The processing of object relative clauses in Spanish: Some evidence in favor of usage-based approaches

Florencia Reali
Universidad de los Andes, Bogotá, Colombia

Introduction

Object relative clauses

Sentences with object relative (OR) clauses such as The politician who we called José are extremely frequent in English (Roland et al., 2012; Reali & Christiansen, 2007).

Anaphors are very frequent in English.

This well-established phenomenon has been explained by different theories relying on structural or functional variables including working memory limitations, discourse/pragmatics and experience (Roland et al., 2012; Reali & Christiansen, 2007).

However, when the embedded subject is a pronoun as in The politician that we called José, object relative clauses become much easier to process.

Such facilitation has been explained in terms of discourse expectations (Roland et al., 2012) or, in line with usage-based approaches, as a consequence of exposure to frequent pronominal OR constructions that may become automated into processing units that get easier to access (Reali & Christiansen, 2007).

Usage based approaches and nested structure

Usage-based models of acquisition within the constructivist tradition (Bybee & Hopper, 2001; Goldberg, 2006) propose a cognitive model of linguistic knowledge in which speakers learn language as a series of larger chunks (“established units”) from which they may derive representations of varying degrees of cohesion or schematism.

From this perspective, language use statistics gain a central place in linguistic theory: Corpus data becomes a model of the way an “average” speaker derives linguistic knowledge from usage. Along these lines, nested clauses formed by frequent chunks might lead to stronger representations that have become fluent through language use and repetition, and therefore are quite relatively easy to access. Previous results in English support this hypothesis.

Here, we provide further evidence in favor of usage-based approaches by combining corpus analysis and two off-line rating tasks designed to test complexity of relative clause structures in Spanish.

Flexibility of surface constituents in Spanish OR Clauses

1. Spanish allows word order flexibility within relative clauses.

Word order in OR clauses (verb-first/verb-final) is flexible.

Example: “la persona que [los abogados conocen/conocen los abogados] acaba de llegar” (t.: The person that the lawyers know just arrived)

2. In Spanish the embedded subject can be dropped.

Omission of the embedded subject is particularly natural in pronominal clauses since subject information is encoded in verb conjugation when the subject is a personal pronoun. Example: a. El sapo que nosotros perseguimos. (Overt pronoun)

b. El sapo que perseguimos. (null pronoun)

[The frog that we chased]

Questions of study:

¿Are there the relative frequency of OR clauses in Spanish?

¿Are there significant differences in the relative frequency of surface structure variations in OR clauses in Spanish?

Corpus Analysis

Previous corpus analyses have shown that pronominal ORs are extremely frequent in English (Roland et al., 2012; Reali & Christiansen, 2007).

Goals:

1. Investigate whether the distributional regularities of nested structure found in English reproduce in Spanish.

2. Explore patterns of occurrence of flexible surface structure in Spanish.

Materials and methods:

We used data from Corpus de Referencia de la Lengua Española Contemporánea: Corpus Oral Peninsular - free-access corpus of spoken Spanish. The corpus contains 1.100.000 words recorded and transcribed from public radio sources. We analyzed a total of 110 different monologues and conversations distributed over six different labeled topics (total over 200.000 words). We searched for lexical items used as subordinating connectives in Spanish, including the relativizer “quien(esi) [who] and the relative pronoun “que”[that]. All sentences containing verb-final clauses were individually analyzed and only sentences in which the words were used to connect a relative clause and a head noun phrase were considered.

Results:

Word order patterns on OR clauses

ORs

full NP Ors

pronominal ORs

null pronoun subject

verb-final word order

verb-first word order

Complexity ratings of ORs with full NP subjects

Complexity Ratings Pronominal ORs

Conclusion

We conclude in favor of usage-based accounts, arguing that frequent pronominal OR constructions may become easier to access as a consequence of use.

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