

Semantics of Korean Degree Delimiters

Category: formal semantics

Predicates such as *toyn* ‘be’ take a subject that is a unit of various scales of measurement. The measurement may be restricted and defined by what I may suggest to call *degree delimiters* (1). One of the interesting facts about these degree delimiters is that they have two roles. It seems that it functions as POS morpheme (Kennedy 2007) to some extent, in a way that it establishes the standard; but it also acts like a measure function because it provides the measure of qualities. Adverbs for instance *ssik*, which appears in (1b), may emphasize the effect of the degree delimiters; it gets interpreted as something like ‘way above the standard,’ followed by and stacked with *ina*. Degree delimiters contain semantic information such as ‘up to x yet higher than standard,’ ‘up to x yet lower than standard,’ etc. The sentences in (2) instantiate the degree delimiter *pakkey*, which roughly has an opposite interpretation of *ina*. In (2a), a negation marker *an* does not negate; if anything, it may denote the fact that the measurement of degree is not within a range that satisfies the standard of an individual’s world. So we may assume that it is merely a part of the degree delimiter *pakkey* and comprises an environment like idiom along with it; or it may be a clitic. Notwithstanding, the interpretation of (2b) is that Clyde’s height is less than 5 feet 3 inches; Clyde does not have to be 5 feet 3 inches tall. Therefore it may be the case that the negation morpheme *an* is in fact negating the exact measurement (e.g., *160cm*) and the degree delimiter *do* is providing the ‘less than’ interpretation. In this paper, I investigate degree delimiters and compare/contrast them with gradable predicates. Subsequently, I propose a semantic account of degree delimiters.

To state a person’s height without the *standard* entailment, a dimension of height precedes a declarative mood morpheme *-(i)ta*, as in (3a). The adverb *ssik* cannot appear between a dimension and mood morpheme; *ssik* emphasized the effect of the degree delimiter *ina* in (1b). When used as in (3b), it is rather interpreted as something like a word ‘each’¹ in English. One could imagine degree delimiters in connection with gradable predicates, which express relationship between individuals and degrees (Kennedy 2007); however, it seems to differ from the gradable predicates in a way that the degree delimiters rather establish relationship between a dimension and degrees. The gradable predicate *khu-ta* ‘big’ can follow degree words such as *nemu* ‘too’ and *cektanghi* ‘enough,’ as seen in (4a). However, it cannot follow a dimension of the height (4b) ‘188,’ or a dimension of the height followed by a degree delimiter (4b) ‘188-*ina*.’ This condition holds true for other gradable predicates such as *cak-ta* ‘small,’ *mwukep-ta* ‘heavy,’ and *kapyep-ta* ‘light.’ Interestingly, the exact opposite felicitousness condition applies to the predicate *toyn-ta* ‘be,’ i.e., only dimensions followed by degree delimiters (e.g., *188-ina*) can precede the predicate and it cannot follow degree words (e.g., *cektanghi*). Also, comparatives are only possible with gradable predicates (5). In (5a), Korean comparative morpheme *pota* follows the individual *Floyd* and compares the degree of *khu*-ness ‘bigness’ with the other individual *Clyde* with respect to their heights. On the other hand, the *pota* morpheme is incompatible with the *-ina toyn-ta* structure (5b) and *-ita* structure (5c).

- (1) (a) Khullaitu-nun khi-ka 188[cm]-ina toyn-ta.
Clyde-TOP height-NOM 6’2”-DD be-DECL.
‘Clyde is 6 feet 2 inches tall (and it is above my standard).’
(b) Khullaitu-nun khi-ka 188[cm]-ssik-ina toyn-ta.
Clyde-TOP height-NOM 6’2”-Adv-DD be-DECL.
‘Clyde is 6 feet 2 inches tall (and it is way above my standard).’
(2) (a) Khullaitu-nun khi-ka 160-pakkey an-toyn-ta.
Clyde-TOP height-NOM 5’3”-DD NEG-be-DECL.
‘Clyde is 5 feet 3 inches tall (and it is below my standard).’

¹It is worth noting that the interpretation of *ssik* as ‘each’ is quite standard in Korean. *ssik* is often used as a suffix which follows a morpheme denoting quantity, amount, or volume, and it may be translated as ‘each,’ ‘respectively,’ or ‘apiece.’ For instance, *hana(one)-ssik* = one by one; *cokum(little)-ssik* = little by little.

- (b) Khullaitu-nun khi-ka 160-to an-toyn-ta.
Clyde-TOP height-NOM 5'3"-DD NEG-be-DECL.
'Clyde is not as tall as 5 feet 3 inches.'
- (3) (a) Khullaitu-nun khi-ka 188[cm]-ita.
Clyde-TOP height-NOM 6'2"-DECL.
'Clyde is 6 feet 2 inches tall.'
- (b) *Khullaitu-nun khi-ka 188[cm]-ssik-ita.
Clyde-TOP height-NOM 6'2"-Adv-DECL.
'*Clyde is 6 feet 2 inches tall each.'
- (4) (a) Khullaitu-nun khi-ka nemu/cektanghi khu-ta.
Clyde-TOP height-NOM too/enough big-DECL.
'Clyde is excessively/moderately tall.'
- (b) *Khullaitu-nun khi-ka 188/188-ina khu-ta.
Clyde-TOP height-NOM 6'2" big-DECL.
'Clyde is 6 feet 2 inches tall.'
- (5) (a) Khullaitu-nun khi-ka phulloitu-pota khu-ta.
Clyde-TOP height-NOM Floyd-than big-DECL.
'Clyde is taller than Floyd.'
- (b) *Khullaitu-nun khi-ka phulloitu-pota 183-ina toyn-ta.
Clyde-TOP height-NOM Floyd-than 6'-DD be-DECL.
'Clyde is 6 feet tall (\geq *standard*) and taller than Floyd.'
- (c) *Khullaitu-nun khi-ka phulloitu-pota 183-ita.
Clyde-TOP height-NOM Floyd-than 6'-DECL.
'Clyde is 6 feet tall and taller than Floyd.'

Based on the observations above, I propose a semantics of the degree delimiter *-(i)na*. The tree is what might (1a) look like. *khi-ka* denotes a unit of measurement **height** and 188 is a measurement of the height:

$\llbracket \text{khi-ka} \rrbracket = \text{height}$ $\llbracket 188 \rrbracket = 188\text{cm}$

The denotation of the degree delimiter *ina* is as follows:

$\llbracket \text{ina} \rrbracket = \lambda d \lambda \delta. \delta(d) \geq \text{standard}$

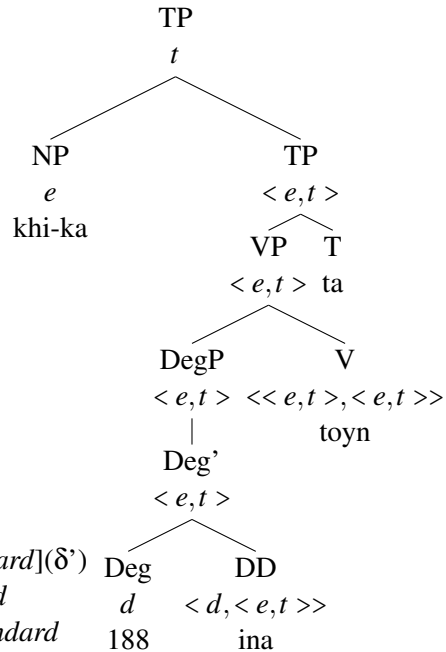
$\llbracket \text{ina} \rrbracket(\llbracket 188 \rrbracket) = \lambda \delta. \delta(188\text{cm}) \geq \text{standard}$

$\llbracket \text{ina} \rrbracket$ takes a measurement d and a unit of the measurement δ , then yields a meaning in which the measurement is above the standard in the world of an individual who has uttered the phrase.

$\llbracket \text{toyn} \rrbracket = \lambda f_{\langle e, t \rangle} \lambda \delta'. f(\delta')$

$\llbracket \text{toyn} \rrbracket(\llbracket 188\text{ina} \rrbracket)(\llbracket \text{ta} \rrbracket) = \lambda \delta' [\lambda \delta. \delta(188\text{cm}) \geq \text{standard}](\delta')$
 $= \lambda \delta'. \delta'(188\text{cm}) \geq \text{standard}$

$\llbracket \text{khi-ka } 188\text{ina toyn-ta} \rrbracket = 1$ iff **height**(188cm) \geq *standard*



Korean degree delimiters have not been discussed before. Their rather exciting properties, with an explicit and formal semantic account of them, purports to be providing some insights to the current theory of degree structures. Future research possibilities lie ahead of this.

Selected reference:

Kennedy, C. (2007). Modes of comparison. *Papers from the Regional Meetings, Chicago Linguistic Society*, 43(1), 141-165.