Rett (2007), "Antonymy and Evaluativity"

Curt Anderson
Heinrich-Heine-Universität Düsseldorf

November 11, 2019

1 Introduction

Problem of evaluativity:

- Which expressions are evaluative (=make reference to a degree exceeding a contextual standard)?
- Usual picture so far: mainly positive form of adjective.
- Evaluativity is in complementary distribution with degree morphology (like *-er* and *as* ... *as*). Not part of the meaning of the adjective, but comes from the degree construction.
- Possible to use the expressions in (2), but still not say that Amy counts as tall.

(1) Evaluative
 a. Amy is tall.
 b. Amy is a tall woman.

(2) Non-evaluative
 a. Amy is 180cm tall.
 b. Amy is taller than Betty.
 c. Amy is as tall as Betty.

Picture up until now: evaluativity comes from (unpronounced) POS morpheme that saturates the degree argument of a gradable adjective.

- **standard** is our link to contextually defined standards.
- That POS is in the syntax explains why evaluativity is in complementary distribution with other degree constructions.
- Only POS has **standard** as part of its semantics.

(3) $[\![\textsc{pos}]\!]^c = \lambda G_{\langle d,et\rangle}\lambda x\exists d[G(d)(x)\wedge d > \mathbf{standard}_c(G)]$

(4) $[\![\textsc{pos}\ \textit{tall}]\!]^c$
$= [\![\textsc{pos}]\!]^c([\![\textit{tall}]\!]^c)$
$= \lambda x\exists d[[\![\textit{tall}]\!]^c(d)(x)\wedge d > \mathbf{standard}_c([\![\textit{tall}]\!]^c)]$

But, there's a problem. Some degree constructions are evaluative, if you use the right adjective. Some examples of equatives:

(5) a. Amy is as tall as Betty. (non-evaluative)
 b. Amy is as short as Betty. (evaluative)

(6) a. Düsseldorf is as safe as Köln. (non-evaluative)
 b. Düsseldorf is as danger as Köln. (evaluative)

(7) a. The river was as deep as the lake. (non-evaluative)
 b. The river was as shallow as the lake. (evaluative)

Can also find this with degree questions:

(8) a. How tall is Amy? (non-evaluative)
 b. How short is Amy? (evaluative)

But, not totally free. Other degree constructions still can't be evaluative.

(9) a. Amy is too tall/short for her pants. (non-evaluative)
 b. Amy is taller/shorter than Betty. (non-evaluative)

The problem:

- If evaluativity comes from POS, then we should never find evaluativity with other degree constructions.
- But, if it comes from the degree construction itself, we shouldn't expect it to change with the particular adjective.

Rett argues that evaluativity is dependent on two factors: the polarity of the adjective (positive or negative adjective), and whether the degree construction itself is sensitive to adjective polarity.

2 The degree modifier EVAL

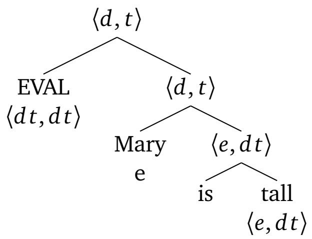
Given the issues with putting evaluativity only in POS, Rett proposes that it is actually introduced via a degree modifier she calls EVAL.

- Degree modifier: type $\langle\langle d,t\rangle,\langle d,t\rangle\rangle$.
- Intersective modifier.

(10) $[\![\text{EVAL}_i]\!] = \lambda D_{\langle d,t\rangle} \lambda d[D(d) \wedge d > s_i]$, where s_i is a pragmatic variable for the standard

Example:[1]

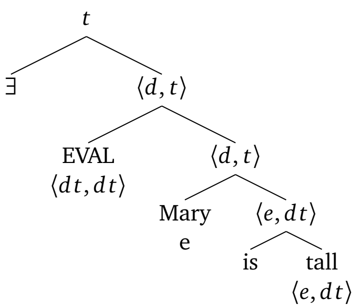
(11)



(12) a. $[\![\textit{Mary tall}]\!] = [\![\textit{tall}]\!]([\![\textit{Mary}]\!] = \lambda d[\textbf{tall}(\textbf{mary}, d)]$
b. $[\![\text{EVAL } \textit{Mary tall}]\!] = [\![\text{EVAL}]\!]([\![\textit{Mary tall}]\!]) = \lambda d[[\![\textit{Mary tall}]\!](d) \wedge d > s_i]$

If you're wondering why this is a property of degrees at the end and not a truth value, this is because Rett assumes an operation of Existential Closure at the end of the semantic derivation (see Heim 1982 for the basis for this idea). The idea is that the degree argument is bound by an existential quantifier in order to fix the derivation in order to get a truth value. Sometimes people put it in the tree (though Rett doesn't):

(13)



(14) $[\![\exists \text{ EVAL } \textit{Mary tall}]\!] = \exists d[[\![\textit{Mary tall}]\!](d) \wedge d > s_i]$

Why make EVAL a degree modifier?

- Benefit of this approach is that it can combine with anything that is a property of degrees.
- This allows for it to combine with not just positive constructions, but also equatives, comparatives, *how*-questions, and so on.
- We have to make some assumptions about where individual arguments (type e arguments) are, but this is no problem. (See above where we made *tall* type $\langle e, dt\rangle$.)
- Downside: how do you constrain EVAL so that it doesn't appear everywhere?

3 Polar adjectives

Gradable adjectives make uses of scales: a set of degrees, an ordering relation between degrees ($\geq$ or $\leq$), and a dimension.

Antonymous adjectives (*tall/short*, *hot/cold*, *safe/dangerous*, and so on) differ in how their scales are ordered; they have the same degrees and dimension, but order the degrees with different ordering relations.

(15) a. Amy is taller than Betty. → Amy is not shorter than Betty.
b. Amy is shorter than Betty. → Amy is not taller than Betty.

Antonyms such as *short* and *tall*:

- Positive adjective is related to a set of degrees, such that the maximum degree is the maximal height the person has.
- Negative adjective flips the scale around. A set of degrees such that the minimum degree is the degree of height the person has, and all other degrees are degrees of height they don't have.

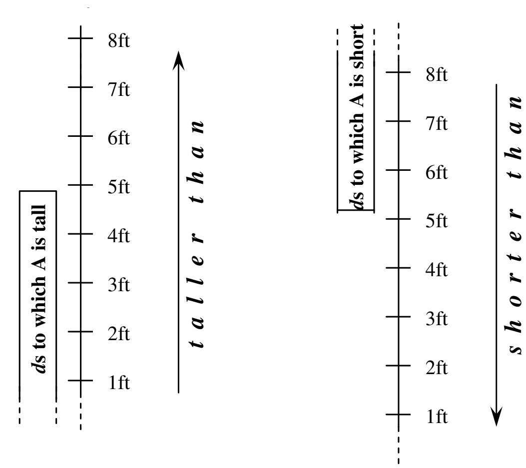


Figure 1: Amy's height

[1]Note: this isn't precisely how Rett sets it up, but is close enough for our purposes.

(16) a. Amy's tallness: { ..., 150cm, 160cm, 170cm, 180cm }
b. Amy's shortness: { 180cm, 190cm, 200cm, 210cm, ... }

Negative adjectives are special in another way: in terms of their distribution, they are marked compared to their positive counterparts.

(17) a. This one is 10ft long.
b. *This one is 10ft short.

(18) a. What is its length?
b. *What is its shortness?

4 Polar (In)variance

Rett introduces another property of degree constructions, polar (in)variance.

- Polar invariant: form of the degree construction with a negative antonym entails its positive antonym.
- Polar variant: form with negative antonym doesn't entail positive antonym.

(19) Amy is as short as Betty. → Amy is as tall as Betty. (polar variant)

(20) Amy is shorter than Betty. ↛ Amy is taller than Betty. (polar invariant)

Truth conditions:

- Polar invariant: positive and negative forms have contradictory truth conditions.
- Polar variant: negative form has a subset of the truth conditions of the positive form.

Given Rett's semantics for EVAL, it can be merged anywhere. So, we wind up with four possible truth conditions for equatives, based on (i) whether there is EVAL and (ii) the polarity of the adjective.

- The (a) examples below wind up meaning the same thing. They are mutually entailing. (This is due to Rett taking a view that the equative has an "exact" semantics.)
- But, the (b) examples do not mean the same thing, since they make reference to the standard for tallness or shortness.

(21) Amy is as tall as Betty.
a. Non-evaluative: $\{d : \textbf{tall}(a,d)\} = \{d : \textbf{tall}(b,d)\}$
b. Evaluative: $\{d : \textbf{tall}(a,d) \wedge d > s_{\text{tall}}\} = \{d : \textbf{tall}(b,d) \wedge d > s_{\text{tall}}\}$

(22) Amy is as short as Betty.
a. Non-evaluative: $\{d : \textbf{short}(a,d)\} = \{d : \textbf{short}(bd)\}$
b. Evaluative: $\{d : \textbf{short}(a,d) \wedge d > s_{\text{short}}\} = \{d : \textbf{short}(b,d) \wedge d > s_{\text{short}}\}$

How does this help us derive why the negative equative is necessarily evaluative?

- Pragmatics to the rescue!
- Pragmatic principle to avoid using a marked form (such as a negative adjective) whenever possible.
- Since the (a) examples have the same truth conditions, the principle says that we shouldn't use the negative equative to express a non-evaluative meaning.
- Therefore, with a bit of Gricean reasoning, if the negative equative is used, it must have an evaluative meaning (EVAL), since that's the form that doesn't mean the same thing as the positive.
- One way to think about this: make meanings as distinguishable from each other as possible.

What happens with a polar invariant degree construction, such as a comparative?

- The examples don't mean the same thing.
- Therefore, no competition between marked and unmarked variants.
- Therefore, able to have both evaluative and non-evaluative meanings in the comparative (and other polar invariant degree constructions).

(23) Amy is taller than Betty.
a. Non-evaluative: $\{d : \textbf{tall}(a,d)\} \supset \{d : \textbf{tall}(b,d)\}$
b. Evaluative: $\{d : \textbf{tall}(a,d) \wedge d > s_{\text{tall}}\} \supset \{d : \textbf{tall}(b,d) \wedge d > s_{\text{tall}}\}$

(24) Amy is shorter than Betty.
a. Non-evaluative: $\{d : \textbf{short}(a,d)\} \supset \{d : \textbf{short}(bd)\}$
b. Evaluative: $\{d : \textbf{short}(a,d) \wedge d > s_{\text{short}}\} \supset \{d : \textbf{short}(b,d) \wedge d > s_{\text{short}}\}$

5 Evaluativity in the positive

What happens in the positive?

- EVAL should be able to apply, but doesn't need to obligatorily (due to its status as a degree modifier).
- Following representations:

(25) Amy is tall.
a. non-evaluative: $\exists d.\textbf{tall}(a,d)$
b. evaluative: $\exists d.\textbf{tall}(a,d) \wedge d > s_{\text{tall}}$

(26) Amy is short.

a. non-evaluative: $\exists d.\textbf{short}(a, d)$
b. evaluative: $\exists d.\textbf{short}(a, d) \wedge d > s_{\text{short}}$

Problem: positive always seems to be evaluative, contrary to the prediction if evaluativity is a freely available degree modifier.

(27) Amy is tall.
trivially entails: “Amy has a degree of tallness.”
entails: “Amy meets the contextually defined standard for tallness”

(28) Amy is short.
trivially entails: “Amy has a degree of shortness.”
entails: “Amy meets the contextually defined standard for shortness”

Evaluativity seems to be different in the positive, in that it’s asserted. In the polar variant cases, it is presupposed.

(29) a. Amy is tall.
b. No, shes not, shes below the average height for women her age.

(30) A: Amy is as short as Betty.
B: No, shes not, shes taller than Betty.
B’:*No, shes not, shes actually taller than the average height.

Open question for Rett (at this point). Suggests that there may be some pragmatic reasons.

6 Conclusion

Overall picture:

type	form	pos. adj.	neg. adj.	example
polar variant	equative	[-E]	[+E]	Amy is as tall/short as Betty.
	interrogative	[-E]	[+E]	How tall/short is Amy?
polar invariant	excessive	[-E]	[-E]	Amy is too tall/short for her pants.
	comparative	[-E]	[-E]	Amy is taller/shorter than Betty.

Big picture:

- Distribution of evaluativity depends on scale structure (polarity).
- Also depends on whether the construction is sensitive to polarity.
- Pragmatics can help determine evaluativity; evaluativity arises when the the unmarked and marked examples don’t differ in meaning.

References

Heim, Irene. 1982. *The semantics of definite and indefinite noun phrases*: University of Massachusetts Amherst dissertation.

Rett, Jessica. 2007. Antonymy and evaluativity. In T. Friedman & M. Gibson (eds.), *Proceedings of Semantics and Linguistic Theory 17*, 210–227.