

Can Degree Semantics cope with *exceed*-type Languages?

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1 Degree Semantics

Four main claims of the version of degree semantics developed for English, as e.g. in Heim (2001), are empirically decisively supported by the measure phrase construction (MPC) and the subcomparative construction (SubC).

Firstly, the MPC contains a degree denoting expression *1.81* in (1), suggesting the introduction of degrees in the semantic ontology (*Claim 1*). The basic type d is thus integrated in the semantic representation. The MPC is compositionally readily analysed if a relational-type lexicon entry is chosen for gradable predicates (GP), as shown in (2) (*Claim 2*).

(1) *Isaac is 1.81 tall*
LF: $\text{Isaac}_e \text{ is } 1.81_d \text{ tall}_{d(e,t)}$

(2) $\| \text{tall}_{d(e,t)} \| = \lambda d. \lambda x. x \text{ is tall to degree } d \text{ (on the appropriate scale)}$

Intuitively, in the SubC in (3), the degree d to which the table is high is compared to the degree d' to which the door is wide. This interpretation is obtained if it is assumed that the comparative morpheme, *-er* in (3), expresses an ordering relation between the maxima of two sets of degrees. This interpretation is mirrored in the lexicon entry for this morpheme, as shown in (4), i.e. *-er* combines with two sets of degrees (D). The formation of those sets parallels how such sets can be built in the domain of individuals, i.e. through quantifier/operator movement and predicate abstraction over the free variable contained in the extraction site. It is therefore claimed that the *than*-clause is interpreted via predicate abstraction over a degree variable (*Claim 3*).

(3) *The table is higher than the door is wide*
Interpretation: $\max(\lambda d. \text{the table is } d\text{-high}) > \max(\lambda d'. \text{the door is } d'\text{-wide})$

(4) $\| \text{-er}_{(d,t),((d,t),(t))} \| = \lambda D_1. \lambda D_2. \max(D_2) > \max(D_1)$

2 Methodology

The goal set for this presentation is to examine whether (this version) of degree semantics can be readily applied to genetically non-related languages, in which the counterpart to the English comparison morphem is morphosyntactically encoded as a transitive verb meaning *exceed*.

We proceed as follows. In a first step, we look whether the language under study shows structurally-close equivalents to the MPC and the SubC, since these constructions – as shown above- motivate major claims of degree semantics. We further investigate related constructions such as degree questions and differentials to corroborate our findings.

The working hypothesis is: If the language under study has structurally-close equivalents to the MPC and the SubC, then claim 1 to 3 are robust candidates for this language, i.e. it points at the

need for an English-like degree semantics.

In a second step, we consider *evaluativity* patterns. In English, the comparative (of superiority) is not evaluative [-E], i.e. predicating the comparative form does not entail the predication of its positive counterpart. For example in (5) the fact that *John is taller than Kathy* does not entail that *John is tall*, i.e. it might be true even if John and Kathy are dwarfs. Degree semantics predicts this pattern, since its compositional analysis of comparative constructions does not refer to another standard than the one expressed in the *than*-clause, whereas the positive form, *tall*, is evaluated in regard to a contextually-fixed standard.

(5) *John is taller (than Kathy) ⊄ John is tall*

The working hypothesis is: If the comparative construction of the language under study is [+E] it indicates that it is not an English-like degree semantics which is called for, but one which parallels the semantics for the positive form.

We therefore double-check by these two angles whether it is plausible to develop an (English-like) degree semantics for the comparative constructions of language L.

3 *exceed-type* Languages

We apply this methodology to two African languages: **Yorùbá** (Kwa, Nigeria) and **Mooré** (Gur, Burkina Faso). They both belong to different branches of the Niger-Congo phylum. These languages are *exceed-type* languages (Stassen (1985)). In this type of languages the standard of comparison (SC), *John* in (6) and *a John* in (7), is encoded as the direct object of a predicate meaning *exceed*, *jù* in (6) and *yɪɪd* in (7). In Yorùbá the *exceed* predicate combines with the GP, *ga* in (6), in a serial verb construction. In Mooré, the GP *woko* is combined through (some type of) coordination with the verb *exceed*, as shown in (7).

(6) *Kathy ga jù John lɔ* [Yorùbá]
 be_tall exceed SM
 ‘Kathy is taller than John.’

(7) *A Kathy yaa woko n yɪɪd a John* [Mooré]
 PM is long C exceed PM
 ‘Kathy is taller than John.’

We investigate whether degree semantics can be applied to these two *exceed-type* languages by using the methodology described above.

First, we investigate whether MPCs and SubCs are available in Yorùbá and Mooré. Yorùbá and Mooré do not show a direct MPC as in English but resort to an equative construction, as shown in (8) and (9). Claim 2 is thus not confirmed for these two *exceed* languages, since a GP cannot directly combine with a degree-denoting expression (d-expression). However the presence of d-expressions can be considered as an empirical support for Claim 1, i.e. the introduction of an object of type *d* in the semantics seems necessary for the interpretation of examples (8) and (9).

(8) *Kathy tóbi *(tó) àádòrin kiló* [Yorùbá]
 be_big reach seventy kilo
 Intended: ‘??Kathy is 70kg heavy.’

- (9) *A Naomi yaa woko *(n ta) metr a ye la sentimetr pissoobe* [Mooré]
 PM is long C reach meter NM one and centimeter sixty
 Intended: ‘Naomi is 1.60 tall.’

Best candidates for SubCs in Yorùbá and Mooré both contain some nominalizing expression. *Bi ... se* in (10) turns a clause into a DP, whereas *sẽn* in (11) marks a – free (in this case) – relative clause. We therefore hypothesize that these two *exceed*-languages don't have clausal comparatives. Claim 3 thus cannot be validated, since there is no clausal comparative altogether.

- (10) *Tábilì yìì gùn jù bi lẹ̀kùn yẹn şe fẹ̀ lọ* [Yorùbá]
 table Dem be_long exceed ON door Dem ON be_wide SM
 Intended: ‘This table is longer than that door is wide.’

- (11) *Tablã yaa woko n yɪɪd portã sẽn yaa yalenga* [Mooré]
 table-DEF is long C exceed door-DEF ON is wide
 Intended: ‘The table is longer than the door is wide.’

A first analysis of evaluativity patterns reveals that both Yorùbá and Mooré are [-E], i.e. (6) and (7) might be true in situations in which Kathy is *small*. We therefore hypothesize that more than a semantics exclusively derived from the semantics for the positive form is required for the interpretation of the comparative constructions.

We therefore conclude that both Yorùbá and Mooré require a degree semantics, since d-expressions are available, and some lexicon items can directly combine with them. It seems reasonable at this stage to hypothesize that the verb meaning *exceed* has the same lexicon entry as the phrasal comparative morpheme, as shown in (12) (in the format of (Bhatt & Takahashi (2007))).

$$(12) \quad \|\text{exceed}\| = \|\text{-er}_{(e),((d,e),t),(e,t)}\| = \lambda x. \lambda P_{((d,e),t)}. \lambda y. \exists d [P(y,d) \wedge \neg P(x,d)]$$

The following prediction is thus made: the comparative morpheme cannot scope over any scope-taking expression. We thus conclude our talk by looking at data involving scope interactions to check whether this prediction is borne out.

References

- Beck**, S. (2007). *Comparatives and Superlatives*. Ms., University of Tübingen, Germany.
Bhatt, R. and **Takahashi**, S. (2007). Direct Comparisons: Resurrecting the Direct Analysis of Phrasal Comparatives. Paper presented at SALT XVII.
Heim, I. (1985). Notes on comparatives and related matters. Ms. Austin: University of Texas at Austin.
Heim, I. (2001). Degree Operators and Scope. In: *Audiatu Vox Sapientiae. A Festschrift for Arnim von Stechow*, C. Féry and W. Sternefeld (eds), 214-239.
Kennedy, C. (1999). *Projecting the adjective: The Syntax and the Semantics of gradability and comparison*. Garland Press, New York.
Retz, J. (forthcoming). *Antonymy and Evaluativity*. Paper presented at SALT XVII.
Stassen, L. (1985). *Comparison and universal grammar*. Blackwell, Oxford.

Gloss

SM: Standard of Comparison Marker; **NM**: Numeral Marker; **DEF**: Definite Marker; **PM**: Proper Noun Marker; **C**: Coordination; **Dem**: Demonstrative; **ON**: Nominalisation Operator