

Different *by*-phrases with adjectival and verbal passives: evidence from corpora

It is commonly assumed that the external argument of the underlying verb in adjectival passives is (semantically and syntactically) absent, at least in languages like English and German (cf. Baker et al. 1989, Kratzer 1994, a.o.). This also seems to hold for Spanish adjectival passives, which lack control into purpose clauses (1-a), as well as the disjoint reference effect (1-b).

- (1) a. *La rueda estaba inflada, para proseguir con el viaje.
the tire was.LOC inflated for continue.INF with the journey
b. El niño estaba peinado descuidadamente. (OK also if self-combed)
the child was.LOC combed sloppily

In addition it is commonly assumed, that *by*-phrases (both in passives and in nominalizations, most recently in Bruening to appear) syntactically and semantically express the external argument and are therefore only possible with verbal passives. However, *by*-phrases with adjectival passives are not impossible in Spanish (2-a), and are also attested in corpora (2-b) (see Rapp 1997, McIntyre 2011, Meltzer 2011 for similar data from German, English, Hebrew).

- (2) a. Ese cuadro está pintado por un niño.
that picture is.LOC painted by a child
b. La sociedad está barrida por un vendaval de igualitarismo.
the society is.LOC swept by a strong wind of egalitarianism

Given the intuition that such *by*-phrases are still different from *by*-phrases with verbal passives, in the sense that they have a rather generic character (see also Schlücker 2007 for a similar observation for German), we decided to take a closer look at the kinds of complements of *by*-phrases with both passives in a corpus of Modern Spanish¹. Using the *IMS Open Corpus Workbench* (<http://cwb.sourceforge.net/>), we obtained frequency counts of all occurrences of past participles (PP) plus *ser* (verbal passive) and *estar* (adjectival passive) combining with *por*-‘by’-phrases, analyzing them with the open-source statistical software *R* (R Development Core Team 2010). To contrast these findings, we obtained all instances of adjectives with *by*-phrases. Contrary to common assumption, *by*-phrases with adjectival passives are not exceptional; specifically, 8% (N = 314/3566) of adjectival passives in Spanish contain *by*-phrases, which is only three points less than eventive passives (11%; N = 814/6897); this difference is not highly significant ($p < 0.001$), though it is still significant at a 95% confidence level ($p < 0.05$). Furthermore, there are significant differences in the type of complement we find with *by*-phrases. The differences are highly significant for definite and indefinite determiners, pronouns and bare nouns, and significant for proper names. In particular, (i) the frequency of *by*-phrases with NPs headed by definite determiners, pronouns, and proper names is significantly higher with *ser* + PP than with *estar* + PP; (ii) the frequency of *by*-phrases with NPs headed by bare nouns and indefinite determiners is significantly lower with *ser* + PP than with *estar* + PP. Adjectives combining with *by*-phrases show similar behavior as adjectival passives in these contexts, which suggests that *by*-phrases combining with both categories are of the same type. At the same time there are many more instances of *by*-phrases with adjectival passives than with adjectives.

Hence, the data support our initial impression about the difference between the two passives with respect to the *by*-phrases they combine with. In particular, definite noun phrases, pronouns and proper names, which name participants in an actual event that occurred or is occurring, appear more often with verbal passives than with adjectival passives, whereas the nouns in *by*-phrases with adjectival passives are predominantly indefinite and bare (singular and plural). Bare nouns are generally used for generic reference, and even with indefinite noun phrases, there

¹The documents forming this corpus, which contains more than 6.5 million words and comprises a wide variety of genres, come from different sources: the *Gutenberg project*, the *Biblioteca Cervantes* and *Lexesp corpus*.

are further differences between these two types of *by*-phrases. E.g., unlike in verbal passives, the complements of *by*-phrases in adjectival passives do not introduce discourse referents (3-a), cannot control into purpose clauses (3-b), and cannot be modified (3-c).

- (3) a. El cuadro {era / #está/#estaba} pintado por un niño. Era pelirrojo.
the picture was is/was.LOC painted by a child was red-haired
b. El cuadro {era / *está/*estaba} pintado por un niño para agradar a sus padres.
the picture was is/was.LOC painted by a child to please to his parents
c. El cuadro {era / *está/*estaba} pintado por un niño pelirrojo.
the picture was is/was.LOC painted by a child red-haired

To account for these facts, we extend the kind/token distinction (Carlson 1977) to the event domain. Specifically, we propose that (re)categorization of verbal material into an adjective in adjectival passive formation prevents the event from getting instantiated so that it remains in the kind domain. We propose that an adjectival passive refers to the instantiation of a consequent state kind of an event kind, and the proposed semantics of the adjectivized participle before it combines with the copula is given in (4-b).

- (4) a. La puerta está cerrada.
the door is.LOC closed
b. $\lambda s \exists e_k, x_k [\mathbf{close}(e_k) \wedge \mathbf{BECOME}(s)(e_k) \wedge \mathbf{closed}(\mathbf{the\ door}, s) \wedge \mathbf{Initiator}(x_k, e_k)]$

From this it follows that event-related modification is only possible if it modifies an event kind, not an event token. For example, temporal and spatial modifiers that refer to the time and location of an actual event are generally unacceptable with adjectival passives (5).

- (5) La puerta está cerrada {ayer / *en el garaje}.
the door is.LOC closed yesterday in the garage

By-phrases with both passives, then, introduce external arguments, but in fundamentally different ways: with adjectival passives they modify an event kind (derive a subkind of event, e.g. a childish drawing), with verbal passives an event token. It follows that the complements of *by*-phrases have a more generic character with adjectival passives (more bare and indefinite noun phrases) than with verbal passives (more definite noun phrases and proper names, which refer to entities in the discourse), since they do not refer to participants of an actual event but rather modify an event kind. For the same reason, they cannot be modified.

In fact, the nouns in *by*-phrases of adjectival passives display typical properties of weakly referential NPs, such as (pseudo-)incorporated bare nouns (e.g. Dayal 2011) and weak (in)definite NPs (cf. Aguilar & Zwarts 2010). We suggest to go one step further in proposing that such nouns do not denote entities (of type e) but properties (of type $\langle e, t \rangle$) which modify the event kind in adjectival passives to derive an event subkind. Building on Dayal' (2011) account of pseudo-incorporation, we propose that such property-denoting modifiers (semantically) incorporate into the verbal participle before it is turned into an adjective; the general semantics is given in (6), with **P** standing in for any property-denoting event kind modifier.

- (6) (adjectival) $closed_{INC-Pr}$:
 $\lambda y \lambda s \exists e_k, x_k [\mathbf{P-close}(e_k) \wedge \mathbf{BECOME}(s)(e_k) \wedge \mathbf{P-closed}(y, s) \wedge \mathbf{Initiator}(x_k, e_k)]$
 $\wedge \forall e_k [\mathbf{P-close}(e_k) \text{ iff } \mathbf{close}(e_k) \wedge \exists z [P(z) \wedge \mathbf{BY}(z, e)]]]$

This proposal accounts for the fact that *by*-phrases introducing an external argument appear with both adjectival and verbal passives, and at the same time respects the different properties that these modifiers have within each type of passive. The account can be extended to event-related modifiers of adjectival passives more generally and we can think of incorporation of such modifiers into the verbal participle as a necessary precondition for adjectivization to take place (see Kratzer 2000 on the possibility of phrasal adjectivization).