Superlatives without *-est*: Japanese *Ichiban* as an Exclusive Adverbial

Main Proposal: Japanese *ichiban* has been considered the overt counterpart of English superlative quantifier *-est*, and its clausal syntax has been argued to provide support for movement theories of superlatives [1]. I provide an analysis of Japanese *ichiban* superlatives that (i) involves no overt or covert *-est*, (ii) derives exclusivity from the literal meaning of *ichiban* "number 1", and (iii) attributes focus-sensitivity to *ichiban*, in light of its effect on prosody and interpretation.

1. ***Two readings of superlatives***: Superlatives have absolute and relative readings [2],[3], including in Japanese:

(1) Taro-ga　　　[$_{DP}$ **ichiban** takai yama-ni　　] nobotta.　(^{OK}ABS/^{OK}REL)
　　Taro-NOM　　　　-est　　high　mountain-DAT　climbed
　　'Taro climbed the highest mountain'

Under the absolute reading, (1) is interpreted as 'Taro climbed the highest mountain among the contextually relevant mountains', which does not require any other climbers. Under the relative reading, it is interpreted as 'a mountain that Taro climbed is higher than any of the mountains that the other contextually relevant climbers climbed', so it requires other climbers. Two theories have been advanced that explain these interpretative effects. The Pragmatic Theory holds that the two interpretations are derived by pragmatic resolution, with the superlative morpheme *-est* remaining inside the superlative DP [4]. By contrast, the Scope Theory posits a structural ambiguity derived by covert movement of *-est*, a degree quantifier, to different landing sites inside or outside of the DP [2],[3]: if *-est* locally moves inside DP, degree abstraction over NP 'high mountain' derives the absolute reading and the relative reading is also obtained with further contextual restriction e.g. 'among the three climbers'; in contrast, if *-est* moves outside DP below the correlate, *Taro*, *-est* takes scope over 'x climbed a d-high mountain' (i.e. parasitic scope) and this derives the relative reading, excluding the absolute reading. On this point, Japanese superlatives have been claimed to provide evidence for the Scope Theory [1]: the superlative morpheme *ichiban* can be overtly realized at both DP-internal and DP-external positions. DP-internal *ichiban* allows both readings in (1), while DP-external *ichiban* only allows the relative reading in (2):

(2) Taro-ga　　**ichiban**$_i$ kinoo　　[$_{DP}$ **t**$_i$ takai yama-ni　　　] nobotta.　(*ABS/^{OK}REL)
　　Taro-NOM　-est　　yesterday　　　high　mountain-DAT　climbed

2. ***Problems for the Scope Theory***: However, several pieces of evidence suggest *ichiban* is not a counterpart of English *-est*. First, in Japanese, quantifiers that undergo movement can be optionally reconstructed, but if DP-external *ichiban* could be reconstructed into the DP-internal position, the absolute reading would be available in (2), contrary to fact. Second, Japanese does not allow left-branch extraction, but DP-external *ichiban* can be associated with adjectives inside the superlative DP, allowing the relative reading. Third, if *ichiban* is *-est*, it should occur in ordinal superlatives like 'the second high**est** mountain', but *ichiban* cannot occur in ordinal superlatives *ni-ban-me-ni* (**ichiban*) *takai yama* 'lit. second high mountain'. Therefore, *ichiban* is not a counterpart of English *-est*.

3. ***No -est Analysis***: I propose that *ichiban* is an exclusive focus adverbial (similar though not identical to *only*), and that *ichiban* superlatives do not contain an *-est*, neither one that is interpreted in situ, nor one that involves degree abstraction, obtained via movement or base-generation.

3.1 ***Focus sensitivity of ichiban***: Though the previous literature has not observed this fact, the relative reading associated with DP-external *ichiban* is restricted by the position of *ichiban*. First, if *ichiban* stays inside DP and a focus is placed on a DP-external element, a correlate of the relative reading must be the focused element (a prosodic prominence is placed on the focused element and a single downstep is realized from the focused element to the end of the sentence, i.e., focus prosody [5]):

(3) a. **Taro-ga**$_F$　Mary-ni　[$_{DP}$ ichiban　takai　hon-o　　] ageta.
　　　　Taro-NOM　Mary-DAT　　ICHIBAN　high　book-ACC　gave
　　　　'**Taro** gave a more expensive book to Mary than anyone else did' (REL)
　　b. Taro-ga　　**Mary-ni**$_F$ [$_{DP}$ ichiban　takai　hon-o　　] ageta.
　　　　Taro-NOM　Mary-DAT　　　ICHIBAN　high　book-ACC　gave
　　　　'Taro gave a more expensive book **to Mary** than to anyone else' (REL)

On the other hand, if *ichiban* appears outside the superlative DP, the correlate of the relative reading is restricted to an element following *ichiban* (the above prosodic requirement is still necessary):

(4) a. [Ichi-ban　**Taro-ga**　] Mary-ni　[$_{DP}$ takai　hon-o　　] ageta.
　　　　ICHIBAN　Taro-NOM　　Mary-DAT　　high　book-ACC　gave
　　　　'**Taro** gave a more expensive book to Mary than anyone else did' (REL)

    b.   Taro-ga   [ichiban   **Mary-ni**] [$_{DP}$ takai hon-o   ] ageta.
         Taro-NOM   ICHIBAN Mary-DAT   high book-ACC   gave
         'Taro gave a more expensive book **to Mary** than to anyone else' (REL)

The distribution of DP-external *ichiban* suggests that *ichiban* marks the correlates of the relative readings and comparison between (3) and (4) suggests that the correlates following *ichiban* in (4) are focused in the same way as (3). Furthermore, note that this parallel behavior holds even when DP-external *ichiban* is separated from its associated adjective by a finite clause boundary (though some speakers have difficulty interpreting this kind of sentence with a focus prosody if a sentence is long):

(5) a. **Taro-ga$_F$** [$_{CP}$ Ohtani-ga [$_{DP}$ ichiban   ookuno ten-o   ] toru-to] yosousita.
       Taro-NOM   Ohtani-NOM   ICHIBAN many   points-ACC get-C   predicted
    b. [Ichiban **Taro-ga$_F$**] [$_{CP}$ Ohtani-ga [$_{DP}$ ookuno ten-o   ] toru-to] yosousita.
       ICHIBAN Taro-NOM   Ohtani-NOM   many   points-ACC get-C   predicted
        'The score Taro said Ohtani would get is more than anyone else said Ohtani would get' (REL)

(5) is felicitous in a context where three commentators Taro, Ziro and Hanako are talking about how many points Ohtani will get in a baseball game. Taro said Ohtani would get 10 points, Ziro said Ohtani would get 5 points, and Hanako said Ohtani would get 3 points. Specifically, (5b) suggests that *ichiban* is not a degree quantifier that QRs from the embedded clause: typically, QR is bounded by a finite clause boundary. Therefore, DP-external *ichiban* should be base-generated in its surface position.

3.2 *Ichiban* as an exclusive adverbial: I propose the semantics of *ichiban* as an exclusive adverbial:

(6) $[\![$*ichiban*$]\!]$ = $\lambda C_{<e,t>}$. $\lambda P_{<e,t>}.\lambda x$: x ∈ C & ∀y [(y ∈ C & y ≠ x) → P(y)]]
               P(x) = 1 & ¬∃z[z ∈ C & z ≠ x & x $<_{rank}$ z]]

The rank notation expresses a contextually determined ranking among the members of C. The proposed denotation of *ichiban* reflects the literal meaning of *ichiban* 'number 1', in which an individual is ranked higher than any other members, i.e., ranked as "number 1". For example, *ichiban takai yama* '*ichiban* high mountain' means "the mountain that is high to some degree and there is no other mountain that is ranked higher than the mountain." Additionally, I propose that the degree variable of the gradable predicate is existentially closed off in *ichiban* superlatives.

3.3 DP-internal *ichiban*: Based on the proposal, DP-internal *ichiban* is derived as follows:

(7) a. [$_{TP}$ Taro [$_{VP}$ [$_{DP}$ THE [$_{NP}$ *ichiban-C* [$_{NP}$ [$_{AP}$ [$_{DegP}$ ∃] high] mountain]]] climbed]]
    b. $[\![$DP$]\!]$ = the unique x s.t. ∃d[x is a d-high mountain] & ∀y [(y ∈ C & y ≠ x) → ∃d[y is a d-high mountain]]]. ¬∃z[z ∈ C & z ≠ x & x $<_{rank}$ z]

The two readings are derived by contextual resolution, i.e., the value of C could be 'the set of mountains' or 'the set of mountains climbed by the contextually relevant climbers'.

3.4 DP-external *ichiban*: On the other hand, DP-external *ichiban* is derived with a focus on a correlate and I adopt the focus association mechanism within the framework of the alternative semantics [6].

(8) a. [$_{TP3}$ [[Taro$_F$]$_i$[~*C*']][$_{TP2}$ *ichiban-C* [$_{TP1}$ t$_i$ [$_{VP}$ [$_{DP}$ A [$_{NP}$ [$_{AP}$ [$_{DegP}$ ∃] high] mountain]] climbed]]]]
    b. $[\![$(8a)$]\!]$ = Taro climbed a d-high mountain & ∀y[(y ∈ C & y ≠ Taro) → ∃d[y climbed a d-high mountain]]. ¬∃z[z ∈ C & z ≠ x & Taro $<_{rank}$ z]
           C = {x: ∃d[x climbed a d-high mountain]}

The focused correlate moves above *ichiban-C* at LF and *ichiban* takes it as its third argument. The presupposition of ~*C*' evokes the alternative set of individuals {Taro, Ziro, Hanako} and additionally, the presupposition of *ichiban* requires C to be {x: ∃d[x climbed a d-high mountain]}. Under these presuppositions, all the alternatives are ranked lower than *Taro*, so the relative reading is derived.

4. Additional evidence: A Sino-Japanese root *sai-* '-est' derives superlative words by combining with adjectival roots: *sai-syo* [est-beginning] 'first', *sai-go* [est-late] 'last', *sai-aku* [est-bad] 'worst', *sai-kou* [est-high] 'best'. Interestingly, *ichi-ban* can intensify these words like *ichiban saisyo* 'the very first', *ichiban saiaku* 'the very worst'. If *ichiban* is *-est*, because *sai* already binds the degree argument of the adjectival roots, *ichiban* should not have a degree argument to bind, resulting in ungrammaticality, contrary to fact. Under the current analysis, however, *ichiban* is an exclusive adverbial, so *ichiban saiaku* is analyzed as 'the worst individual without any other higher-ranked alternatives'.

5. Conclusion: I have argued that *ichiban* is an exclusive adverbial based on the distribution of DP-external *ichiban* and proposed its exclusive meaning is derived from the meaning of *ichiban* 'number 1'. The proposed analysis suggests that *ichiban* superlatives are derived with neither *-est* nor degree abstraction and this accords with the hypothesis that Japanese does not employ degree abstraction.[7]

References:

[1] Aihara, Masahiko. 2009. The scope of *-est*: Evidence from Japanese. *Natural Language Semantics* 17:341–367.

[2] Heim, Irene. 1999. Notes on superlatives. Ms., MIT.

[3] Szabolcsi, Anna. 1986. Comparative superlatives. In *Papers in theoretical linguistics*, ed. by N. Fukui, T. R. Rapoport, and E. Sagey, 245–265. MIT Working Papers in Linguistics 8. Cambridge, MA: MIT, MIT Working Papers in Linguistics.

[4] Sharvit & Stateva. 2002. Superlative expressions, context, and focus.

[5] Nagahara, Hiroyuki. 1994. Phonological phrasing in Japanese. Ph.D. dissertation, University of California, Los Angeles.

[6] Rooth, Mats. 1992. A theory of focus interpretation. *Natural language semantics* 1: 75-116.

[7] Beck, Sigrid, Toshiko Oda, and Koji Sugisaki. 2004. Parametric variation in the semantics of comparison: Japanese vs. English. *Journal of East Asian Linguistics* 13: 289-344.