alternative, Non-deviation-based Analysis of *izyoo(-ni)* and *gurai* Comparatives

Having pointed out the empirical shortcoming of H's analysis, I now sketch an alternative analysis of the *izyoo(-ni)* and *gurai* comparatives. Since the standard-oriented presupposition is present only for the comparative degree, there is no reason to assume a comparison of deviation analysis for these constructions. This means that it suffices to treat these constructions as the standard kind of comparative and equative constructions except that they trigger the standard-oriented presupposition for the comparative degree.[7] There are several alternatives for for-

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[7] An important question for which I currently do not have an answer is where this presupposition comes from. H claims that this cannot be ascribed to the meanings of *izyoo(-ni)* and *gurai* by giving examples like the following in which these expressions

mulating such an analysis, but for ease of exposition and to account for the 'locality' effects observed in the *izyoo(-ni)* and *gurai* comparatives in the simplest way possible (see below), I adopt a measure function-based analysis of gradable adjectives of the kind proposed by Kennedy (1999), which treats adjectives as denoting functions from individuals to degrees. Since intensionality becomes relevant in the following discussion, I assume that measure functions are semantically of type $<e, <s, d>>$ (with s the type for world variables). Thus, the adjective *(se-ga) takai* 'tall' denotes the measure function δ_{tall}, which takes an individual x and a world w as its arguments and returns a degree which represents x's height on the scale that measures vertical length in world w:

(12) $[\![(\text{se-ga}) \text{ takai}]\!] = \lambda x \lambda w.\delta_{tall}(x)(w)$

Izyoo(-ni) and *gurai* can then be given the following translations:[8,9,10]

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directly combine with measure phrases, where such a presupposition is lacking:

   (i) a. John-wa 5-kg **izyoo**-no (omosa-no) sakana-o turiage-ta.
        John-TOP 5-kg more-GEN weight-GEN fish-ACC pull.up-PAST
        'John fished a fish that weighs more than 5kg.'
     b. John-wa 10-m **gurai**-no (nagasa-no) turizao-o kat-ta.
        John-TOP 10-m as-GEN length-GEN fishing.rod-ACC buy-PAST
        'John bought a fishing rod that is 10m long.'

This argument, however, presupposes that cases like (i) and cases in which *izyoo(-ni)* and *gurai* appear in their comparative constructions (as in (2) and (3)) can be treated uniformly. At least in H's own analysis, it is not straightforward to see how such a uniform analysis can be formulated. For him, *izyoo(-ni)* and *gurai* take degree predicates (of type $<d, t>$), rather than degrees themselves, as their arguments in their comparative uses. In examples like (i), on the other hand, *izyoo(-ni)* and *gurai* seem to be combining with degrees directly. If two distinct lexical entries need to be posited anyway, there does not seem to be much reason to reject the option of assigning to one of them some presupposition lacking in the other.

8 As noted by H, *izyoo(-ni)* and *gurai* can take clauses as well as individual-denoting phrases as arguments, as in (i) (these sentences might sound a bit awkward but that is arguably because of the repetition of the same adjective in the matrix and comparative clauses):

   (i) John-wa [Mary-ga se-ga takai]-**izyoo-ni/gurai** se-ga takai.
        John-TOP Mary-NOM height-NOM tall-more-DAT/as height-NOM tall
        'John is taller than/(about) as tall as Mary.'

For these clausal cases, assuming that, in the comparative clause the measure function denoted by the adjective directly combines with the subject to yield the relevant degree, the following minimally modified entries suffice to assign the correct truth conditions for the sentences (an additional assumption that is needed, which, in the worst case, could be enforced by a syntactic stipulation on complement clauses introduced by *izyoo(-ni)* and *gurai*, is that the measure function denoted by the adjective is evaluated with respect to the actual world so that the degree d given as the first argument for these clausal *izyoo(-ni)* and *gurai* represents Mary's height in the actual world):

(13) $[\![izyoo]\!] = \lambda x \lambda g \lambda y \lambda w.\ g(y)(w) > g(x)(w_0)$ (defined only if $g(x)(w_0) \geq \mathbf{stnd}(g)$)
(14) $[\![gurai]\!] = \lambda x \lambda g \lambda y \lambda w.\ g(y)(w) \approx g(x)(w_0)$ (defined only if $g(x)(w_0) \geq \mathbf{stnd}(g)$)

As an illustration, (15) gives the truth conditions for (2) under this account:

(15) $\delta_{tall}(\mathbf{j})(w_0) > \delta_{tall}(\mathbf{m})(w_0)$ (defined only if $\delta_{tall}(\mathbf{m})(w_0) \geq \mathbf{stnd}(\delta_{tall})$)

Here, crucially, only the comparative degree is presupposed to exceed the contextual degree of tallness. Thus, interrogative sentences like (6) ask whether John's height exceeds Mary's on the basis of the shared knowledge that Mary's height does exceed the standard (in the actual world). It is then correctly predicted that such a question can be felicitously asked in a situation which leaves room for a possibility that John might not be actually tall, but not in a situation in which Mary's tallness is still open to question. Similar accounts go for the cases involving modals and conditionals.

I now address two issues that H discusses in his paper and point out how they can be accounted for under the alternative approach that I have sketched above. First, H points out that, unlike the *yori* comparative, the *izyoo(-ni)* and *gurai* comparatives exhibit typical locality effects, giving examples like the following:

(16) ?*John-wa   Mary-ga   [[__ kat-ta   seizika-o]   zeikin
        John-TOP   Mary-NOM   buy-PAST politician-ACC tax
        doroboo-to   nonosit-ta]-**izyoo(-ni)/gurai** takai   kuruma-o kat-ta.
        robber-COMP accuse-PAST-**more-DAT/as**   expensive car-ACC   buy-PAST
        (lit.) 'John bought a car that was {more expensive than/as expensive as}
        Mary accused of stealing tax money the politician who bought.'

This example instantiates an island configuration (specifically, a complex NP), but the unacceptability of examples like (16) alone does not establish that island sen-

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(ii) $[\![izyoo]\!] = \lambda d \lambda g \lambda y \lambda w.\ g(y)(w) > d$ (defined only if $d \geq \mathbf{stnd}(g)$)
(iii) $[\![gurai]\!] = \lambda d \lambda g \lambda y \lambda w.\ g(y)(w) \approx d$ (defined only if $d \geq \mathbf{stnd}(g)$)
[9] For simplicity, I have assumed here that in the truth-conditional part, *izyoo(-ni)* and *gurai* compare John's height in some relevant world with Mary's height in the actual world. It might be more accurate to assume that the height comparison is done within the same world, but an additional assumption of consistency of Mary's height across worlds (which seems to be required in making sense of *izyoo(-ni)* and *gurai* comparative sentences) gets the apparent effect of cross-world comparison of John's and Mary's heights.
[10] As pointed out by a reviewer, it is technically possible to capture the same presuppositional asymmetry between the matrix and comparative degrees in *izyoo(-ni)* and *gurai* comparatives in H's analysis by incorporating the same restriction on the comparative degree as in my analysis. (This could be done, for example, by incorporating the presuppositional restriction in (13) in H's definitions of *izyoo(-ni)* and *gurai*.) While such a move would make H's analysis and the present proposal empirically indistinguishable, it should be noted that the present proposal is simpler than such a reformulation of H's analysis in not involving the extra complication of taking differential degrees representing deviations from the standard (rather than the original degrees themselves) as the target of comparison. Thus, by Occam's razor, the present proposal should be favored over such a reformulation of H's analysis.

sitivity (of some kind of movement operation) is at issue here. In fact, the correct generalization seems to be something else, since examples involving clause embedding do not improve very much even if the (supposedly offending) island configuration is removed, as shown by the following example:[11]

(17) ??John-wa [Mary-ga   zibun-no kuruma-ga takai-to   {omot-te
      John-TOP Mary-NOM self-GEN car-NOM expensive-COMP think-TE
      iru/ziman-si-ta]}-**{izyoo-ni/gurai}**   takai   kuruma-o kat-ta.
      be/boast-do-PAST-more-DAT/as   expensive car-ACC buy-PAST
      intended: 'John bought a car that is as expensive as/more expensive than
      Mary thinks/boasts her car is.'

Assuming that clause-boundedness is what distinguishes good examples of (clausal) *izyoo(-ni)* and *gurai* comparatives (like those in (i) in footnote 8) and the bad examples in (16) and (17), the explanation is straightforward in the measure function-based analysis that I have sketched above. In such an analysis, a gradable predicate denotes a function from individuals to degrees. Thus, by assuming (following Beck et al. 2004) that degree abstraction is unavailable in Japanese, only the predicate in the highest clause can provide the degree for comparison in the *izyoo(-ni)* and *gurai* comparatives. By contrast, in an analysis that admits (differential) degree abstraction like H's, it is not clear why examples like (17) (which does not involve an island configuration) are as bad as examples like (16).[12]

   Finally, as pointed out by H, negation always takes scope below the comparative operator in *izyoo(-ni)* and *gurai* comparatives, as shown by the fact that the following examples are unambiguously interpreted in the meanings of the English

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[11]A reviewer points out that the unacceptability of (17) improves by deleting certain material in the comparative clause as follows:

(i)   (Mary thinks that her car is expensive. However,)
       a. John-wa [Mary-ga ~~zibun-no kuruma-ga~~ takai-to omot-te iru]-**{izyoo-ni/gurai}**
          takai kuruma-o kat-ta.
       b. John-wa [Mary-ga ~~zibun-no kuruma-ga takai-to~~ omot-te iru]-**{izyoo-ni/gurai}**
          takai kuruma-o kat-ta.

The examples in (i), however, lend themselves to analyses that do not involve deletion (from an underlying structure identical to (17)). On the analysis of clausal comparatives in Japanese of the kind suggested by Kennedy (2009) which treats the comparative clause as a certain kind of nominal clause with an invisible nominalizer, the comparative clause in (ia) (and (ib)) can be analyzed as something like 'the degree (on the price scale) that Mary regards as satisfying the standard for expensiveness' (where the comparative clause instantiates a subject-to-object raising construction with the raised object providing the degree argument to be abstracted over). Given this possibility, the acceptability of (i) cannot be used to show that long-distance binding of degree arguments as in (17) can sometimes be saved. I thus assume that this piece of data does not undermine my argument in the main text.
[12]This of course raises the question of how to account for the apparent non-local cases involving the *yori* comparative (that is, analogs of (17) with *izyoo(-ni)* and *gurai* replaced by *yori* are grammatical for some speakers). I leave investigation of this issue for future study.

translations given:

(18) a. John-wa Mary-**izyoo-ni** kasikoku-nai.
John-TOP Mary-more-DAT smart-NEG
'(Mary is not smart and) John is even less smart.'
b. John-wa Mary-**gurai** kasikoku-nai.
John-TOP Mary-as   smart-NEG
'(Mary is not smart and) John is about as unsmart as her.'

Nothing I have said so far rules out the wide scope reading for the negation for these sentences in my analysis. The predicted reading (for both sentences) is one which presupposes that Mary's height exceeds the contextual standard and asserts, on the basis of this presupposition, that John's height does not exceed Mary's. (Note that there is nothing logically incoherent about such an interpretation.) There is, however, a reason to believe that such a reading is made unavailable for these sentences due to pragmatic blocking. In Japanese, there is another comparative word *hodo*, which can be thought of as an NPI counterpart of *gurai* and *izyoo(-ni)*, and this word unambiguously conveys the theoretically possible but empirically unattested negation wide scope reading for sentences like (18a) and (18b):

(19) John-wa Mary-**hodo** kasikoku-nai.
John-TOP Mary-as   smart-NEG
'(Mary is smart and) John is not as smart as her.'

I take it that the negation wide scope readings are blocked for sentences like (18a) and (18b) due to the presence of an unambiguous expression with equal morphosyntactic complexity (along the lines of McCawley (1978) and Horn's (1989) division of pragmatic labor), and that the lack of such readings for these sentences does not pose a problem for my account.

5. Conclusion

Recognizing an important semantic difference between *izyoo(-ni)* and *gurai* comparatives and the standard *yori* comparative in Japanese, H proposes an analysis that derives this difference as a consequence of treating *izyoo(-ni)* and *gurai* comparatives as instances of comparison of deviation. I presented novel data which cast doubt on this analysis. Specifically, while H's comparison of deviation analysis predicts that the standard-oriented implications for the matrix degree and that for the comparative degree should have the same status with respect to their (non-) presuppositionality, the standard tests for presupposition consistently point to an asymmetry between the two: only the latter is a true presupposition in these constructions. Based on this observation, I sketched an alternative analysis that treats these constructions as standard comparative and equative constructions except that they are additionally associated with standard-oriented presuppositions for the comparative degree. In this alternative analysis, the standard-oriented implication for the matrix degree derives from an interaction of the presupposition for the comparative degree and the truth-conditional entailments of these constructions. I

showed that this analysis captures the relevant facts better than H's comparison of deviation analysis.

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【要　旨】

「以上（に）」「ぐらい」を用いた比較文の前提について
——Hayashishita（2007）の批判的検討——

窪田　悠介

　本論文では，Hayashishita（2007）の「以上（に）」「ぐらい」を用いた比較構文の分析の妥当性を検討する。Hayashishita（2007）は，「A は B 以上に／ぐらい P だ」という文には通常の比較構文にはない「A と B がともに属性 P に関して平均基準を越えている」という含意があることを根拠に，これらの構文を comparison of deviation，つまり，要素 A，B に関して，平均基準をどれだけ越えているかを比較する構文として分析している。本論文では，要素 A と要素 B に関して「平均基準を越えている」という含意のステータスに関して違いがあることを示す新しいデータを提示し，Hayashishita（2007）の分析がこれらのデータに関して誤った予測をなすことを示す。さらに，本論文では，当該の構文の分析としては，比較基準である B に関してのみ「平均基準を越えている」という前提を持つ（真理条件的には）通常の比較構文である，と分析する代案のほうが観察される事実をよりよく捉えられることを示す。