

Phrasal comparatives in Japanese: A measure function-based analysis

As in English (Kennedy and McNally, 2005), Japanese relative gradable adjectives exhibit context-dependent interpretations pervasively (contrasting sharply with absolute adjectives, whose interpretations are context-independent). Consider first (1)–(4) WITHOUT the *yor*i phrase in the parentheses: in the positive form (1), the standard is vague; degree modifiers that target fixed standards are incompatible with them (2); the negation of the positive form doesn't entail the positive form of the antonym (3); a measure phrase measures the degree against some contextually understood standard (4). Quite strikingly, the context-dependence of relative adjectives in (1)–(4) systematically disappear when there is a *yor*i phrase that overtly supplies the standard of comparison: with an overt *yor*i phrase, the bare adjective is no longer vague (1); degree modifiers targeting a fixed standard can occur (2); the negation entails the antonym (3); the *yor*i phrase, rather than the context, supplies the standard of comparison for the measure phrase (4).

- (1) Kono tana-wa (ano tana-yori) takai.
this shelf-TOP that shelf-than tall
'This shelf is tall(er than that shelf).'
 - (2) Kono tana-wa *(ano tana-yori) wazukani takai.
this shelf-TOP that shelf-than slightly tall
'This shelf is slightly tall(er than that shelf).' (acceptable only with the *yor*i phrase)
 - (3) Kono tana-wa (ano tana-yori) takaku-nai. \models Kono tana-wa (ano tana-yori) hikui.
this shelf-TOP that shelf-than tall-NEG this shelf-TOP that shelf-than short
'This shelf is not taller than that shelf.' \models 'This shelf is shorter than that shelf.'
(The entailment goes through only with the *yor*i phrase.)
 - (4) Kono tana-wa (ano tana-yori) 20-senti-meetoru takai.
This shelf-TOP that shelf-than 20-centimeter tall
(without the *yor*i phrase:) 'This shelf is 20 centimeters taller (than some contextually salient shelf).'
- (with the *yor*i phrase:) 'This shelf is 20 centimeters taller than that shelf.'

Beck et al. (2004) have proposed an analysis of the *yor*i construction that assimilates it to implicit comparison (e.g. *as compared to* in English) based on the fact that Japanese doesn't have overt comparative morphology. However, at least for phrasal comparatives like those in (1)–(4), in which *yor*i takes a simple NP as its complement, this analysis is problematic. As noted by Kennedy (to appear) and Sawada (2009), Japanese phrasal comparatives with *yor*i behave more like explicit comparison (e.g. English *-er than*) than like implicit comparison with respect to a range of phenomena, including crisp judgments: (5) is perfectly felicitous for comparing two papers, one of which is 100, the other, 98 pages long (this contrasts sharply with implicit comparison constructions with *kurabe-tara/reba*; cf. Sawada (2009)):

- (5) Kono peepaa-wa ano peepaa-yori nagai.
This paper-TOP that paper-than long
'This paper is longer than that paper.'

Building on the measure function-based analysis of gradable adjectives by Kennedy (1999, 2007) and Kennedy and McNally (2005), this paper proposes an analysis of Japanese phrasal comparatives that straightforwardly captures the contrasts in (1)–(4). The analysis most directly builds on an analysis of comparatives in English sketched by Kennedy and McNally (2005) and employed in the analysis of verb telicity by Kennedy and Levin (2008) that crucially makes use of the notion of 'derived' measure function. The gist of the proposal is that the *yor*i phrase resets the scale associated with the original adjective in such a way that the derived scale invariably (i.e. regardless of the structure of the scale given as input) has a lower endpoint, which is identified with the degree that the referent of the *yor*i phrase possesses on the original scale.

Following Kennedy (1999, 2007), I assume that adjectives denote measure functions of type $\langle e, d \rangle$. Employing the notation of Kennedy and Levin (2008), we can then write the lexical entry for *yorī* as follows:

$$(6) \quad \llbracket \text{yorī} \rrbracket = \lambda y \lambda g \lambda x . g \uparrow_{g(y)}(x)$$

(6) says that *yorī* takes an entity y and an adjective g as arguments and returns a derived measure function $\lambda x . g \uparrow_{g(y)}(x)$ of type $\langle e, d \rangle$ (i.e. still a measure function). Semantically, this derived measure function maps entities to a derived scale $g \uparrow_{g(y)}$, which is the same scale as the original g except that the lower endpoint is now redefined as $g(y)$, that is, the degree of g -ness that y has on the original scale. With (6), the denotation of the whole predicate in (1) (with the *yorī* phrase) is calculated as in (7):

$$(7) \quad \llbracket \text{ano tana-yorī takai} \rrbracket = \llbracket \text{yorī} \rrbracket(\llbracket \text{ano tana} \rrbracket)(\llbracket \text{takai} \rrbracket) = \lambda x . \mathbf{tall} \uparrow_{\mathbf{tall}(\text{that shelf})}(x)$$

Assuming that a null degree head (i.e. Kennedy’s (2007) *pos*) defined as in (8) converts a $\langle e, d \rangle$ -type measure function meaning of the adjective to a $\langle e, t \rangle$ -type property meaning both in the positive form and in the *yorī* construction, the denotations for (1) with and without the *yorī* phrase are calculated as in (9) and (10), respectively:

$$(8) \quad \lambda g \lambda x . g(x) > \mathbf{stnd}(g)$$

$$(9) \quad \mathbf{tall}(\mathbf{this\ shelf}) > \mathbf{stnd}(\mathbf{tall})$$

‘The tallness (i.e. height) of this shelf exceeds the standard of tallness.’

$$(10) \quad \mathbf{tall} \uparrow_{\mathbf{tall}(\text{that shelf})}(\mathbf{this\ shelf}) > \mathbf{stnd}(\mathbf{tall} \uparrow_{\mathbf{tall}(\text{that shelf})})$$

‘The tallness of this shelf on the derived scale exceeds the standard (of the derived scale), where the zero point of the derived scale is the height of that shelf.’

Since *takai* is a relative adjective that has an open ended scale, the standard is supplied by the context in (9), resulting in a vague interpretation. By contrast, (10) crucially involves a scale with a lower endpoint, and thus the standard is identified with this lower endpoint (i.e. $\mathbf{stnd}(\mathbf{tall} \uparrow_{\mathbf{tall}(\text{that shelf})}) = 0$ always holds). Thus, (10) is true if and only if the height of ‘this shelf’ minus the height of ‘that shelf’ returns a non-zero degree, in other words, if and only if ‘this shelf’ is TALLER than ‘that shelf’. This adequately captures the context-independent interpretation of (1) with *yorī*. (The assumption that the standard is set differently along the above lines for open-scale and closed-scale predicates receives ample empirical justification; cf., e.g., Kennedy and McNally (2005) and Kennedy (2007).)

As I will show in detail in the full paper, this analysis straightforwardly accounts for the other cases (i.e. (2)–(4)) in which the context-dependence of relative adjectives is eliminated. Essentially, the behavior of the *yorī* construction parallels that of lower closed scale absolute adjectives such as *magat-te iru* (‘bent’), which similarly induce strictly context-independent interpretations in linguistic environments like (1)–(4). Given that relative adjectives with *yorī* are analyzed as derived lower closed scale adjectives, these parallels between the *yorī* construction and lexically lower closed scale adjectives fall out automatically without any additional stipulations.

References Beck, S., T. Oda & K. Sugisaki. 2004. Parametric variation in the semantics of comparison: Japanese vs. English. *JEAL* 13(4):289–344. Kennedy, C. 1999. *Projecting the adjective*. New York: Garland. Kennedy, C. 2007. Vagueness and grammar. *L&P* 30(1):1–45. Kennedy, C. 2008. Modes of comparison. To appear in *CLS* 43. Kennedy, C. & B. Levin. 2008. Measure of change: The adjectival core of degree achievements. In C. Kennedy & L. McNally, eds., *Adjectives and Adverbs: Syntax, Semantics and Discourse*, 156–183. Oxford: OUP. Kennedy, C. & L. McNally. 2005. Scale structure, degree modification, and the semantics of gradable predicates. *Language* 81(2):345–381. Sawada, O. 2009. Pragmatic aspects of implicit comparison: An economy-based approach. *J. of Pragmatics* 41:1079–1103.