

Japanese Superlative Constructions: Evidence for ‘est’-movement

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The English superlative construction such as (1) is known to be ambiguous between the absolute reading (a-reading) (2a) and the comparative reading (c-reading) (2b). Two approaches have been proposed to account for this ambiguity. Szabolcsi (1986) and Heim (1999) argue that the superlative morpheme *est* optionally moves covertly outside the DP, yielding a second possible LF which corresponds to the c-reading (the “movement” approach). Farkas & Kiss (2000) and Sharvit & Stateva (2002) capture the two readings by context dependency without moving *est* outside the DP (the “in-situ” approach). The latter approach may be favorable in that it can do without stipulative covert movement of *est*. In this paper, however, by investigating Japanese superlatives, I argue that the movement approach is still required.

I assume that the semantics of *est* is (3) (Heim 1999), and that *est* comes with the context variable C, which restricts a comparison set (von Stechow 1995). Gradable adjectives are monotonic, as in (4) (Creswell 1976). (1) has LF1 in (5), where *est* stays within the DP, yielding the a-reading with the truth conditions in (6). Besides LF1 in (5), the movement approach assumes another LF in (7); *est* moves out of the DP into the position below the subject, yielding the c-reading with the truth conditions in (8). The structural position of the C-*est* complex affects the choice of C. In (5), C has to be a set of relevant mountains, while in (7), C has to be a set of relevant climbers. In contrast, the in-situ approach has only LF1 in (5). The value of C depends simply on the context, not on its structural position. The a-reading obtains when C happens to be a set of relevant mountains, and the c-reading when C happens to be a set of mountains climbed by relevant climbers. Notice that the c-readings under the in-situ/the movement approach are practically indistinguishable, which may lead us to a conclusion that the movement approach should be dispensed for the sake of simplicity. Heim (1999), however, claims that the scenario (9) may tease apart the two approaches; in (9), (1) is predicted to be true under LF1 (because the mountain John climbed is indeed higher than the other ones), but false under LF2 (because John and Bill both climbed the same mountain A). If we could force the c-reading in (1) and speakers rejected it in (9), we would have a clear argument for the movement approach. Due to the ambiguity of (1), however, Heim reports that judgments are “mixed”. If this is because *est* movement is invisible in English, one may wonder whether a similar ambiguity is observed in languages with overt *est* movement. Japanese superlative constructions are exactly the case.

The Japanese superlatives are formed with the independent superlative morpheme *ichiban* (or *mottomo*) like the English *most*, which generally appears immediately before the associated adjective as in (10a). I assume that *ichiban* has the same semantics as *est*. Crucially, *ichiban* can be scrambled as in (10b). Although (10a) has both the a-/c-readings, just like (1), (10b) allows only the c-reading. First, in (9), which forces the a-reading, (10a) is acceptable, but not (10b), indicating that (10b) lacks the a-reading. Since the c-reading comes out false in (9), unacceptability of (10b) is as expected. Second, in the scenario (11), which forces the c-reading, (10b) as well as (10a) are acceptable. The a-reading of (10a,b) is neither true nor false because there is no unique mountain that is higher than other relevant mountains. The lack of ambiguity in (10b) clearly indicates that *est* movement is required to derive the LF for the c-reading. Based on (10), I argue that the Japanese superlatives are derived as follows. First, *ichiban*+C is base-generated in the DP as in (12a). Second, assuming a copy theory of movement (Chomsky 2000), *ichiban*+C moves into the position below the subject (possibly by adjunction to the VP), leaving a copy behind. Third, it moves further into the sentence initial position, yielding the structure in (12b). After these movements, the highest copy of *ichiban* is chosen at PF (12c) for pronunciation. The intermediate copy is chosen at LF (12d) for interpretation; λ -abstraction applies between the intermediate copy and the original copy at LF, yielding exactly the same truth conditions as (8) for c-reading. This analysis is corroborated by the fact that *ichiban* even undergoes overt movement across the time adverb into the pre-VP position as in (13), also yielding only the c-reading.

Superlatives in intensional contexts provide us with another overt evidence for the movement approach. The English superlatives in intensional contexts, such as (14), have a reading that compares the relevant climbers’ ambitions (Heim 1999). Crucially, this reading claims neither that John climbs in his desire worlds the mountain that is highest in his desire worlds, nor that he climbs in his desire worlds the mountain that is actually highest, nor that he is the best mountain climber in his desire worlds. This reading comes out true in the situation (15). (14) may be true even if in some world compatible with John’s desires he climbs a mountain that is lower than the ones climbed by Bill and Mary: the truth of this reading of (14) requires that all the worlds compatible with John’s desires are such that he climbs in them a mountain that is not lower than his minimum (6000m, in (15)), and that his minimum be higher than the minimums of the others. A straightforward account for this reading would have to involve the covert *est* movement above the intensional verb *want* as in (16), with the truth conditions in (17) (Szabolcsi 1986, Heim 1999). The interpretation compatible with the situation (15) is available in Japanese (18b), but not in (18a) (as long as

(18a) is read without any pause between *ichiban* and *takai*, which guarantees that *ichiban* stays in its base-generated position). For (18b), I propose a derivation in (19) that is similar to the one in (10b). Deleting the copies of the superlatives irrelevant for interpretation, (18b) yields the truth conditions in (17).

Data:

- (1) John climbed the highest mountain.
 (2) a. John climbed the highest mountain among the contextually relevant ones.
 (John climbed Mt. Everest if the relevant context includes the mountains in the actual world.)
 b. John is the best mountain climber among the contextually relevant climbers.
 (A mountain that John climbed is higher than the ones that the other relevant climbers climbed.)
 (3) $[[est]] = [\lambda C . [\lambda R . [\lambda x: x \in C \ \& \ \forall y[y \in C \ \rightarrow \ \exists d[R(d)(y)=1]] . \exists d[R(d)(x)=1 \ \& \ \forall y[y \neq x \ \& \ y \in C \ \rightarrow \ R(d)(y)=0]]]]]$
 (4) A relation R between objects and degrees is downward monotonic iff:
 $\forall x, d, d' [R(x, d) \ \& \ d > d' \ \rightarrow \ R(x, d')]$
 (5) LF1: John climbed [the [C-est] λd [d-high mountain]]
 (6) Whenever defined, $[[LF1]] = 1$ iff John climbed the unique x such that $\exists d[x$ is a d-high mountain & $\forall y[y \neq x \ \& \ y \in C \ \rightarrow \ y$ is not a d-high mountain]]
 (7) LF2: John [C-est] λd [climbed [a [d-high mountain]]]
 (8) Whenever defined, $[[LF2]] = 1$ iff $\exists d$ [John climbed a d-high mountain & $\forall y[y \neq \text{John} \ \& \ y \in C \ \rightarrow \ y$ did not climb a d-high mountain]]
 (9) Scenario1: Mountain A is higher than both Mountain B and Mountain C. John and Bill both climbed A, Bill and Mary climbed B, and Mary climbed C.
 (10)a. John-ga **ichiban** **takai** yama-ni nobot-ta
John-NOM most high mountain-to climb-PAST
 ‘John climbed the highest mountain’ (a-/c-reading)
 b. **Ichiban**_i John-ga t_i **takai** yama-ni nobot-ta
 ‘John climbed the highest mountain’ (#a-/c-reading)
 (11) Scenario2: Mountain A and B are the same height and are higher than both Mountain C and D. John climbed A and B, Bill climbed C, and Mary climbed D.
 (12)a. [_{IP} John-ga [_{VP} [_{DP/NP} **C-ichiban** takai yama-ni] nobot]-ta]
John-NOM most high mountain-to climb-PAST
 b. [_{IP} **C-ichiban** [_{IP} John-ga **C-ichiban** [_{VP} [_{DP/NP} **C-ichiban** takai yama-ni] nobot]-ta]]
 c. PF: [_{IP} **C-ichiban** [_{IP} John-ga ~~C-ichiban~~ [_{VP} [_{DP/NP} ~~C-ichiban~~ takai yama-ni] nobot]-ta]]
 d. LF: [_{IP} ~~C-ichiban~~ [_{IP} John-ga **C-ichiban** λd [_{VP} [_{DP/NP} d-takai yama-ni] nobot]-ta]]
 (13) John-ga **ichiban**_i kinoo [[t_i **takai** yama]-ni nobot]-ta
John-NOM most yesterday high mountain-to climb-PAST
 ‘John climbed the highest mountain yesterday’ (#a-/c-reading)
 (14) John_i wants [PRO_i to climb the highest mountain].
 (15) Scenario3: I conduct a survey on how high a mountain the relevant climbers want to climb. Each of the relevant climbers reports his/her desire as follows.
 John: “I want to climb a mountain that is 6000m high.”
 Bill: “I want to climb a mountain that is 1000m high.”
 Mary: “I want to climb a mountain that is 4000m high.”
 Then, I report the result of the survey uttering “(14)”.
 (16) LF3: John [C-est] λd [wants-@ λw [PRO climb-w a d-high mountain-w]] (@=actual world)
 (17) Whenever defined, $[[LF3]] = 1$ iff there is a degree d such that for all worlds w compatible with John’s actual desires, John climbs in w some d-high mountain in w, and for all y distinct from John such that y is a member of C, not all worlds w compatible with y’s actual desires are such that y climbs in w a d-high mountain in w.
 (18)a. John_i-ga [PRO_i **ichiban** **takai** yama-ni nobor]-itaga-tteiru
John-NOM most high mountain-to climb-want-be(stative)
 b. **Ichiban**_k John_i-ga [PRO_i t_k **takai** yama-ni nobor]-itaga-tteiru
 ‘John wants to climb the highest mountain’
 (19) LF4: ~~C-ichiban~~ John_i-ga **C-ichiban** λd [_{VP} λw [PRO_i ~~C-ichiban~~ [_{DP/NP} d-**takai** yama-w]-ni nobor-w]- itaga-tteiru-@_(VP)]
John-NOM most high mountain-to climb want-be (stative)

Selected References: [1] Farkas, D. F. & Kiss, K. E. 2000. On the comparative and absolute readings of superlatives. *Natural Language and Linguistic Theory* 18: 417-455. [2] Heim, I. 1985. Notes on comparatives and related matters. ms. University of Texas. [3] Heim, I. 1999. Notes on superlatives. Semanticsarchive.net. [4] Sharvit, Y & P. Stateva. 2002. Superlative expressions, context, and focus. *Linguistics and Philosophy* 25: 453-505. [5] Szabolcsi, A. 1986. Comparative superlatives. In N. Fukui, T. MIT Working Papers in Linguistics 8. 245-266.