

# Graded Predication by Evaluation

Rick Nouwen

Utrecht Institute for Linguistics OTS

Utrecht University

[rick.nouwen@let.uu.nl](mailto:rick.nouwen@let.uu.nl)

**Background** — Apart from a specialised degree vocabulary, languages have many less specific means for indicating the degree to which a predicate holds. Evaluative adverbs, for instance, can modify degree when they immediately precede a predicate, as in (1).

- (1) Iwan is unbelievably tall.

This paper considers the semantic question of how this form of degree modification comes about and how to explain the ways in which it is restricted. In the syntactic literature, two types of degree expressions are normally distinguished (Neeleman et al. 2004 and references therein): those restricted to the adjectival domain (*very*, *too*), and those that are less restricted in their modification (*quite*, *more*, *enough*). Evaluatives, however, seem to form a separate group.

- (2) Iwan is \*very / quite / \*unbelievably a weirdo.  
(3) Iwan is a(n) \*very / \*quite / unbelievable weirdo.  
(4) Iwan is very / quite / unbelievably weird.

The use of evaluatives as degree modifiers is restricted in two more senses. Firstly, in languages that distinguish plain adverbs from adverbs ending in *-weise* (German) or its cognates, only the simpler forms act as degree modifiers, as shown for German in (5).

- |   |   |
|---|---|
| (5) Der Film ist unglaublich bizarre.<br>The movie is unbelievably weird.<br>'The movie is unbelievably weird.' | (6) Der Film ist unglaublicherweise bizarre.<br>The movie is unbelievably-weise weird.<br>'Unbelievably, the movie is weird.' |
|---|---|

Another restriction is that the class of degree modifying adverbs is limited to a certain group of evaluative adverbs. For instance, modal adverbs do not modify degree, unless they are negated.

- (7) Iwan is necessarily angry. (only: it is necessary that Iwan is angry)  
(8) Iwan is unnecessarily angry. (possible: Iwan is angry to a degree that is unnecessary)

There exist a handful accounts of the semantics for (1) (Morzycki 2007; Katz 2005). To the best of my knowledge, however, the remaining data have not been observed or discussed before. In this paper, I build on and extend an earlier proposal I made for (1) (Nouwen 2005).

**The proposal** — I account for the contrast between (1) and (9) by assuming a difference in underlying logical form, where in (9), but not in (1), *tall* is in the positive form. That is, whereas in (1) the degree argument of *tall* is modified, in (9) it is provided by a silent positive operator.

- (9) Unbelievably, Iwan is tall. (only: Iwan is tall, and that's unbelievable)

The *-weise* adverbs in languages like German and Dutch are propositional operators. So, the adjective in (6), but not in (5), is left in the positive. Two questions spring to mind, however, if non-propositional adverbials modify gradable predicates: (i) What does this modification semantically involve? and (ii) Why is their distribution not that of other degree modifiers?

My proposal is to have a fairly simple semantics for predicate-modifying evaluatives, as in (10).

- (10) unbelievably:  $\lambda P.\lambda x.P(x) \ \& \ \text{unbelievable}[\wedge P(x)]$

Degree modification occurs when a predicate comes with a (silent) degree head which makes the degree argument of the predicate available for modification (cf. Kennedy 1997; Morzycki 2006). The precise implementation is not crucial, as long as an  $\langle e, t \rangle$  predicate is lifted to a  $\langle d, \langle e, t \rangle \rangle$  predicate. For instance:

(11)  $\text{DEG} : \lambda P. \lambda d. \lambda x. \text{grade}(P, x, d)$

(12) unbelievably  $\text{DEG tall} : \lambda d. \lambda x. \text{grade}(\text{tall}, x, d) \ \& \ \text{unbelievable}[\text{grade}(\text{tall}, x, d)]$

If we further assume the degree argument is existentially closed, then *Iwan is unbelievably tall* comes to mean, that there is a degree  $d$  such that Iwan is  $d$ -tall and it is unbelievable that Iwan is  $d$ -tall. Note that this predicts that *unbelievably A* does not entail *A*. This is correct, as can best be seen with absolute adjectives like *full*: a surprisingly full glass, is not necessarily full. Morzycki 2007 argues against an account along the lines of (10)/(12) on the grounds that it predicts that e.g. someone can be called amazingly tall for very odd reasons. Say Iwan's bank account number is 17743, and, say, he is exactly 1 metre 77 centimetres and 43 millimetres tall. Surely, that is an amazing coincidence, and hence, surely, this means that it is amazing that his height is such as it is. Nevertheless, this does not mean that Iwan is amazingly tall. I agree, but claim that the reason is not because (12) is wrong, but rather because (12) has entailments which exclude the use of evaluative adverbs in cases like the one just described. I claim that both evaluative predicates and gradable predicates are monotone decreasing. If Iwan is tall to degree  $d$ , he is automatically tall to any lesser degree (see e.g. Heim 2000). Moreover, if I find a certain proposition surprising, I will be equally surprised at anything entailing this proposition. It follows that if I find it surprising that Iwan is tall to degree  $d$ , I will be equally surprised in a situation where Iwan is tall to any degree higher than  $d$ . This blocks me from using *amazingly tall* in the bank-account scenario, since it would entail me finding Iwan's height amazing had he been 1m78 tall.

Monotonicity also accounts for why only certain adverbials can modify degree. Modals, for instance, are upward entailing, and so if the modal in *Iwan is necessarily tall* is construed as degree modifying, this example ends up meaning that there is a degree  $d$  such that Iwan is  $d$ -tall and that it is necessary that Iwan is tall to that degree. This is vacuously true (take the minimal  $d$ ). Negated modals, like *unnecessarily*, are downward monotone again, and so license a sensible degree modified reading. The proposal so far does not account for the fact that evaluative adverbs cannot modify indefinites, for if an indefinite like *a weirdo* is degree modifiable by *quite*, then why can't an evaluative adverb access a degree argument in the same position? The reason, I will argue, is that in this position, evaluative adverbs can only be interpreted as a sentence embedding operator. This becomes clear from Dutch and German. In Dutch, for instance, both a plain and a *-weise* adverb can occur adjacent to an indefinite. In the latter case, however, comma intonation is needed. This, I argue, is a sign of sentence embedding.

(13) \*Dit is verrassend een     bizarre film.  
This is surprisingly a     weird movie.

(14) Dit is, verrassend, een bizarre film.  
This is, surprisingly, a weird movie.  
'Surprisingly, this is a weird movie.'

## References

- Heim, I. (2000). Degree operators and scope. In Proceedings of SALT X, Ithaca, NY. CLC Publications.
- Katz, G. (2005). Attitudes toward degrees. In E. Maier, C. Bary, and J. Huitink (eds.), Proceedings of Sinn und Bedeutung 9, Nijmegen. Radboud Universiteit Nijmegen.
- Kennedy, C. (1997). Projecting the adjective: the syntax and semantics of gradability and comparison. PhD. Thesis, UCSD.
- Morzycki, M. (2007). Adverbial modification of adjectives: Evaluatives and a little beyond. In J. D. Dölling, T. Heyde-Zybatow and M. Schäfer (eds.), Event Structures in Linguistic Form and Interpretation. Berlin: Mouton de Gruyter.
- Morzycki, M. (2006). Size adjectives and adnominal degree modification. In E. Georgala and J. Howell (Eds.), Proceedings of Semantics and Linguistic Theory 15, Ithaca, New York. CLC Publications.
- Neeleman, A., H. v. d. Koot, and J. Doetjes (2004). Degree expressions. The Linguistic Review 21(1), 1–66.
- Nouwen, R. (2005). Monotone Amazement. In P. Dekker and M. Franke (eds.), Proceedings of the 15<sup>th</sup> Amsterdam Colloquium. Amsterdam, ILLC.