Los adjetivos relacionales cercanos: Corpus evidence for adjective ordering restrictions in Spanish

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Adjective ordering restrictions (AOR) have been observed across languages but their extent and explanations are not well-understood. A leading proposal relates AORs to an underlying cartography within the structure of noun phrases (Cinque, 2010). English has near categorical use of a prenominal position for adjectives, whereas the primary position for Spanish adjectives is postnominal. This is true of other Romance languages, but particularly dominant in the case of Spanish (Scarano, 2005; Rizzi et al., 2013). An apparent mirror image pattern of adjectives seems to arise in English and Spanish, and it has been argued to arise from (roll up) cyclic movement.

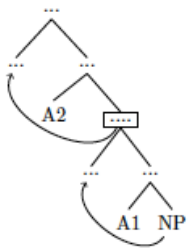
(1) Faded blue jeans (physical property >color)
(2) Pantalones azules desteñidos (color > physical property)

If the unified base approach is on the right track, Spanish should show a relatively strict adherence to AORs as is the case for English. However, this is far from clear. Counterarguments include the reduced number of possible prenominal adjectives in Spanish and the relative freedom of adjective order, both prenominal and postnominal (Sánchez, 1996, 2017; Demonte, 1999 a,b). Demonte (1999a,b) points at differences between intersective adjectives (those for which the modified NP denotes the intersection of the set of entities that are A with the set that are N, such as color or shape adjectives) and adjectives whose denotation is either context dependent (a small elephant ≠ a small animal) or results from modification of a subpart of the noun (a good lawyer =good in their role as a lawyer ≠ a good person). Intersectives are presumably closer to the noun than other types. Sánchez (2017) suggests that adjective ordering is [at least partially] free of lexical-semantic restrictions; In her analysis, flexibility results from adjectives being merged internal to covert predicates (predicate phrases or reduced relatives; see Fábregas, 2017) as opposed to merged directly into the nominal structure.

To date work on AORs relies primarily on intuitional data. Our goal is to contribute to the discussion by testing various proposed AORs against corpus data. To this effect we examined patterns of adjective ordering in noun-adjective-adjective (NAA) (n=1671) and adjective-noun-adjective (ANA) (n=1214) sequences extracted from the 2012 Google Ngram Corpus and the Genre/Historical section of the Corpus del Español. ANA sequences represent an alternative source of evidence to examine AORs in Spanish. In a Cinque-type analysis, the proposed roll-up movement that yields mirror-image order can stop at one adjective. This predicts that the prenominal adjective in ANA sequences, which is further from the nominal head in terms of scope, corresponds to the second adjective in NAA sequences (i.e. A2NA1 vs. NA1A2). To unify the order across structure types, we refer to adjective types as ordered pairs where (A, B) denotes a structure where type A is the hierarchically closest adjective (A1) to a noun, and B denotes the structurally further position (A2). (Figure 1). We employed an extension of Cinque's (2010) notionally-based hierarchy (see also Blackwell, 2005; Tribushinina et al., 2014) (Table 1, 2). For

orders where A preceded B with a frequency of $n > 6$[2], pairings were classed as categorical if it represented more than 95% of the total frequency of the pairing (A,B); biased if the frequency of the order was between 75% and 95% of the total frequency (Table 2); or in free variation if between 75% and chance. A binomial test was used to calculate the probability ($p<0.05$) of obtaining at least the frequency of the ordering AB in a sample of the size equal to the total frequency of (A,B) on the null hypothesis that either the ordering AB or BA were equally likely ($p=0.5$).

Relational adjectives were uniformly noun adjacent. For NAA sequences, biased and categorical orders emerge, whereas for ANA sequences orders are exclusively categorical. The richness of the evidence for other partial orderings differs across the two orders with the NAA data being the least informative. In the *Corpus del Español* (nationality, value) was the only pairing to emerge that did not contain a relational adjective, but the bias towards N<nationality<value did not reach significance. For Google Ngram NAA sequences (color, physical property) was categorical, whereas quantifier and manner adjectives were in free variation with value adjectives. The following categorical pairings emerged for the ANA data: (modal, quantifier); (nationality, value / size / time / age / ordinal); (physical property, size); (quantifier, size). Biased orders reaching significance included: (value, quantifier); (manner / color, value); (value, ordinal); (quantifier / size). Free variation held for value and time adjectives as well as those of color and physical property. Sufficient evidence of AORs in Spanish emerged to make the data compatible with Cinque's (2010)'s derivations, but with less defined AORs as in Demonte's (1999) middle ground approach. As non-intersective adjectives are always further from the noun (A_2) than their intersective pairings, the roll up movement approach can be maintained albeit with a less specified hierarchy.



Category	Examples
Relational	industrial, celular
Nationality/origin	canadiense, español
Color	rojo, verde
Age	joven, nuevo
Internal State	bravo, loco
Behavioral Property	chistoso, salvaje
Physical State	enfermo, cansado
Physical Property	liso, seco
Shape	redondo, cuadrado

Category	Examples
Size	grande, pequeño
Value	lindo, bonito
Time	previa, anterior
Quantifiers	distinta, similar
Manner	periódico, repetida
Place	cercano, adyacente
Ordinal	primarias, secundarias
Possessive	nuestra, propia
Modal/adverbial	posible, probable

Figure 1: Roll up movement (Cinque 2010); Table 1, 2: Semantic typology used for classifying adjectives, with examples

References:

Blackwell, A. A. (2005). Acquiring the English adjective lexicon: relationships with input properties and adjectival semantic typology. *Journal of Child Language*, *32*(03), 535–562. Cinque, G. (2010). *The syntax of adjectives: A comparative study*. Cambridge, MA: The MIT Press. Demonte, V. (1999a). El adjetivo: clases y usos. La posición del adjetivo en el sintagma nominal In I. Bosque & V. Demonte (Eds.), *Gramática descriptiva de la lengua española: sintaxis básica de las clases de palabras*. (pp. 129-216). Madrid, Spain: Espasa Calpe. Demonte, V (1999). A minimal account of Spanish adjective position and interpretation. In J.A. Franco, A. Langa, & J. Martín (Eds.), *Grammatical Analyses in Basque and Romance Linguistics: Papers in honor of Mario Saltarelli* (pp. 45-75). John Benjamins Publishing. Fábregas, A (2007). Los adjetivos deverbales y la noción del dominio ontológico. *Logos: Revista de Lingüística, Filosofía y Literatura*, 27(1), 165-181. Rizzi, S., Gil, L. A., Repetto, V., Geveler, J., & Müller, N. (2013). Adjective placement in bilingual Romance-German and Romance-Romance children. *Studia*

[2] At the 0.01 level, for n=7 (p=0.5) the binomial test becomes significant ($p = 0.0078125$). Therefore, any frequency < 6 could be a result of chance, and not considered for analysis here.

Linguistica, *67*(1), 123–147. Sánchez, L. (April, 2017). *Attributive adjectives and predicate structures in Spanish*. Paper presented at the 48th Linguistic Symposium on Romance Languages (LSRL), York University. Scarano, A. (2005). Qualifying adjectives in spoken Italian, French, Portuguese, and Spanish [The C-ORAL-ROM Corpus]: Frequencies and Structures. *Copenhagen Studies in Language*, *31*, 281–294. Tribushinina, Elena & Bergh, Huub & Ravid, Dorit & Aksu-Koc, Ayhan & Kilani-Schoch, Marianne & Korecky-Kröll, Katharina & Leibovitch-Cohen, Iris & Laaha, Sabine & Nir, Bracha & Dressler, Wolfgang & Gillis, Steven. (2014). Development of adjective frequencies across semantic classes: A growth curve analysis of child speech and child-directed speech. *Language, Interaction and Acquisition*, 5(2), 185-226