

More on scale structure and degree modification: The case of *kanari* in Japanese*

Yusuke Kubota
The Ohio State University

1 Introduction

This paper proposes a semantic analysis of the degree modifier *kanari* in Japanese. As we will see below, this word is peculiar in the following two respects: (i) it can occur with both open scale and closed scale adjectives and (ii) the meanings that it has when it occurs with these two kinds of adjectives seem to be unrelated to one another. Despite this initial puzzle, I show that a unified analysis of the meaning of *kanari* is possible. The proposed analysis builds on the analysis of degree modifiers in English by Kennedy & McNally (2005) (henceforth K&M); in particular, it crucially makes use of the two parameters associated with the notion of *scale* (cf., e.g., Cresswell 1976; Bierwisch 1989; Kennedy 2007) articulated by K&M: *structure of scale* (open vs. closed) and *standard of comparison*. This leads us to the conclusion that, together with other recent results in scalar semantics (cf., e.g., Rotstein & Winter 2003; Kennedy & Levin 2008; Sawada & Grano 2009; Uegaki 2009), the findings in this paper provide further support for the notion of scale, especially in the way in which it is delineated by K&M.

2 The distribution and meaning of *kanari*

The Japanese degree expression *kanari* ‘quite’ is puzzling in that it is compatible with both open scale adjectives and closed scale adjectives with maximum endpoints (in what follows, I call the latter kind of adjectives ‘maximally closed scale adjectives’) as in (1) and (2).^{1,2}

- (1) a. Kono hon-wa **kanari** omosiroi.
this book-TOP quite interesting
‘This book is quite interesting.’
b. Kono hito-wa **kanari** osyaberi-da.
this person-TOP quite talkative-COP
‘This person is quite talkative.’

*Thanks to Osamu Sawada and Wataru Uegaki for very helpful comments. All errors are mine.

¹For the sake of exposition, among closed scale adjectives I only discuss maximally closed scale adjectives here. The analysis I propose in this paper also makes correct predictions about minimally closed scale adjectives (i.e. adjectives with minimum endpoints), as we will see later.

²The closest translation of *kanari* in English seems to be the word *quite* (in its British usage). For this reason, I use the word *quite* as the translation of *kanari* in my examples. I leave open the question of whether/what aspect (if any) of the analysis of *kanari* proposed in this paper can be adopted for the analysis of *quite* in English.

- c. Kono ie-wa **kanari** hurui.
this house-TOP quite old
'This house is quite old.'
- (2) a. Kono koppu-wa **kanari** manpai-da.
this glass-TOP quite full-COP
'This glass is quite full.'
- b. Kono hasira-wa **kanari** massugu-da.
this pole-TOP quite straight-COP
'This pole is quite straight.'
- c. Kono kotae-wa **kanari** tadasii.
this answer-TOP quite correct
'This answer is quite correct.'

This behavior is peculiar since degree modifiers are typically compatible only with particular types of predicates; for example, as can be seen in (3) and (4), *totemo* 'very' can only occur with open scale adjectives while *kanzen-ni* 'completely' can only occur with maximally closed scale adjectives.

- (3) Kono hon-wa *totemo*/**kanzen-ni* omosiroi.
this book-TOP very/completely interesting
'This book is very/*completely interesting.'
- (4) Kono koppu-wa **totemo*/*kanzen-ni* manpai-da.
this glass-TOP very/completely full-COP
'This glass is *very/completely full.'

Even more puzzling is the fact that the word *kanari* seems to mean rather different things in the above two cases: (1a) can be paraphrased as something along the lines of 'the degree to which the book is interesting is *significantly* (but perhaps not extraordinarily) high,' whereas (2a) means something like 'the glass is *almost* full'.

That the meanings of *kanari* with these two kinds of adjectives are in fact as described above can be corroborated by the following examples. First, with open scale adjectives, saying '*kanari* A but not very A' is perfectly felicitous while 'very A but not *kanari* A' sounds contradictory:

- (5) a. Kono hon-wa **kanari** omosiroi-ga, **totemo** omosiroi toiu
this book-TOP quite interesting-but very interesting COMP
hodo-de-wa-nai.
degree-COP-TOP-NEG
'This book is quite (but not very) interesting.'
- b. #Kono hon-wa **totemo** omosiroi-ga, **kanari** omosiroi toiu
This book-TOP very interesting-but quite interesting COMP
hodo-de-wa-nai.
degree-COP-TOP-NEG
intended: 'This book is very (but not quite) interesting.'

This suggests that, when it occurs with an open scale adjective, *kanari* intensifies the meaning of the adjective, but not as much as do more typical intensifiers such as *totemo* ‘very’.³

Second, with (maximally) closed scale adjectives, ‘*kanari* A’ does not entail that the object in question has the maximum degree of A-ness. Thus, saying ‘*kanari* A but not completely A’ is not a contradiction. In this respect, *kanari* behaves like *hotondo*, which indeed means ‘almost’ (and which is thus incompatible with open scale adjectives: **Kono hon-wa hotondo omosiroi* ‘This book is almost interesting’). The following (6a) and (6b) seem to be nearly synonymous to one another:

- (6) a. Kono koppu-wa **kanari** manpai-da-ga, **kanzen-ni**-wa
 this glass-TOP quite full-COP-but completely-TOP
 manpai-de-wa-nai.
 full-COP-TOP-NEG
 ‘This glass is quite full, but it’s not completely full.’
- b. Kono koppu-wa **hotondo** manpai-da-ga, **kanzen-ni**-wa
 this glass-TOP almost full-COP-but completely-TOP
 manpai-de-wa-nai.
 full-COP-TOP-NEG
 ‘This glass is almost full, but it’s not completely full.’

To summarize the observations made above, *kanari* can occur with two different kinds of adjectives—open scale ones and closed scale ones—and it seems to be associated with distinct meanings in these two cases. The question that arises at this point is: *why?*: why is this word compatible with these different kinds of adjectives; why does it have the two seemingly unrelated meanings; finally and most importantly, why is it the case that these meanings are each restricted to the particular kinds of adjectives? While it would certainly be possible to treat *kanari* as being ambiguous in the two ways described above, such an account would be unsatisfying in that it wouldn’t provide any insights into these questions. I thus investigate a different approach; in the rest of the paper, I show that it is indeed possible to assign a single uniform meaning to *kanari* and that the apparent difference in meaning in the two cases arises from independently motivated factors. Specifically, as has been argued, for example, by K&M and Kennedy (2007), the meanings of open scale and closed scale adjectives are fundamentally different, due to the fact that the standard of comparison is set differently. I argue that the apparent meaning difference of *kanari* with open scale and closed scale adjectives automatically falls out once we recognize this independently motivated semantic difference between the two kinds of adjectives and once we properly understand the ways in which it interacts with the single invariable lexical meaning of *kanari*.

³The same kind of contrast can be observed with other garden-variety intensifiers such as *hizyooni* (lit.) ‘exceptionally’ and *osorosiku* (lit.) ‘horribly’.

3 Analysis

My analysis of *kanari* builds generally on the semantics of scalarity and gradable predicates developed by K&M and Kennedy (2007); more specifically, it borrows some ideas from the treatment of the degree expression *very* proposed by K&M. For this reason, I start by reviewing the general setup of degree semantics assumed in these works, and then summarize K&M's analysis of *very* before presenting my own analysis of *kanari*.

3.1 The semantics of gradable adjectives and degree modifiers

One of the major contributions of K&M's work is that it has provided robust empirical evidence for the fact that gradable adjectives come in different varieties. That is, adjectives such as *interesting*, *bent*, *straight* and *open* are gradable in that they can all occur in the comparative form, which distinguishes them from non-gradable adjectives such as *dead* (cf. the ungrammaticality of **Williams is more dead than Smith*). Yet, there are at least two clear pieces of evidence showing that we need to partition the set of gradable adjectives into subclasses, one from their distributional properties and the other from the way in which their truth conditions are determined.

First, gradable adjectives of different sorts exhibit different distributional properties regarding the cooccurrence restrictions with certain degree modifiers as shown in (7):

- (7) a. The book is *slightly/ *fully interesting.
b. The rod is slightly/ *fully bent.
c. The rod is *slightly/ fully straight.
d. The door is slightly/ fully open.

Interesting is an *open scale* adjective since it is not compatible with either *slightly* or *fully*, which respectively target the maximum and minimum endpoints of a scale associated with a gradable adjective. *Bent* and *straight* are *minimally* and *maximally closed scale adjectives*, respectively, since they are compatible only with *slightly* and *fully*, respectively. *Open* is a *fully closed scale adjective*, since it is compatible with both *slightly* and *fully*.

Second, the truth conditions of sentences involving these gradable adjectives, especially when these adjectives occur without any degree modifiers or comparative morphology, are clearly different in nature, as can be seen in the paraphrases given to each of the sentences in (8).

- (8) a. The book is interesting. **open scale**
(= has a degree of interestingness that exceeds the contextual standard)
b. The rod is bent. **minimally closed scale**
(= has a non-zero degree of bend) **(standard: minimum degree)**
c. The rod is straight. **maximally closed scale**
(= is completely straight) **(standard: maximum degree)**
d. The door is open. **fully closed scale**
(= has a non-zero degree of openness) **(standard: minimum degree)**

Following K&M, I call this unmodified form of adjectives the *positive form*.⁴ The meanings of positive forms in (8) reveal the way in which the endpoint of a scale (or the absence thereof) significantly affects how truth conditions are determined for sentences involving gradable adjectives. The pattern in short is that, when there is a unique endpoint, the truth conditions are determined with respect to that endpoint. Thus, (8b) and (8c) each assert that the object in question has a degree that is above, or is equal to, the degree corresponding to the endpoint. *Open* has a fully closed scale and thus has two endpoints. For such predicates, one of the two endpoints is usually taken to be the default one against which the truth conditions are determined; with *open*, it is the minimum endpoint.⁵ When the adjective does not have any endpoint, that is, when it is an open scale adjective, the truth conditions of the sentence are determined with respect to a contextually supplied standard. Thus, (8a) asserts that the object in question has a positive degree of interestingness that exceeds a certain standard whose exact value is somewhat vague and varies from one context to another.

K&M propose to analyze the meanings of gradable adjectives uniformly by stating their truth conditions in terms of the notion of *standard of comparison*: for any gradable adjective A, ‘*x* is A’ is true just in case *x*’s degree is equal to or above the standard on the scale associated with A. The standard, then, is determined differently for each kind of adjective: it is set to (one of) the endpoint(s) for closed scale adjectives; for open scale adjectives, which, by definition, lack endpoints, the standard is contextually determined.

Formally, K&M take degrees (which are of type *d*) to be primitives in the semantic ontology and treat adjectives as denoting functions *G* of type $\langle d, \langle e, t \rangle \rangle$ —which can be thought of as defining a relation between an entity *x* and a degree *d* on a scale associated with the adjective—such that $G(d)(x)$ is true just in case the degree that *x* possesses on the scale associated with the adjective equals *d*. For the positive form, this adjective denotation combines with a null degree morpheme (called the *pos(itive) morpheme*) defined as in (9) to return a property of type $\langle e, t \rangle$ (which can then combine with the subject of the sentence to return a truth value):

$$(9) \quad \llbracket pos \rrbracket = \lambda G \lambda x. \exists d [\mathbf{standard}(d)(G)(C) \wedge G(d)(x)]$$

The **standard** relation in the lexical definition of the pos morpheme in (9) is what triggers the appropriate standard setting for different kinds of adjectives. For a closed scale adjective, **standard**(*d*)(*G*)(*C*) is true just in case *d* is at least as large as the degree corresponding to (one of) the endpoint(s) of the scale associated with *G* regardless of the value of *C* (which is technically a free variable that designates the ‘comparison class’; cf. below); for an open scale adjective, **standard**(*d*)(*G*)(*C*) is true just in case *d* is at least as large as the contextually determined degree of *G*-ness that is enough to stand out to qualify as *G* given the particular set of objects designated by *C* against which the comparison is made (this set, that is, the set of

⁴This is a somewhat confusing but traditional terminology; in particular, it has nothing to do with the notion of (negative vs. positive) polarity.

⁵However, as discussed by Kennedy (2007), by manipulating the context appropriately, it can be shown that both endpoints are in principle available for choice as the standard of comparison for fully closed scale adjectives.

objects against which the comparison is made, is called the *comparison class*; see K&M and Kennedy (2007) for more details about this notion and references).

Kennedy (2007) argues that this pattern of standard setting follows from a general pragmatic principle that governs the way interlocutors compute the meanings of sentences based on compositionally calculated truth conditions and information available in the discourse, and he calls it the ‘Principle of Interpretive Economy’. The details of how all of this works out, however, does not concern us here; all that is important for our purposes is that open scale and closed scale adjectives fundamentally differ from one another with respect to their semantic properties, specifically, in the way in which the standard of comparison is determined.⁶

Building on this general setup of the semantics of gradable adjectives, K&M analyze the degree modifier *very* as an expression that raises the standard of comparison by narrowing down the comparison class. K&M attribute the basic analysis to Klein (1980) (who in turn builds on Wheeler (1972) for the essential analytic insight) and implement it in their setup by assigning the following lexical meaning to the expression *very*:⁷

$$(10) \quad \llbracket \text{very} \rrbracket^c = \lambda G \lambda x. \exists d [\mathbf{standard}(d)(G)(\lambda y \llbracket \text{pos} \rrbracket^c(G)(y)) \wedge G(d)(x)]$$

This can be paraphrased as follows: let d' be the standard to stand out and qualify as G when compared against the set of objects y all of which satisfy the predicate ‘ y is (pos) G ’; then, ‘ x is very G ’ is true if and only if x has a degree d of G -ness that is at least as large as d' . What is crucial here is that *very* has the effect of restricting the comparison class to the set of objects that already qualify as G . In order to stand out against this selective comparison class, whose members all satisfy the general standard, the object in question needs to have a significantly higher degree of G -ness than one that would (barely) satisfy the positive form. For example, in this account, the sentence *This book is very interesting* is true just in case the book in question stands out on the scale of interestingness *even* compared against the set of objects that all qualify as being interesting. Thus, this analysis properly accounts for the function of *very* as an intensifier for open scale adjectives.

Now, the expression *very* is generally incompatible with closed scale adjectives except for cases in which it induces a special kind of interpretation, that is, when the closed scale adjective allows for an imprecise interpretation and *very* intensifies the degree to which the imprecision in question is small (for a discussion on this point, see K&M). Excluding that possibility, sentences like the following are infelicitous:

- (11) a. #This door is always very open.
 b. #The beaker is very full, so, if you pour more liquid into it, it will overflow.

The incompatibility of *very* with closed scale adjectives receives a pragmatic account in K&M’s analysis. The truth conditions for (11a) come out as follows:

⁶Other phenomena where this difference becomes significant include, among others, measure phrases (Sawada & Grano 2009; Kubota 2009) and the resultative construction in Japanese (Uegaki 2009).

⁷The superscript c designates the context parameter.

$$(12) \quad \llbracket \text{very} \rrbracket^c(\text{open})(\text{this-door}) \\ = \exists d[\text{standard}(d)(\text{open})(\lambda y \llbracket \text{pos} \rrbracket^c(\text{open})(y)) \wedge \text{open}(d)(\text{this-door})]$$

Crucially, in K&M's system, the standard of comparison for closed scale adjectives is set to the endpoint of the scale *regardless of the comparison class*. This means that (10) does not change the standard of comparison at all when the adjective in question is a closed scale one. In other words, adding *very* has no effect whatsoever on the truth conditions of the sentence. Given that its semantics contribution ends up being completely vacuous, modifying a closed scale adjective with *very* leads to infelicity.

In this section, I have summarized the general setup of the semantics of scalarity and gradable predicates proposed by K&M and Kennedy (2007), and have sketched the analysis of the the degree expression *very* by K&M that accounts for its meaning and distribution correctly. We are now ready to see how *kanari* can be given a uniform analysis within this setup.

3.2 Analyzing *kanari*

Building on K&M's analysis of *very*, I propose an analysis of *kanari* in terms of the meanings of the positive forms of adjectives. The proposal in short can be stated as follows: '*x* is *kanari G*' means that *x* has a degree of *G*-ness that is *around the average* of *G*-ness of objects that qualify as *G* (in the positive form). As I will show, with this lexical meaning for *kanari*, '*kanari G*' ends up meaning exactly what it intuitively means for both the case in which *G* is an open scale adjective and the case in which *G* is a (maximally) closed scale adjectives.

The lexical meaning of *kanari* stated above can be formalized as follows:

$$(13) \quad \llbracket \text{kanari} \rrbracket^c \\ = \lambda G \lambda x. \exists d_1 \exists d_2 [\text{average}(d_1)(G)(\lambda y \llbracket \text{pos} \rrbracket^c(G)(y)) \wedge d_1 \approx d_2 \wedge G(d_2)(x)]$$

Here, **average** is a relation that holds of a degree, an adjective meaning and a set of individuals and that is true just in case the degree is the average of the degrees that the set of individuals possess on the scale associated with the adjective. According to (13), for any gradable adjective *G* and individual *x*, the truth conditions for '*x* is *kanari G*' are calculated as follows: let d_1 be the average degree of *G*-ness of objects *y* that satisfy the predicate '*y* is (pos) *G*'; then, '*x* is *kanari G*' is true if and only if *x* has a degree d_2 of *G*-ness such that d_2 is approximately the same as d_1 .

Two comments are in order here. First, the idea of using the set of objects that satisfy the unmodified, positive form to form the comparison class is directly borrowed from the analysis of *very* by K&M, which they in turn borrow from Klein (1980). Second, the reason that I use the relation **average** rather than the more obvious choice of **standard** will become clear below; it is needed to get the truth conditions right for cases where *kanari* modifies *minimally* closed scale adjectives.

With the lexical meaning of *kanari* in (13), the truth conditions for (1a), a sentence involving an open scale adjective, are calculated as follows:

$$(14) \quad \llbracket \text{kanari} \rrbracket^c(\text{interesting})(\text{this-book}) \\ = \exists d_1 \exists d_2 [\text{average}(d_1)(\text{interesting})(\lambda y \llbracket \text{pos} \rrbracket^c(\text{interesting})(y)) \wedge \\ d_1 \approx d_2 \wedge \text{interesting}(d_2)(\text{this-book})]$$

According to (14), (1a) is true just in case the degree to which ‘this book’ is interesting is approximately the same as the average degree of interestingness of objects that count as interesting based on the general standard of interestingness. Note here that, just as taking the set of objects satisfying the positive form as the comparison class and setting the standard against it raises the standard of comparison in K&M’s analysis of *very*, taking their average to be the (approximate) standard has the effect of asserting that the relevant object has a degree of interestingness that exceeds the general standard by some *nontrivial* amount. Thus, (14) correctly represents the meaning of *kanari* when it occurs with an open scale adjective.⁸

Things are crucially different with maximally closed scale adjectives. The truth conditions for (2a) are as in (15):

$$(15) \quad \llbracket \text{kanari} \rrbracket^c(\mathbf{full})(\mathbf{this-glass}) \\ = \exists d_1 \exists d_2 [\mathbf{average}(d_1)(\mathbf{full})(\lambda y \llbracket \text{pos} \rrbracket^c(\mathbf{full})(y)) \wedge d_1 \approx d_2 \wedge \\ \mathbf{full}(d_2)(\mathbf{this-glass})]$$

Here, just as above, we take the average degree of fulness of objects that satisfy the predicate ‘*y* is full’ and assert that the degree possessed by ‘this glass’ is approximately the same as that average. But now, given that *manpai-da* ‘full’ is a maximally closed scale adjective, this average degree d_1 corresponds to the *maximum endpoint* of the scale of fulness since all objects that satisfy the positive form have the maximum degree for maximally closed scale adjectives. Thus, (15) entails that ‘this glass’ has a degree of fulness that is approximately the same as the maximum degree.

This is not (yet) quite the same as ‘almost’, although it is almost the same. To see that it effectively ends up being *completely* the same, observe that, by definition, nothing can have a degree that exceeds the maximum endpoint when the scale involved is a maximally closed one. From this, it follows that being approximately the same as the maximum degree means one of the following two things:⁹

- (i) $d_2 = d_1$ (i.e. identical to the maximum degree)
- (ii) $d_2 \lesssim d_1$ (i.e. slightly below the maximum degree)

That is, strictly speaking, (15) does not exclude a possibility in which ‘this glass’ has a maximum degree of fulness (i.e. (i)). Intuitively, however, such an interpretation is not available for (2a). I assume that this is due to a pragmatic economy

⁸A remark is in order regarding the felicity contrast in (5). Intuitively, this contrast is due to the fact that the strength of intensification is distinctly weaker with *kanari* than with more typical intensifiers. This follows if we assume that the standard is generally not necessarily identical to the average. More specifically, in order to stand out and qualify as A, the object in question typically has to have a degree of A-ness that is higher than the average degree of A-ness of all objects for which the judgment of whether or not A is sortally appropriate. (See Kennedy (2007:11) for a discussion on the difference between standard and average in this connection.) Assuming that this remains true regardless of the choice of the comparison class (which seems to be a reasonable assumption given the nature of the notion of standard), the felicity contrast in (5) follows directly from the present analysis, together with the assumption that the expression *totemo* in Japanese is analyzed in the same way as English *very*.

⁹I would like to thank Wataru Uegaki (p.c.) for pointing out this consequence of the proposed analysis and suggesting to me the pragmatic account of the unavailability of the maximum amount reading.

principle along the lines of McCawley (1978) and Horn's (1989) division of pragmatic labor. That is, for conveying the information that the glass has the maximum degree of fullness, there is a simpler and less ambiguous form, namely the positive form (16):

- (16) Kono koppu-wa manpai-da.
 this glass-TOP full-COP
 'This glass is full.'

Given the existence of this simpler and less ambiguous form, possibility (i) for (15) is blocked, assuming that the speaker is cooperative in the Gricean sense. Then, it follows that the only possible thing that (2a) can mean is (ii), which says that the degree of fullness d_2 of 'this glass' is slightly less than the maximum degree of fullness, that is, that the glass is *almost* (but not completely) full. This accurately corresponds to what the sentence intuitively means when *kanari* combines with a maximally closed scale adjective.¹⁰

Interestingly, the proposed analysis also makes correct predictions about cases involving minimum endpoints, namely, cases with lexically minimally closed scale adjectives and cases with the comparative phrase with *-yori*. Intuitively, with minimally closed scale adjectives, *kanari* means 'significantly', just as with open scale adjectives. That is, the following sentence means that the rod has a *significant* degree of bend, *not* that it has a degree of bend that is around the minimum endpoint (i.e. the standard):

- (17) Kono sao-wa **kanari** magat-te iru.
 this rod-TOP quite bent COP
 'This rod is quite bent.'

¹⁰As should be clear from the discussion in the main text, the proposed analysis (like Sadock's (1981) analysis of *almost*) treats the 'not completely' meaning of *kanari* as it occurs with maximally closed scale adjectives to be a conversational implicature rather than an entailment. This seems to be the right result, since the relevant implication can be cancelled in certain contexts. To see this, observe the felicity of the following examples:

- (i) a. A: (without looking at the glass very carefully)
 Kono koppu-wa kanari manpai-da-ne.
 this glass-TOP quite full-COP-EMOTIVE
 'This glass is quite full, isn't it?'
 B: (inspecting the glass carefully to verify A's claim)
 Kanari manpai dokoro-ka kanzen-ni manpai-da-zo.
 quite full not only completely full-COP-EMPH
 'Not only that, it's *completely* full.'
- b. (referring to a set of glasses, some of which are almost (but not completely) full while others are completely full)
 Korera-no koppu-wa doremo kanari manpai-da.
 these-GEN glass-TOP each quite full-COP
 'All of these glasses are quite full.'

The proposed analysis correctly predicts this fact. Note first that the average degree of bend of objects y that satisfy the predicate ‘ y is bent’ exceeds the minimum endpoint by some nontrivial amount (since all these objects have some positive degrees of bend). Now, according to the analysis of *kanari* in (13), (17) asserts that the bend of the rod is approximately the same as that average. It then follows that the rod has a nontrivial amount of bend. Note here that, if we used the relation **standard** instead of **average** in the definition of the meaning of *kanari* in (13), it would be incorrectly predicted that (17) would mean that the rod has a degree that is approximately the same as some degree that is equal to or above the standard (where the standard corresponds to the minimum endpoint since a minimally closed scale adjective is involved here). But this would be too weak as the truth conditions for (17) since being approximately the same as a degree that exceeds the standard would merely entail that the degree in question is itself (at least) equal to or above the minimum endpoint. This would clearly be a wrong result. This suggests that the meaning of *kanari* should be characterized in terms of **average** instead of **standard**.

Finally let us look at a case where *kanari* occurs in the comparative form with *-yori* ‘than’.¹¹ Empirically, *kanari* appearing in the comparative construction behaves essentially in the same way as when it appears with open or minimally closed scale adjectives. (18) asserts that the difference of height between the two shelves is *significantly* large.

- (18) Kono tana-wa ano tana-yori **kanari** takai.
 this shelf-TOP that shelf-than quite high
 ‘This shelf is higher than that shelf by a quite large extent.’

This makes sense if we understand the essential function of the comparative construction to be to derive a new minimally closed scale for measuring the differential degree between the object being predicated of and the object that is taken to be the standard: since the comparative construction involves a minimally closed scale, *kanari*’s meaning there is the same as with lexically minimally closed scale adjectives.

Importantly, despite the lack of comparative morphology on the adjective, there is solid evidence (cf. Kennedy (to appear) and Sawada (2009)) that the comparative form in Japanese involving the morpheme *-yori* is a case of what Kennedy (2007) calls *explicit comparison* rather than *implicit comparison*. The former is exemplified by English comparatives with the overt comparative morpheme *-er* (or *more*), while the latter is exemplified by forms of comparison using expressions such as the English *as compared to*; the two types of comparison constructions contrast with one another systematically in their semantic properties and the Japanese *-yori* construction consistently exhibits the properties of the former (for specific pieces of evidence, see Kennedy (to appear) and Sawada (2009)). As Kennedy (to appear) notes, this motivates an analysis of the *-yori* construction along the lines of English overt comparatives.

Here I adopt a somewhat nonstandard (but conveniently perspicuous) analysis of comparatives that K&M sketch in their account of the interactions of the semantics of degree modifiers and comparatives. This analysis is exactly along the

¹¹Japanese does not mark the adjective with an overt comparative morpheme.

lines of the intuitive characterization of the function of the comparative construction that I have given above.¹² Thus, by adopting this analysis of comparatives for the Japanese *-yori* construction, the proposed account of *kanari* straightforwardly predicts the correct truth conditions for (18). Specifically, the assumption needed is the following:

- (19) *ano tana-yori takai* ‘taller than that shelf’ denotes a relation between objects and degrees on a redefined scale of tallness; the redefined scale is identical to the original scale of tallness associated with *takai* ‘tall’, except that it has a derived *minimum endpoint* that is identified with the height of ‘that shelf’ on the original scale.

With (19), the truth conditions for (18) are predicted to be as follows: (18) is true if and only if the height of ‘this shelf’ is approximately the same as the average height of objects *y* that satisfy the predicate ‘*y* is taller than that shelf’, that is, if and only if its height exceeds the height of ‘that shelf’ by some *nontrivial* amount. This indeed precisely corresponds to what the sentence intuitively means.

To summarize, we have seen in this section that the proposed analysis of *kanari* in (13) correctly captures what the word intuitively means in all relevant cases. The key to the analysis is the fact that the standard of comparison is determined differently for different kinds of gradable adjectives.

4 Conclusion

Building on the analysis of gradable adjectives and degree modifiers by Kennedy & McNally (2005), I have proposed an analysis of the Japanese degree expression *kanari* that unifies the apparently unrelated meanings that this word exhibits when it occurs with open scale and (maximally) closed scale adjectives. The proposed analysis attributes the apparent meaning difference to an independently motivated difference in the properties of open scale and closed scale adjectives, namely, the way in which the standard of comparison is set. I have also shown that the proposed analysis makes correct predictions about other cases as well—specifically, ones involving (lexically) minimally closed scale adjectives and comparatives. Recent results in degree semantics have extended the empirical domain in important ways (cf., e.g., Rotstein & Winter 2003; Kennedy & Levin 2008; Sawada & Grano 2009; Uegaki 2009), but they all converge on the same general conclusion that recognizing the notion of scale leads to insightful analyses of complex linguistic phenomena pertaining to gradability. The conclusion obtained in the present paper is fully in line with these recent results and further corroborates the significance of the notion of scale structure—especially the way it is articulated by Kennedy & McNally (2005).

¹²See Kubota (2009) for a detailed formal analysis of the *-yori* comparative in Japanese along these lines together with a demonstration that it straightforwardly accounts for a range of facts associated with this construction. An important question that needs to be asked but that unfortunately goes beyond the scope of this paper is whether an equally straightforward analysis of the interaction between the meaning of *kanari* and the comparative would be possible if one instead adopted the more standard, quantificational analysis of comparatives.

References

- Bierwisch, Manfred. 1989. The semantics of gradation. In *Dimensional Adjectives: Grammatical Structure and Conceptual Interpretation*, ed. by Manfred Bierwisch & Ewald Lang, 71–261. Berlin: Springer-Verlag.
- Cresswell, Max J. 1976. The semantics of degree. In *Montague Grammar*, ed. by Barbara H. Partee, 261–292. New York: Academic Press.
- Horn, Lawrence R. 1989. *A Natural History of Negation*. Chicago: Chicago University Press.
- Kennedy, Christopher. 2007. Vagueness and grammar: The semantics of relative and absolute gradable adjectives. *Linguistics and Philosophy* 30.1–45.
- . to appear. Modes of comparison. In *Chicago Linguistic Society*, volume 43.
- , & Beth Levin. 2008. Measure of change: The adjectival core of degree achievements. In *Adjectives and Adverbs: Syntax, Semantics and Discourse*, ed. by Christopher Kennedy & Louise McNally, 156–183. Oxford: Oxford University Press.
- , & Louise McNally. 2005. Scale structure, degree modification, and the semantics of gradable predicates. *Language* 81.345–381.
- Klein, Ewan. 1980. A semantics for positive and comparative adjectives. *Linguistics and Philosophy* 4.1–45.
- Kubota, Yusuke, 2009. Setting the standard, measuring degrees: The semantics of *yori* ‘than’ phrases and measure phrases in Japanese. MS., The Ohio State University.
- McCawley, James D. 1978. Conversational implicature and the lexicon. In *Syntax and Semantics 9: Pragmatics*, ed. by Peter Cole, 245–259. New York: Academic Press.
- Rotstein, Carmen, & Yoav Winter. 2003. Total adjectives vs. partial adjectives: Scale structure and higher-order modifiers. *Natural Language Semantics* 12.259–288.
- Sadock, Jerrold L. 1981. Almost. In *Radical Pragmatics*, ed. by Peter Cole, 257–270. New York: Academic Press.
- Sawada, Osamu. 2009. Pragmatic aspects of implicit comparison: An economy-based approach. *Journal of Pragmatics* 41.1079–1103.
- , & Thomas Grano, 2009. Investigating an asymmetry in the semantics of Japanese measure phrases. Paper presented at BLS 35, February 15, 2009.
- Uegaki, Wataru, 2009. A degree-based semantics for Japanese resultatives. MS., The University of Tokyo.
- Wheeler, Samuel. 1972. Attributives and their modifiers. *Noûs* 6.310–334.