

Presuppositions of superlatives with neg-raisers

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1 Superlatives and Presupposition

Superlatives come with presuppositions. The sentence in (1), for instance, presupposes that John is a linguist Peter knows.

- (1) John is the tallest linguist Peter knows.

Standard theories analyse the superlative morphology *-est* in (1) as expressing a ternary relation between *John*, *tall* and a set of alternatives: *the set of linguists Peter knows*. The sentence is true if John is taller than the everyone in the set of alternatives (minus John himself). It moreover presupposes that John is among these particular linguists. This is based on the following schematic interpretation (cf. Heim 1999).

- (2) *-est* (x)(P)(X) is true if and only if x is P-er than any other y in X
(3) *-est*(x)(P)(X) presupposes that x has property X

2 Modals in the set of alternatives

Now consider:

- (4) The fastest you are allowed to drive is 100km/h.
(5) The fastest you should drive is 100km/h.

There are two puzzling things about these examples: (i) they mean the same, despite the fact that the modals they include have different modal force (existential for *allow* and (weakly) universal for *should*) and (ii) they have the same presupposition: both (4) and (5) presuppose that 100km/h is an *permitted* speed. Crucially, (5) does not presuppose that 100km/h is a speed you *should* drive at.

It is not unlikely that the explanation for the fact that (4) and (5) are synonymous should be sought in the fact that *should* is a neg-raising verb. Note first that (2) is equivalent to (6).

- (6) *-est* (x)(P)(X) is true if and only if any y that is P-er than x is such that it is not the case that y is in X

If we now assume that the relative clause provides the set of alternatives, as in Howard 2013, then this yields the following sketch for an analysis of (4) and (5), where the scope of negation in (8) is lower than what is compositionally provided, in line with the neg-raising property of *should*.

- (7) 100km/h is such that any faster speed is a speed you are not allowed to drive
(8) 100km/h is such that any faster speed is a speed you should not drive at

This sketch of course lacks an explanation of how the implicit negation in *-est* can come to be involved in neg-raising, but an account along these lines correctly predicts that other neg-raising verbs yield similar readings, which seem accurate (see below).

The problem, however, is that a solution along the lines of (7) and (8) cannot possibly provide any solution to the second puzzle the data presented, namely that (4) and (5) have the same presupposition. The problem is that we have assumed that a structure $\text{-est}(x)(P)(X)$ presupposes that x has the property described by X . But in (4), X is how fast you are *allowed* to drive, whilst in (5) X is how fast you *should* drive. We cannot appeal to neg-raising to solve this puzzle, since, crucially, negation is not a part of the presupposition.

3 Further cases

The sketch of a neg-raising analysis above is supported by further examples involving neg-raising verbs, where observations similar to those for (5) apply.

(9) The fastest John is supposed to drive is 100km/h.

This example expresses the upper bound on what John is allowed to do: that he is not supposed to drive faster than 100km/h. It lacks a reading saying that for no speed exceeding 100km/h, is it the case that John is supposed to drive so fast. The presupposition of (9) is that John is *allowed* to drive at 100km/h, certainly not that he is supposed to go that fast.

Interestingly, plural definites show similar effects, in line with their association to neg-raising (Gajewski 2005).

(10) The loudest sound the sensors registered was 126dB.

This says that the loudest sound such that at least one of the sensors registered that sound was 126dB, not the loudest sound such that each sensor registered a sound that loud. Also, it presupposes that one of sensors registered 126dB not that the sensors did so generally.

4 References

- Gajewski, Jon (2005). Neg-raising: polarity and presupposition. MIT. PhD thesis.
- Heim, Irene (1999). Notes on superlatives. MIT. Lecture notes.
- Howard, Edwin (2013). Superlative degree clauses. Evidence from NPI licensing. MIT. Ms.