

Semifactives in Comparatives

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Overview

- (1) a. She is taller than I realized.
b. #She is not as tall as I realized.

Key issues:

- What is the status of *realize*'s complement in examples like (1a)?
- How do we understand *realize*'s presuppositional status in light of such examples?
- What can this tell us about gradability/comparison and factivity/projection more generally?

Preview of analysis:

- Semifactives express a knowledge relation, but support GRADED AWARENESS: you can know/realize less than the whole truth, but not more than the whole truth
- Graded awareness is sensitive to scalar orientation
- The complements in question address at-issue content and thus don't project

Additional examples from the web:

- (2) Our Constitution was a far more dramatic departure from history than I had appreciated.
- (3) [T]his record may be better than I was aware of.
- (4) This sequencing of images in a physical book feels so much closer to films (movies, not physical Kodak film-film), than I had noticed before.

Background: Factivity

Factive *regret*, semifactive *realize* (Kiparsky & Kiparsky 1970, Karttunen 1971)

- (5) a. John didn't regret that he had not told the truth.
b. John didn't realize that he had not told the truth.

- (6) a. If I regret later that I have not told the truth, I will confess it to everyone.
b. If I realize later that I have not told the truth, I will confess it to everyone.

- In (5), both *regret* and *realize* presuppose the truth of their complements; this is the core characteristic of FACTIVITY
- In (6), they come apart: *realize*'s complement is no longer presupposed true (whence Karttunen's term SEMIFACTIVE)

Semifactives in comparative clauses:

- There is precedent for the observation that *realize*'s complement can fail to be presupposed
- But it's not the case that anything goes: even though *realize*'s complement in (1b) isn't presupposed true, the sentence is still infelicitous
- The infelicity of examples like (1b) has been observed at least since Horn & Morgan (1969)

Scalar Orientation

- (7) a. He is shorter than I realized.
b. A Disney vacation is less expensive than I realized.

- In (7), the speaker's misapprehensions involve overshooting the true scalar value in question, rather than undershooting it as in (1a)
- But in (1b), overshooting the true scalar value leads to infelicity
- The direction of permissible deviation from the actual value tracks the ORIENTATION of the scalar term (adjective + degree morpheme) (Kennedy 2001)

A surprising non-equivalence

- (8) a. She is less tall than he is.
b. She is not as tall as he is.

- (9) a. She is less tall than I realized.
b. #She is not as tall as I realized.

- Ordinarily, *less ADJ than* and *not as ADJ as* are truth-conditionally equivalent, as in (8)
- But when we introduce a semifactive like *realize* into the *than*-clause, we get infelicity in the *not as ADJ as* cases
- We've uncovered an important clue about the semantics of semifactives

Implementation

Core idea: GRADED AWARENESS as a feature of / constraint on knowledge

- Semifactives like *realize* express a knowledge relation
- You can only know things that are true
- However, knowledge can be incomplete: you can know things that are asymmetrically entailed by what is true (cf. Vlach 1974)
- But you can't know more than the whole truth. In question-and-answer terms, you can't know an answer that asymmetrically entails a question's strongest true answer

As a matter of their lexical semantics, semifactives like *realize* require informational consistency / truth-in-context between their complement and their matrix environment

- We find the same behavior in supposition contexts (cf. Yalcin 2007):

- (10) a. Suppose she was taller than you realized.
b. #Suppose she was not as tall as you realized.

Graded Awareness and Our Initial Asymmetry

- How does graded awareness account for the asymmetry in (1)?
- Here's an off-the-shelf comparative semantics for (1a):

- (11) She is taller than I realized
= 1 iff $\text{MAX}(\lambda d . \text{she is } d\text{-tall}) > \text{MAX}(\lambda d . \text{I realized she was } d\text{-tall})$

- Proposal: to realize that she was *d*-tall is to (come to) know the proposition that she was *d*-tall
- $\text{MAX}(\lambda d . \text{I realized she was } d\text{-tall})$ = the maximal *d* such that the speaker knew the proposition that she was *d*-tall
- If *realize* expresses graded awareness, then this maximal *d* may be lower than the height of the 'she' in question, but not higher (in the world(s) where *realize* is evaluated)
- This explains the contrast between (1a) and (1b): the claim in (1b) is that $\text{MAX}(\lambda d . \text{I realized she was } d\text{-tall})$ exceeds her actual height; but that's no longer knowledge

- (12) #She is not as tall as I realized
= 1 iff $\text{MAX}(\lambda d . \text{she is } d\text{-tall}) < \text{MAX}(\lambda d . \text{I realized she was } d\text{-tall})$

- Compare the felicity of a belief predicate: *She is not as tall as I thought*

Note:

- The violation in (12) is detectable in virtue of the specifics of the degree inequality being expressed, but ...
- ... the infelicity itself arises purely on the right-hand side of the inequality: the speaker purports to realize a proposition of the form 'she is *d*-tall' that runs afoul of graded awareness and is thus unknowable
- Such examples remain infelicitous in non-upward-entailing environments:

- (13) #If she is not as tall as I realized, ...

Generalizing the Picture

Downward-oriented degree predicates: infelicitous underestimation, not overestimation

- (14) a. He is shorter than I realized.
b. #He is not as short as I realized.

- (15) a. A Disney vacation is less expensive than I realized.
b. #A Disney vacation is not as inexpensive as I realized.

- Why do downward-oriented gradable constructions show the opposite pattern from the one seen above, and what does this mean for graded awareness?
- Core insight of the gradability literature: scalar semantics is sensitive not just to scalar position, but also to scalar orientation (Kennedy 2001, Schwarzschild 2013)
- Degrees of expensiveness and degrees of inexpensiveness share a scale, but have different orientations along that scale (likewise for degrees of tallness and degrees of shortness)

Graded awareness is sensitive to scalar orientation: in a given scenario, for a given value of *d*, you can know/realize 'she was *d*-tall' or 'she was *d*-short', but not both (unless *d* is the exact degree of her height)

Explaining the Non-Equivalence Puzzle

The asymmetry in (9) falls out from graded awareness + scalar orientation:

- In #*She is not as tall as I realized*, we compare degrees of tallness: the maximal degree to which you realized she was tall exceeds the full actual extent of her tallness \Rightarrow inconsistent with graded awareness
- In *She is less tall than I realized*, we compare degrees of not-tall-ness: the maximal degree to which you realized she was not-tall is not the full actual extent of her not-tall-ness \Rightarrow consistent with graded awareness

Projection

Factivity and projection:

- Factive presuppositions are a type of projective content; on the classical view, the truth of a factive's complement projects to the matrix context
- In the cases at hand, the semifactive's complement must be true (relative to the matrix context), but it's not presupposed: no apparent constraints on the input context, etc.
- This is consistent with the findings of much recent work on projection: content that addresses the question under discussion or otherwise at-issue material generally doesn't project (Beaver 2010, Abrusán 2011, 2016, Simons et al. 2017, Degen & Tonhauser 2022)
- The semifactive complement here addresses the same issue as the matrix clause: her height
- We can maintain the view that semifactives like *realize* require consistency between their complement and matrix environment as a matter of their lexical semantics, even as the complement fails on independent pragmatic grounds to qualify as projective content

Summary

Wrapping up:

- Semifactives are constrained by graded awareness, which is an independent property of / limitation on what counts as knowledge
- This aspect of knowledge is sensitive to scalar orientation / the lexical-grammatical means of expressing the particular gradable inequalities in question
- The syntactic / semantic / pragmatic properties of semifactive complements in comparatives are consistent with pragmatic approaches to projection

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