Modal superlatives as degree descriptions

In a nutshell: In this paper, I present a novel compositional analysis of modal predicative superlatives, that is, predicative superlatives accompanied by modal adjectives such as *possible*, as that in (1).

(1) Mary wanted to be the prettiest possible.

I argue that they are elliptical *bona fide* degree-relative clauses denoting maximal degrees and whose semantic contribution is similar to that of Measure Phrases. This account will require a novel composition of the superlative which involves the formation of an ordered set and the selection of a maximal element. I argue that not only is this account able to derive their peculiar semantics (dispensing us from the *ad hoc* components that previous accounts posited), but it can also capture the morphosyntax of these constructions (especially in Romance languages, which turn out more informative than English in this respect).

The interpretation of modal superlatives Semantically, modal superlatives are unique in that they have what Schwarz 2005 calls "equative force". That is, they can be paraphrased using an equative construction as shown in (2).

(2) She wanted to be the prettiest possible.   ≈ She wanted to be <u>as pretty as</u> possible

Non-modal superlatives have instead stronger truth conditions that result in incompatibility with ties.

(3) a. Yesterday, Mary was the kindest she has ever been
       ≈ Mary was kind<u>er</u> yesterday than she was at any other relevant time
       ≉ Yesterday Mary was <u>as kind as</u> she has ever been
    b. Mary was the kindest <u>YESTERDAY</u>
       ≈ Yesterday Mary was kind<u>er</u> than any other relevant day
       ≉ Yesterday Mary was <u>as kind as</u> on a day when she was the kindest

Previous accounts In the literature, there are two main semantic accounts for modal superlatives: Schwarz 2005 and Romero 2013. Both analyses are able to derive the desired "equative" interpretation of modal superlatives, but they do so at the expense of having some *ad hoc* components in their analysis. In the case of Schwarz 2005, *-est possible* is considered a non-decomposable degree operator (see (4)), whose meaning is unrelated to the meaning of bare *-est* (5). This does not seem a desirable component of the analysis.

(4) $\llbracket \text{est} \rrbracket = \lambda P_{<d,st>}.\ \exists d\ [P(d)\ \&\ \forall Q \in \mathbf{Q}\ [Q{\neq}P \rightarrow \neg\ (Q(d))]$

(5) $\llbracket \text{est possible} \rrbracket^w = \lambda P_{<s,dt>}.\ [\ \forall d\ [\exists w'[wRw'\ \&\ P(w')(d) = 1] \rightarrow P(w)(d) = 1\ ]$

Romero 2013 provides a compositional analysis where the more familiar Heimian meaning for *-est* in (6) is assumed. However, in order to derive the "equative force" of modal superlatives, she has to assume a particular type of quantification (over degree sets as opposed to degree properties) that could not be extended to other non-modal superlatives such as (3).

(6) $\llbracket \text{-est} \rrbracket = \lambda \mathbf{Q}_{<dt,t>}.\ \lambda P_{<d,t>}.\ \exists d\ [P(d)\ \&\ \forall Q \in \mathbf{Q}\ [Q{\neq}P \rightarrow \neg\ (Q(d))]$

The shape of modal superlatives in Romance Moreover both Schwarz 2005 and Romero 2013 inherit a well-known problem shared by any Heimian scopal theory of superlatives, which is that the definite determiner is not interpreted in the usual way. In the semantic compositions above, it has merely existential force. This is particularly surprising in the case of modal superlatives in Spanish and Italian, which turn out to be the only case of predicative superlatives that allows the presence of an overt definite determiner.

(7) a. Maria è stata il   più   carina che poteva   (con i   clienti)
    Mary was   the.NT more nice   that she.could with the costumers
    'Mary was the nicest she could be (with the costumers)'   [ITA]

   b. María quería estar lo   más guapa   (que fuera) posible
    Maria wanted to.be it.M.S. more pretty.7s.f. that was   possible
    'Maria wanted to be the prettiest possible'   [SPA]

More generally, Romance languages show that in addition to having unique semantic properties, modal superlatives are unique morpho-syntactically. First, whereas the Italian (and Spanish) counterparts of (1) are fully acceptable, non-modal predicative superlatives such as (3) are ungrammatical (see (10) and (11)).Second, Romance modal superlative predicates show a level of syntactic independence that their non-modal counterparts do not have. Unlike other predicative superlatives in Romance, they form a syntactic constituent that is headed by a definite determiner and that can appear as the sentential predicate (compare (7a) to (11)). Also they are compatible with an indefinite deteminer at the higher DP level (see (12a) *vs.* (12b)). Third, modal superlatives look suspiciously similar to other (free) amount relatives in these languages. Compare Spanish (7b) with the free relative in (13) and Italian (14a) with (14b). Both the relative in (13) and the one in (14b) are normally assumed to denote single degrees.

Proposed analysis I argue that the degree phrase in modal superlatives is an elliptical relative clause. Once ellipsis is resolved, the relative clause refers to a single maximal degree (and not a set of degree sets, as in Romero 2013) which plays the role of a Measure Phrase. That is, it provides a degree that saturates the degree slot of the adjective directly. This is shown in (9b) for (7b), whose LF is given in (8).

(8) Maria [1 quería [[lo SUP más 3 (que fuera) posible $<$para PRO_1 estar guapa t_3 $>$] [2 PRO_1 estar guapa t_2]]

(9) a. ⟦ 2 PRO_1 estar guapa t_2 ⟧ = λd. [guapa(g(1),d)]
   b. ⟦ lo SUP más 3 possible $<$ para PRO_1 estar guapa t_3 $>$ ⟧ = ιd[$\Diamond$[guapa (g(1), d)] & $\forall d'$ [$\Diamond$[guapa (g(1), d') & d$\neq$d'] $\rightarrow$ d' $<$ d]]

Internally, the degree phrase is analyzed as a partitive over degrees (parallel to partitive constructions over indivuals such as *the tallest of the boys*). It is composed in three steps. First, the *más* creates a total ordering of degrees. Second, SUP turns the ordered set into a singleton containing the maximal degree. Lastly, the definite determiner performs a "uniqueness test" and return the unique maximal degree. The maximal degree in turn measures the degree of the property denoted by *guapa*. The whole sentence then asserts that Maria wanted to be *that* pretty, where *that* is equal to the maximal degree such that she cannot possibly be prettier than that.

Appendix: additional data

(10)* Ieri,   Maria è stata { il/   la/   ∅ } più   carina che fosse   mai   stata.
     Yesterday, Mary was   the.NT the.F   more nice   she has.SUBJ never been

(11)* Ieri   Maria era { il/   la/   ∅ } più   carina
     Yesterday Maria was   the.NT the.F   more nice
     (ungrammatical under the intended meaning ≈ (3b))

(12)a. Ho   bisogno di una torta il   più   grande possibile.
        I.have need   of a   cake the more big   possible
        'I need the biggest possible cake'
     b.*Ho   bisogno di una torta il   più   grande
        I.have need   of a   cake the more big
        int. 'I need the biggest cake'

(13) Susana es más guapa de [$_{FreeRC}$ lo que lo es María]
     Susana is more pretty of the that it is Mary
     'Susana is prettier than Mary is'

(14)a. Gianni è più   alto di quanto   non   (lo) sia   Piero
        Gianni is more tall *di* how(much) EXPL.NEG it   be.SUBJ Piero
        'Gianni is taller than Piero (is)'
     b. Dovevo essere quanto   più   carina possibile
        had.to be   how.much more pretty possible
        'I had to be the prettiest possible'

References

Heim, Irene (1999). *Notes on Superlatives. Ms.* MIT.

Howard, Edwin Martin (2014). "Superlative degree clauses: Evidence from NPI licensing". Massachusetts Institute of Technology.

Romero, Maribel (2013). "Modal superlatives: a compositional analysis". In: *Natural language semantics* 21.1, pp. 79–110.

Schwarz, Bernhard (2005). "Modal superlatives". In: *Semantics and Linguistic Theory*. Vol. 15, pp. 187–204.