

When manner adverbs cannot be interpreted as predicate modifiers*

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Goals: Establish a classification of the adverbs that may modify adjectives in degree phrases headed by *so* and *how*, and understand how they are semantically composed with these adjectives.

Outline of the talk

Main claims (section 1)
Previous assumptions (section 2)
The plot (section 3)
Analysis (section 4)
Interesting predictions (section 5)
Conclusions (section 6)

1 Main claims

- Only a few manner adverbs can modify gradable adjectives in degree constructions that contain *tan* ('so') and *que* ('how'), i.e., exclamatives and result clause constructions.
- The set of adverbs that may precede the adjective in these constructions exhibit two different semantic composition processes, depending on whether or not they work as predicate modifiers.
- The adverbs that convey an expressive meaning can be interpreted as nonrestrictive modifiers and, thus, as side comments by the speaker.

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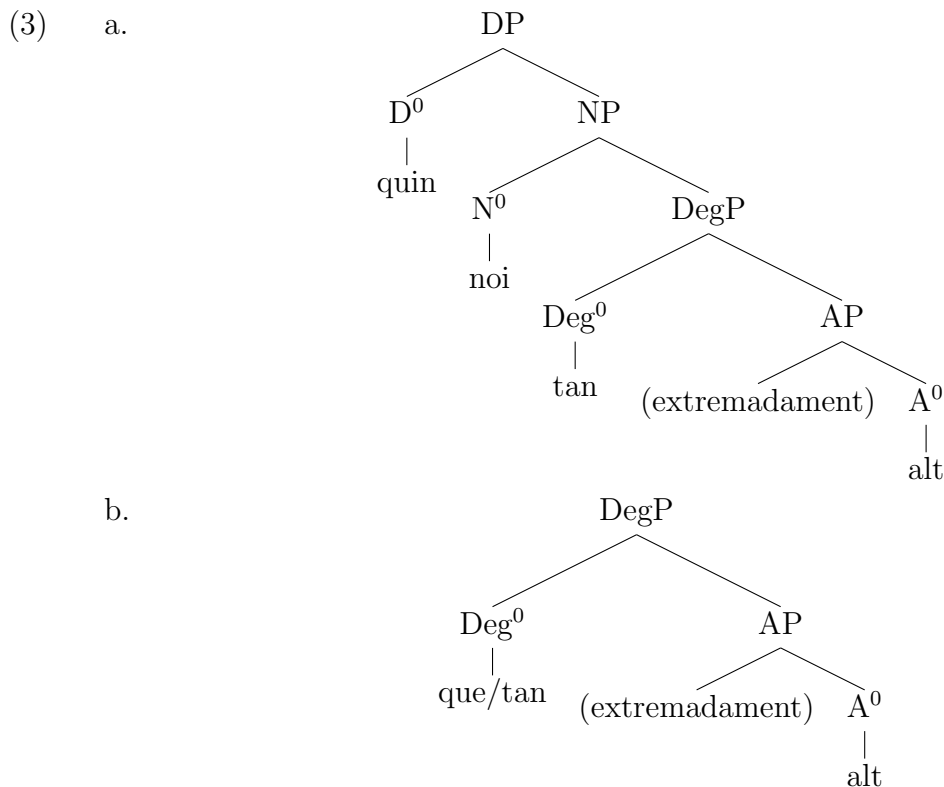
2 Previous assumptions

- Exclamatives and result-clause constructions in Catalan include the degree word *tan* ('so').

- (1) a. Quin pastís **tan** bo que ha preparat en Ferran!
 what cake so good that AUX prepared the Ferran
 'What a nice cake Ferran made!'
 b. En Pau és **tan** alt que arriba al sostre.
 'Pau is so tall that he reaches the ceiling.'

- *Que* ('how') \equiv *tan* ('so') [+wh].

- (2) a. Quin noi tan (extremadament) alt!
 'What an (extremely) tall boy!
 b. Que (extremadament) alt que és aquest noi!
 'How (extremely) tall this boy is!



- *Tan* ('so') always indicates high degree.

- (4) a. Quin pastís tan bo que ha preparat en Ferran! # Alguns convidats l'han tastat.

‘What a nice cake Ferran made! # Some guests tasted it.’ [Considering that Ferran is a great cook.]

- b. #En Pau és tan alt que pot entrar als edificis.
 ‘Pau is so tall that he can enter the buildings.’ [Considering that the buildings are of an average size.]

- (5) a. $\llbracket \text{TAN}(d_R)(d_S) \rrbracket = 1$ iff $d_R \succeq d_S$
 (Adapted from the definition of AS in Kennedy (1999))

- b. $T(\text{tan}) = T(\text{que}) = \lambda G_{\langle e,d \rangle} \lambda x [\text{TAN}(G(x))(d_i)]$

- Proposed (rough) paraphrases:¹

- (6) a. (1-a): Ferran prepared a cake that was d -nice, and $d \succeq$ the degree of niceness that it takes for the speaker to have an emotional attitude.
 b. (1-b): Pau is d -tall, and $d \succeq$ the degree of tallness that it takes for Pau to reach the ceiling.

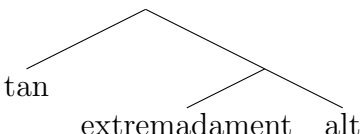
3 The plot


3.1 Problem A: is *extremely* a predicate modifier?

- (7) a. Quin pastís tan **extremadament** bo que ha preparat en Ferran!
 ‘What an extremely nice cake Ferran made!’
 b. En Pau és tan **extremadament** alt que arriba al sostre.
 ‘Pau is so extremely tall that he reaches the ceiling.’

3.1.1 Paraphrase

- (8) a. #Pau is d -[extremely tall], and $d \succeq$ the degree that it takes for Pau to reach the ceiling.
 b. Pau is d -tall, $d \succeq$ the degree that it takes for Pau to reach the ceiling and d is described by the speaker as extreme.

- (9) a.  \Rightarrow (8-a)

- b.  \Rightarrow (8-b)

¹Since it is not relevant for my purposes here, I disregard the fact that in these constructions, the actuality of the proposition expressed by the *that*-clause is implicated. For a discussion, see Meier (2003) and Hacquard (2004).

3.1.2 Change of degree operator in exclamatives

- (10) a. Que alt que és en Pau!
‘How tall Pau is!’
b. Que extremadament alt que és en Pau!
‘How extremely tall Pau is!’
- (11) a. Com és d’alt en Pau!
‘How tall Pau is!’
b. #Com és d’extremadament alt en Pau!
‘How extremely tall Pau is!’
(The meaning obtained corresponds to the paraphrase in (8-a).)

3.1.3 Other degree operators

- (12) a. #Pau is more extremely tall than Marc.
b. #Marc is less extremely tall than Pau.
c. #Pau is too extremely tall.
d. #Pau is extremely tall enough.

3.2 Problem B: why doesn’t *ethically* behave like *extremely*?

- (13) a. Que dubtós que és l’assumpte!
‘How dubious the matter is!’
b. Que èticament dubtós que és l’assumpte!
‘How ethically dubious the matter is!’

3.2.1 Paraphrase

- (14) a. The matter is d -[ethically dubious], and $d \succeq$ the degree of *being ethically dubious* that it takes for the speaker to have an emotional attitude.
b. #The matter is d -dubious, $d \succeq$ the degree of *being dubious* that it takes for the speaker to have an emotional attitude and d is described by the speaker as ethical.

3.2.2 Change of degree operator in exclamatives

- (15) a. Com és de dubtós l’assumpte!
how is of dubious the matter
‘How dubious the matter is!’
b. Com és d’èticament dubtós l’assumpte!

3.2.3 Other degree operators

- (16) a. This matter is more ethically dubious than the other.

- b. This matter is less ethically dubious than the other.
- c. This matter is too ethically dubious.
- d. This matter is ethically dubious enough.

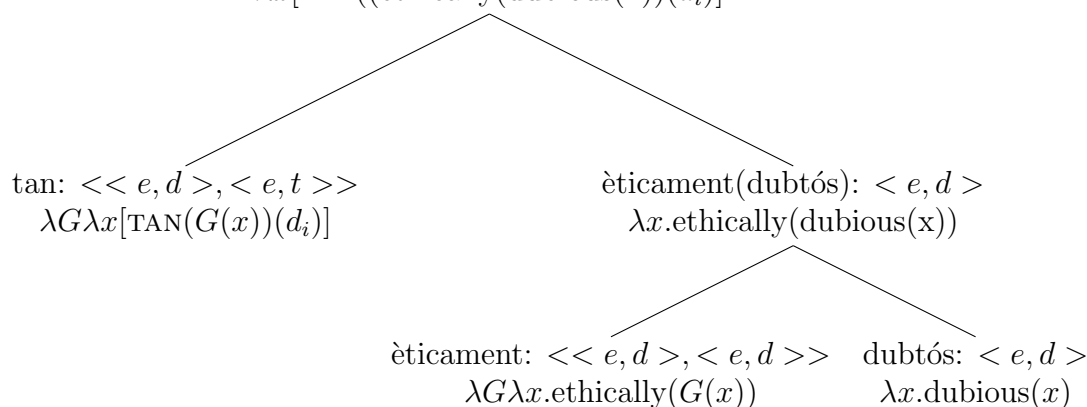
4 Analysis

4.1 Restrictive modification

4.1.1 Semantic composition

(17) Tan èticament dubtós
'So ethically dubious.'

(18) $\text{tan}(\text{èticament}(\text{dubtós})): \langle e, t \rangle$
 $\lambda x[\text{TAN}((\text{ethically}(\text{dubious}(x)))(d_i))]$



4.1.2 The class of restrictive modifiers

- Adverbs that derive from relational adjectives.
 - Ethically dubious > ethical doubt, genetically weak > genetic weakness
 - These adverbs are not gradable
- (19) a. So ethically dubious $\not\Rightarrow$ *it is dubious so ethically.
b. So genetically weak $\not\Rightarrow$ *it is weak so genetically.
- The adjective they modify is gradable: more dubious, less weak.
- Adverbs that modify a past participle.
 - Beautifully phrased, badly injured, intelligently designed, slowly cooked, gently stirred, genuinely surprised.

- Typically, these past participles are not gradable predicates ((20)); and if they are, their degree argument is not the one that is modified by the degree word *tan* ((21)).

(20) *More/less phrased

(21) So slowly cooked \nrightarrow so cooked

- These adverbs are gradable.

(22) a. So beautifully phrased \Rightarrow it is phrased so beautifully.
b. So slowly cooked \Rightarrow it is cooked so slowly.

4.2 Nonrestrictive modification

4.2.1 A previous proposal by Morzycki (To appear in 2008)

- Restrictive vs. nonrestrictive adjectives and adverbs in nonparenthetical positions

(23) Every *unsuitable* word was deleted. (Larson and Marusic 2004)

- a. Restrictive: every word that was deleted was unsuitable.
- b. Nonrestrictive: every word was deleted; they were unsuitable.

(24) The Titanic('s) *rapidly* sinking caused great loss of life.

- a. Restrictive: The Titanic's sinking being rapid caused great loss of life.
- b. Nonrestrictive: The Titanic's sinking, which was rapid, caused great loss of life.

- A proposal inspired on Potts (2005) to account for nonrestrictive modifiers

(25) a. Every unsuitable word_C was deleted.

b. 'Every word_C was deleted. The words_C were unsuitable.'

c. 'For every word x in C , x was deleted, and the sum of all words in C was unsuitable.'

(26) Expressive Predicate Modification is defined as follows:

$$\beta : \langle e^a, t^a \rangle$$

•

$$\alpha(\text{sup}(\beta)) : t^c$$

$$\alpha : \langle e^a, t^a \rangle \quad \beta : \langle e^a, t^a \rangle$$

... Where the relative order of α and β is as indicated.

$$\begin{array}{c}
 (27) \qquad \lambda x.word(x) \wedge x \in C : \langle e^a, t^a \rangle \\
 \bullet \\
 unsuitable(sup(\lambda y.words(y) \wedge y \in C)) : t^c \\
 \diagup \qquad \qquad \qquad \diagdown \\
 unsuitable : \langle e^a, t^a \rangle \quad \lambda x.word(x) \wedge x \in C : \langle e^a, t^a \rangle
 \end{array}$$

4.2.2 *Extremely* as a nonrestrictive modifier

Nonrestrictive modifiers are side-comments by the speaker

- The content expressed by the nonrestrictive modifier does not contribute the same dimension as the regular descriptive meaning.

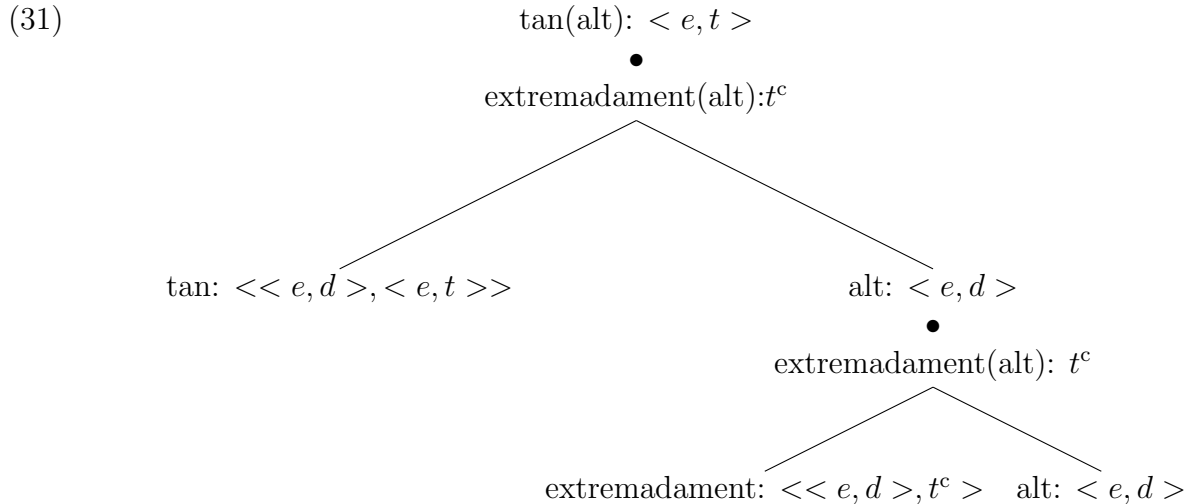
- (28) a. A: Pau is tall. B: No, this is not true. Pau is extremely tall.
 b. A: Pau is so tall that he reaches the ceiling. B: # No, this is not true. Pau is so extremely tall that he reaches the ceiling. [With a neutral intonation]

- (29) Pau is so tall that he reaches the ceiling. Kareem is so extremely tall that he reaches the ceiling, too, though Kareem isn't as tall as Pau.

- Nonrestrictive modifiers behave like expressives: aside from their descriptive content, by uttering these adverbs, the speaker expresses an emotional attitude.

- (30) a. En Pau és tan extremadament alt que arriba al sostre.
 'Pau is so extremely tall that he reaches the ceiling.' \Rightarrow the speaker is amazed at Pau's degree of tallness.
 b. En Bill Gates és tan fastigosament ric que ja no sap què més comprar.
 '(lit.) Bill Gates is so disgustingly rich that he doesn't know what else to buy.' \Rightarrow the speaker is upset about Bill Gate's richness.
 c. En Hoynes està tan descaradament en contra d'en Bartlet que perdrà les primàries.
 '(lit.) Hoynes is so shamelessly against Bartlet that he will lose the primary election.' \Rightarrow the speaker is indignant about the fact that Hoynes goes against Bartlet.

Semantic composition



4.2.3 The class of nonrestrictive modifiers

- These adverbs are interpreted as intensifiers because of their conveying an emotional attitude by the speaker (cf. Castells (2005, p. 112)).
- The adjective the modifiers precede is gradable, but the latter need not be, since these adverbs are not modified by *tan*.
- For example:
 - Deadjectival adverb(s) whose adjective describes a degree of ADJ-ness: extremely tall.
 - Attitude toward degree modifiers (cf. Katz (2005)): surprisingly smart, frustratingly late, strangely familiar, insanely insecure.
 - Adjectival adverbs that behave like intensifiers (cf. Bolinger (1972)): definitely smart, literally beautiful, absolutely right, positively impressed.

4.3 Conditions of interpretation

- Between *tan* ('so') and an adjective we can find a restrictive modifier only if it merges with the adjective to obtain a gradable expression that can be modified by *tan*.
- When by performing the semantic composition above we do not obtain the desired meaning, then it is possible to interpret the adverb nonrestrictively only if: (a) the adverb can convey an emotional attitude by the speaker, and (b) the adjective is gradable.

5 Interesting predictions

- We can explain the contrast presented by Elliott (1974):

- (32) a. How very/unbelievably/extremely long he can stay under water!
b. *How slightly/fairly/reasonably long he can stay under water!

- If these adverbs are interpreted restrictively \Rightarrow [Adj Adv] is not a gradable expression \Rightarrow this cannot merge with the degree words *tan/que, so/how*.
- If these adverbs are interpreted nonrestrictively \Rightarrow contradiction between the high degree that results from [*tan/que* ‘so/how’ Adj] and the attitude that underlies the use of these adverbs.

- (33) He can stay under water *d*-long, $d \succeq$ the degree that it takes for the speaker to have an emotional attitude, # and the speaker describes *d* as slight/fair/reasonable.

- We can explain the following contrast presented in Zanuttini and Portner (2003):

- (34) a. I know how extremely tall Pau is.
b. *I don’t know how extremely tall Pau is.
c. He doesn’t know how extremely tall Pau is.
d. I didn’t know how extremely tall Pau was.

- If the verb is on the 1st person of the present tense \Rightarrow the subject is identified with the speaker \Rightarrow negating knowledge is at odds with the speaker having an emotional attitude caused by the degree of ADJ-ness. ((34-b))
- If the verb is on the 3rd person \Rightarrow the subject is not identified with the speaker \Rightarrow we interpret that the speaker knows about the degree of ADJ-ness and has an emotional attitude caused by it.((34-c))
- If the verb is on the past tense \Rightarrow we interpret that at the present tense the speaker already knows about the degree of ADJ-ness and has an emotional attitude caused by it. ((34-d))

- We relate this nonrestrictive interpretation to the presence of a deadjectival adverb and the degree word *tan* (‘so’), which triggers pied-piping of the AP.

- The semantics of exclamation is not responsible for the occurrence of such adverbs.
- Only adverbs that can be interpreted as being deadjectival are eligible in this position.

- (35) a. How very tall he is! (*very* has the meaning of *truly*.)

- (36) b. *Que molt alt que és! (*molt*, which is translated as ‘very’, is not a deadjectival adverb.)
- (36) a. ?El llenguatge de la pel·lícula era tan excessivament formal que ningú la va entendre.
‘The language of the movie was so excessively formal that nobody understood it.’
- (36) b. *El llenguatge de la pel·lícula era tan massa formal que ningú la va entendre.
‘The language of the movie was so too formal that nobody understood it.’
- We can establish an analogy with manner adverbs that occur as premodifiers of verbs (cf. Bolinger (1972, p. 259)):
- (37) a. He laboriously slaved at the task.
b. *He hard slaved at the task.
- Exclamatives that do not involve this syntactic structure cannot have these nonrestrictive adverbs modifying the gradable adjective.
- (38) a. #Com és d’extremadament alt! (Catalan)
‘How extremely tall he is!’
b. #Comme il est extrêmement grand! (French)

6 Conclusions

- Manner adverbs that modify adjectives in degree constructions headed by *tan* ‘so’ are of two different types.
- If the combination of the adverb and the adjective does not return a gradable expression, then this has to be interpreted as an instance of nonrestrictive modification.
- Manner adverbs that can convey the speaker’s emotional attitude are treated as nonrestrictive modifiers and, as such, they are processed on a different domain of interpretation.
- It would be interesting to continue this line of research by studying whether this division between nonrestrictive and restrictive adverbs that modify adjectives is consistent crosslinguistically, by analyzing in depth the non-uniform class of nonrestrictive modifiers, or by exploring further contexts in which adverbs are interpreted nonrestrictively.

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