**Adjectives and Nouns: Connecting their Gradability**

INTRODUCTION. According to Kennedy & McNally (2005) and Kennedy (2007), gradable adjectives are divided into two classes: relative (*tall, short, heavy*, etc.), which lexicalize open scales, are context-dependent, and do not entail a contextual standard of comparison in comparatives, and absolute (*dirty, clean, full*, etc.), which lexicalize closed scales, are not context-dependent, and do entail a contextual standard of comparison in comparatives. In this talk, I will consider Spanish relative adjectives, such as *alto* 'tall', and their respective nominalizations, such as *altura* 'height'. I argue that both forms are derived directly from an acategorial root *alt-* and will provide a formal analysis that captures both their similarities, as for the modifiers they combine with, and their differences, namely that only the adjectives entail a standard of comparison and that only the nouns are fully compatible with degree phrases. Ultimately, this analysis sheds light on the unexplained question of why many languages employ two different categories to express concepts that are apparently equivalent.

THE DATA. Masià (2013) claims that the nominalizations derived from gradable adjectives inherit the adjectival scale. In the examples in (1), adjectives and nouns are incompatible with modifiers that pick out maximal degrees on the scale, which indicates that both forms lexicalize an open scale:

(1) a. ??completamente alto / ??totalmente profundo.
'completely tall' / 'totally deep'
b. ??completa altura / ??total profundidad.
'complete height' / 'total depth'

However, these adjectives and nouns differ with respect to other properties. For example, only the former license a non-neutral or contrastive interpretation when appearing by itself. While in (2a) the adjective expresses a property of the building that is evaluated relative to a contextual comparison class, in (2b) the noun only expresses that the building is endowed with certain dimension, which yields a tautology:

(2) a. Este edificio es alto/ancho/largo. b. #Este edificio tiene altura/anchura/largura.
'This building is tall/wide/long' 'This building has height/width/length'

Finally, the co-occurrence of the degree phrase (highlighted in bold) with the adjectives is odd, while it is acceptable with their corresponding nominalizations:

(3) a. ?Este edificio es **trescientos metros** de alto.
*this building is three hundred meter of tall*
b. ?Esta piscina es **dos metros** de profunda.
*this pool is two meter of deep*

(4) a. Este edificio tiene una altura de **trescientos metros**.
*this building has a height of three hundred meters*
b. Esta piscina tiene una profundidad de **dos metros**.
*this pool has a depth of two meters*

THE PROPOSAL. Based on the data in (2), I propose that the adjective, but not the noun, entails a standard of comparison, whereas the noun *altura* expresses the set of degrees of an individual. This means that the adjective cannot give rise to the noun (the opposite is not the case either, since the noun is phonetically longer than the adjective). Thus, I argue that both forms are derived from an acategorial root *alt-* that lexicalizes the (open) scale, which accounts for the similarities shown in (1). A scale is defined by Kennedy (2007: 4) as a "set of degrees totally ordered with respect to some dimension (height, cost, etc.)". I argue that the root is of the type <d,<e,t>>; in (5a) I suggest a denotation for the root *alt-* that is based on one of the usual denotations proposed for gradable adjectives (vid. Morzycki to appear for a review). The adjectival morphology *ADJ* takes a gradable root and saturates the degree *d* associated with the individual *x* by evaluating it with respect to the degree *d'*, which corresponds to the standard of comparison (see 5b). Thus, the adjective *alto* 'tall' is of the

type <e,<d,t>>: it takes an individual *x* and evaluates its degree of height *d* on the basis of a standard of comparison *d'* (see 5c). In the positive form, as in *Juan es alto* 'Juan is tall', the context provides a contextual standard of comparison $st_c$ such that *d* must be greater than or equal to it (see 5d). I assume that the standard of comparison can be dealt with like an optional argument in the sense of Blom et al. (2011); consequently, the variable *d'* can be saturated by the context. On the other hand, in languages in which the degree phrase is compatible with the adjective, as in the English sentence *John is two meters tall*, the degree phrase saturates *d'*, which must be equal to *d* (see 5e).

(5) a. $[\![\text{alt} -]\!] = \lambda d \lambda x.\, \mathbf{height}(x, d)$.

b. $[\![\text{ADJ}]\!] = \lambda G \lambda x \lambda d' \exists d.\, G(x, d) \wedge d\ R\ d'$, where *G* is a gradable root <d,<e,t>> and *R* is a relational operator ($\geq$, >, <, =) specified by the structure involved.

c. $[\![\text{alto}]\!] = \lambda x \lambda d' \exists d.\, \mathbf{height}(x, d) \wedge d\ R\ d'$.

d. $[\![\text{Juan es alto}]\!] = \exists d[\mathbf{height}(j, d) \wedge d \geq st_c]$.
'Juan is tall'

e. $[\![\text{John is two meters tall}]\!] = \exists d[\mathbf{height}(j, d) \wedge d = 2 \text{ meters}]$.

Drawing on Bochnak (2013), who proposes that the noun derives from the adjective and the nominal morphology changes the order of its arguments, I argue that the noun derives from the root and the nominal morphology *NOM* changes the order of its arguments (see 6a). Thus, the nouns are of the type <e,<d,t>>: they take an individual and return the individual's set of degrees or interval. Note that the nouns have the same denotation as the adjectives, but they differ in the fact that only the latter entail a standard of comparison. For convenience sake, I assume that the possessive verb *tener* 'have' is semantically vacuous, like the copula in the case of adjectives (cf. Bochnak 2013; Francez & Koontz-Garboden 2015; a.o.). In (6b), I propose a denotation for the noun *altura* 'height' and, in (6c), a denotation for the structure in which it co-appears with a degree phrase:

(6) a. $[\![\text{NOM}]\!] = \lambda G \lambda x \lambda d.\, G(x, d)$.

b. $[\![\text{altura}]\!] = \lambda x \lambda d.\, \mathbf{height}(x, d)$.

c. $[\![\text{Juan tiene una altura de dos metros}]\!] = \exists d[\mathbf{height}(j, d) \wedge d = 2 \text{ meters}]$.
'Juan has a height of two meters

d. $[\![\#\text{Juan tiene altura}]\!] = \lambda d[\mathbf{height}(j, d)]$.
'Juan has height'

Note that (6d) is predicted to be unacceptable because the variable *d* is unsaturated. Existential closure (Heim 1982) is available for some exceptional cases where it is expected that the entity has no height, as in *Se ha descubierto que los electrones tienen altura* 'It has been discovered that electrons have height'. Informally couched, the meaning in this case would be 'Electrons are endowed with certain degree of height (different from zero)'.

CONCLUSIONS. In deriving both the adjective and the noun from an acategorial root, this analysis accounts for their semantic similarities and differences: both *alto* and *altura* lexicalize the same (open) scale, but the former expresses a relation between two degrees as part of its denotation, whereas the latter denotes a set of degrees once the individual argument is saturated. In addition, in incorporating the standard of comparison into the adjectival morphology, the analysis allows dispensing with the null morpheme POS, to which the non-neutral or contrastive reading of the adjective (see 2a) is usually attributed in standard analyses. Dispensing with POS is possible because the denotation of the adjective presented here predicts that the individual's degree *d* must be evaluated with respect to another degree, the standard of comparison *d'*.

*References:* BLOM, C., P. DE GROOTE, Y. WINTER, & J. ZWARTS. 2011. Implicit Arguments: Event Modification or Option Type Categories? | BOCHNAK, R. 2013. *Cross-linguistic Variation in the Semantics of Comparatives*. | FRANCEZ, I. & A. KOONTZ-GARBODEN. 2015. Semantic Variation and the Grammar of Property Concepts. | HEIM, I. 1982. *The Semantics of Definite and Indefinite Noun Phrases*. | KENNEDY, C. 2007. Vagueness and Grammar: The Semantics of Relative and Absolute Gradable Adjectives. | KENNEDY, C. & L. MCNALLY. 2005. Scale Structure and the Semantic Typology of Gradable Predicates. | MASIÀ, M. 2013. Are Nouns Gradable? | MORZYCKI, M. To appear. *Modification*.