

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

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1 Introduction

- **The received view:** The external argument of the underlying verb in adjectival passives is ‘truly absent’ (cf. Kratzer 1994, 2000, among others), in contrast to verbal passives (2).

- No control into purpose clauses (1-a)
- No 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
intended: ‘The tire was inflated in order to continue the journey.’
- b. El niño estaba peinado de manera impecable.
the child was.LOC combed of manner impeccable
‘The child was combed impeccably.’
- (i) Someone (else) (has) combed the child. *disjoint reference*
- (ii) The child (has) combed him/herself. *reflexive*
- (2) a. La rueda fue inflada, para proseguir con el viaje.
the tire was inflated for continue.INF with the journey
‘The tire was (being) inflated in order to continue the journey.’
- b. El niño fue peinado de manera impecable.
the child was combed of manner impeccable
‘The child was combed impeccably.’
= Someone (else) (has) combed the child. *only disjoint reference*

⇒ In verbal passives, the external argument is present in the syntax, even when it is not expressed in a *by*-phrase (cf. Baker et al. 1989; Kratzer 1994, among others).

⇒ In adjectival passives there is no external argument.

- **The puzzle:** *By*-phrases syntactically and semantically express external arguments (most recently in Bruening 2013).

→ Prediction: *By*-phrases should never appear in adjectival passives.

BUT: There are many instances where adjectival passives combine with *by*-phrases:

- English (McIntyre to appear; Bruening to appear)
- German (e.g. Rapp 1997; Kratzer 2000; Schlücker 2005; Maienborn 2007, 2011; Gehrke to appear, and literature cited therein).¹
- **Spanish:**

¹Hebrew and Greek data of this sort can be found in Meltzer-Asscher (2011); Doron (2012) and Anagnostopoulou (2003); Alexiadou and Anagnostopoulou (2008); Anagnostopoulou and Samioti (2012), respectively. However, apart from Meltzer, these authors argue for the presence of Voice in the respective adjectival participles and thus for cross-linguistic variation with respect to the presence of an external argument with adjectival participles in Greek and Hebrew (causative templates), as opposed to the absence thereof in English or German (but see Alexiadou et al. 2012). In the remainder of this paper we will only focus on German and, in more detail, on Spanish.

- (3) a. Ese cuadro está pintado por un niño.
that picture is.LOC painted by a child
'That picture is 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
'The society is swept by a strong wind of egalitarianism.'
- c. Los expertos advierten de los peligros de las dietas que no están
the experts warn of the dangers of the diets which not are.LOC
supervisadas por los especialistas.
supervised by the specialists
'Experts warn of the dangers of diets which are not supervised by specialists.'

• **Different theoretical options:**

1. These are instances of verbal passives that use *estar* instead of *ser*. → ad hoc stipulation
2. Such *by*-phrases modify the state directly (e.g. Meltzer-Asscher 2011, for Hebrew).²
→ Parallel to genuine adjectives (4-a) and genuine nouns (4-b) that combine with PPs

- (4) a. (huesos) doloridos por el trabajo sobre la tierra dura
(bones) painful by the work over the land harsh
'painful (bones) by the work on the harsh land'
- b. muerte por envenenamiento
death by poisoning
'death by poisoning'

3. Adjectival passives do contain external arguments; e.g. Bruening (to appear):³
 - * Only (potentially) reflexive predicates lack the disjoint reference effect.
 - * Many (English) adjectival passives allow for control into purpose clauses.

Purpose clauses are also attested with Spanish adjectival passives (5), albeit very rarely.

- (5) a. El nuevo fármaco está diseñado para bloquear la acción de esta enzima.
the new medicine is.LOC designed for block.INF the action of this enzyme
'The new medicine is designed in order to block the action of this enzyme.'
- b. No están pensados para satisfacer a grupos concretos de jóvenes.
not are.LOC thought for satisfy.INF to groups particular of young.PL
'They are not intended to satisfy particular youth groups.'

• **This talk:**

- There are clear cases of event- rather than state-related *by*-phrases (contra 2.).
- Both passives have implicit external arguments (in line with 3.).
- Evidence from corpus data: Spanish *by*-phrases with adjectival passives are fundamentally different from those with verbal passives (contra 3.).

²A similar proposal for German is found in the papers by Maienborn and colleagues (e.g. Maienborn 2007, 2011), who argue that event-related modifiers apply to the state and coerce this state description into an event description. Our account crucially departs from both Maienborn's and Meltzer's in assuming that an event is always present in adjectival passives, so that there is no need for event coercion or meaning postulates to account for event-related modification.

³See Alexiadou et al. (2012) for further discussion of English and German data and McIntyre (to appear) for a similar claim for English.

2 The point of departure

2.1 German *by*-phrases with adjectival and verbal passives (Gehrke to appear)

- The complements of *by*-phrases in verbal passives introduce discourse referents, allow for control into purpose clauses and can be modified (6).
- The complements of event-related *by*-phrases with adjectival passives do not (7).

- (6) a. Das Bild wurde von einem Kind angefertigt. Es hatte rote Haare.
the picture became by a child produced it had red hairs
'The drawing has been produced by a child. He/she had red hair.'
- b. Das Bild wurde von einem Kind angefertigt, um seine Eltern zu erfreuen.
the picture became by a child produced in order its parents to
erfreuen.
make-glad
'The drawing has been produced by a child in order to make his/her parents happy.'
- c. Das Bild wurde von einem blonden Kind angefertigt.
the picture became by a blond child produced
'The drawing has been produced by a blond child.'

- (7) a. Die Zeichnung ist/war von einem Kind angefertigt. #Es hatte rote Haare.
the drawing is/was by a child produced it had red hairs
- b. *Die Zeichnung ist/war von einem Kind angefertigt, um seine Eltern zu erfreuen.
the drawing is/was by a child produced in order its parents to
erfreuen.
make-glad
'The drawing was produced by a child in order to make his/her parents happy.'
- c. *Die Zeichnung ist/war von einem blonden Kind angefertigt.
the drawing is/was by a blond child produced

⇒ The complements of event-related *by*-phrases with adjectival passives are non-referential and have a rather generic flavour: Tendency for weakly referential nominals (e.g. indefinite, bare nominals) vs. strongly referential ones (8).

- (8) a. *Der Mülleimer ist von meiner Nichte geleert.
the rubbish bin is by my niece emptied
intended: 'The rubbish bin is emptied by my niece.' (Rapp 1996)
- b. *Die Tür ist von ihm geöffnet.
the door is by him opened
intended: 'The door is opened by him.' (Maienborn 2011, attr. to Vaagland 1983)

NB: The preference for weakly referential nominals holds quite generally for event-related modifiers of adjectival passives, e.g. instruments (9), (10).

- (9) a. Der Brief ist mit roter Tinte / (einem) Bleistift geschrieben.
the letter is with red ink / (a) pencil written
'The letter is written with red ink / (a) pencil.'
- b. Der Ordner war mit einem Passwort gesichert.
the folder was with a password secured
'The folder was password-protected.'

- (10) a. Die Karte ist/war mit einem Bleistift geschrieben. #Er war blau.
 the card is/was with a pencil written he was blue
 'The card is/was written with a pencil. #It was blue.'
- b. *Die Karte ist mit einem kurzen Bleistift geschrieben.
 the card is with a short pencil written
intended: 'The card is written with a short pencil.'

- State- vs. event-related *by*-phrases with adjectival passives:

⇒ The complements of state-related *by*-phrases introduce discourse referents (11-a) and can be modified (11-b).

- (11) a. Er ist von einer Melodie beeindruckt. Er hatte sie gestern im Radio gehört.
 he is by a melody impressed he had her yesterday in the radio heard
 'He is impressed by a melody. He heard it yesterday on the radio.'
- b. Er ist von einer Melodie beeindruckt, die er gestern im Radio gehört hat.
 he is by a melody impressed which he yesterday in the radio heard has
 'He is impressed by a melody that he heard on the radio yesterday.'

NB: Further differences in prosody, available word order variation, and compatibility with *un*-prefixation (12) vs. (13) (see also Rapp 1996; Schlücker 2005).

(see Gehrke to appear, for more details)

- (12) a. Die Zeichnung ist von einem KIND angefertigt.
 the drawing is by a child made
 'The drawing is made by a child.' (Schlücker 2005)
- b. Der Brief war {*geschrieben} von einem Experten {geschrieben}.
 the letter was written by an expert written
 'The letter was written by an expert.' (Rapp 1996)
- c. Die Suppe ist (*von Maja) ungewürzt.
 the soup is (*by Maja) unseasoned
 'The soup is unseasoned (*by Maja).' (Rapp 1996)
- (13) a. Er ist von der MuSÍK beEINdruckt.
 he is by the music impressed
 'He is impressed by the music.' (after Schlücker 2005)
- b. Die Dresdner Bürger sind {beeindruckt} von solchen Problemen {beeindruckt}.
 the Dresden- citizens are impressed by such problems impressed
 'The citizens of Dresden are impressed by such problems.' (after Rapp 1996)
- c. Die Dresdner Bürger sind von solchen Problemen unbeeindruckt.
 the Dresden- citizens are by such problems unimpressed
 'The citizens of Dresden are not concerned with such problems.' (Rapp 1996)

2.2 The account

(cf. Gehrke 2012, to appear, in preparation)

- **An adjectival passive construction** (e.g. (14)) **refers to the instantiation of a consequent state kind of an event kind** (as formalised in (15)).

(14) Die Tür ist geschlossen.
the door is closed

- (15) a. Lexical semantics of *schließ-* (type $\langle e, \langle e, \langle s, \langle ev, t \rangle \rangle \rangle \rangle$):
 $\lambda y \lambda x \lambda s \lambda e [\mathbf{close}(e) \wedge \mathbf{CAUSE}(s)(e) \wedge \mathbf{closed}(y, s) \wedge \mathbf{Initiator}(x, e)]$
- b. $\text{Pr}t^0$ *ge-en/t*: $\lambda \wp \lambda y \lambda s \lambda e \exists x [\wp(e)(s)(x)(y)]$
- c. A^0 : $\lambda \wp \lambda y \lambda s \exists e_k, x_k [\wp(e_k)(s)(x_k)(y)]$
- d. [_A *geschlossen*]:
 $\lambda y \lambda s \exists e_k, x_k [\mathbf{close}(e_k) \wedge \mathbf{CAUSE}(s)(e_k) \wedge \mathbf{closed}(y, s) \wedge \mathbf{Initiator}(x_k, e_k)]$
- e. [_{AP} *die Tür geschlossen*]:
 $\lambda s \exists e_k, x_k [\mathbf{close}(e_k) \wedge \mathbf{CAUSE}(s)(e_k) \wedge \mathbf{closed}(\mathbf{the\ door}, s) \wedge \mathbf{Initiator}(x_k, e_k)]$

⇒ This construction makes available an event kind argument as well as a state token argument, which can both be modified.

⇒ Event-related modification with adjectival passives is only possible when the modifier can apply to an event kind.

- E.g. the underlying event cannot be modified by spatial or temporal modifiers (16), i.e. it lacks spatiotemporal location (cf. (14)-(16) in Gehrke 2012).

- (16) a. Die Tür war kürzlich geöffnet.
the door was recently opened
 (i) ‘The door was recently in the state of being open.’
 (ii) *NOT*: The door has been opened recently.
- b. *Der Computer ist vor drei Tagen repariert.
the computer is before three days repaired
intended: ‘The computer is repaired three days ago.’
- c. #Die Reifen sind in der Garage aufgepumpt.
the tires are in the garage inflated
intended: ‘The tires are inflated in the garage.’ (= the inflating took place in the garage)
- d. #Das Kind war im Badezimmer gekämmt.
the child was in the bathroom combed
intended: ‘The child was combed in the bathroom.’ (= the combing took place in the bathroom)

⇒ *By*-phrases are licensed by the causative semantics of the underlying verb (building on Schäfer 2012), not by Voice.

⇒ The complements of state-related *by*-phrases with adjectival passives have a more specific or concrete character and are referential: they modify a state token.

- Semantic similarity of nouns in event-related modifiers to other weakly or non-referential nominals (cf. Gehrke in preparation):
 - (Pseudo-)incorporated nominals (e.g. Massam 2001; Farkas and de Swart 2003; Dayal 2011; Espinal and McNally 2011, for Niuean, Hungarian, Hindi, Catalan/Spanish)
 - Weak definites (e.g. Carlson et al. 2006; Aguilar-Guevara and Zwarts 2011)

⇒ Proposal: Event-related modifiers (e.g. (17)) semantically incorporate into the participle (18) (building on Dayal 2011), before the participle is adjectivised (19).

(17) Mund und Nase waren mit Klebeband verschlossen.
 mouth and nose become with tape closed
 ‘Mouth and nose were closed with tape.’

(18) (verbal) $closed_{INC-Pr}$:
 $\lambda P \lambda y \lambda s \lambda e \exists x [\mathbf{P-close}(e) \wedge \text{CAUSE}(s)(e) \wedge \mathbf{P-closed}(y, s) \wedge \mathbf{Initiator}(x, e)$
 $\wedge \forall e [\mathbf{P-close}(e) \text{ iff } \mathbf{close}(e) \wedge \exists z [P(z) \wedge \text{WITH/BY}(z, e)]]]$

(19) (adjectival) $closed_{INC-Pr}$:
 $\lambda y \lambda s \exists e_k, x_k [\mathbf{P-close}(e_k) \wedge \text{CAUSE}(s)(e_k) \wedge \mathbf{P-closed}(y, s) \wedge \mathbf{Initiator}(x_k, e_k)]$
 $\wedge \forall e_k [\mathbf{P-close}(e_k) \text{ iff } \mathbf{close}(e_k) \wedge P = \mathbf{tape} \wedge \text{WITH}(\mathbf{tape}, e_k)]]$

2.3 Spanish *by*-phrases with adjectival and verbal passives

- In Spanish, we find the same contrasts with event-related *by*-phrases with verbal (20) vs. adjectival passives (21), and event- (21) vs. state-related (22) *by*-phrases with adjectival passives.

(20) a. El cuadro fue pintado por un niño. Era pelirrojo.
 the picture was painted by a child was red-haired
 ‘The picture was painted by a child. He had red hair.’
 b. El cuadro fue pintado por un niño para agradar a sus padres.
 the picture was painted by a child to please to his parents
 ‘The drawing was painted by a child in order to please his parents.’
 c. El cuadro fue pintado por un niño pelirrojo.
 the picture was painted by a child red-haired
 ‘The drawing was painted by a red-haired child.’

(21) a. El cuadro estaba pintado por un niño. ??Era pelirrojo.
 the picture was.LOC painted by a child was red-haired
 b. ??El cuadro estaba pintado por un niño para agradar a sus padres.
 the picture was.LOC painted by a child to please to his parents
 c. ??El cuadro estaba pintado por un niño pelirrojo.
 the picture was.LOC painted by a child red-haired

(22) Estaba impresionada por la melodía que tocó la orquesta en el auditorio.
 was.LOC impressed by the melody that played the orchestra in the auditorium
 ‘She was impressed by the melody that the orchestra played in the auditorium.’

Research question: Can the impressionistic view of the difference in complements of *by*-phrases with adjectival and verbal passives be supported by quantitative data?

⇒ **Analysis of corpus data from Spanish.**

3 Data analysis

- The corpus analysis of Spanish *by*-phrases proceeds in two steps:
 - Analysis of all instances of *ser* and *estar* + participle + *by*-phrase (3.2)
 - Separate analysis of event- vs. state-related *by*-phrases (3.3)

3.1 Corpus and data extraction

- The data for this study has been extracted from a corpus of Spanish:
 - From the 20th century, more than 8 million words, a wide variety of genres
 - Sources: *Gutenberg project*⁴ and the *Lexesp corpus* (Sebastián-Gallés 2000)
 - All words are annotated automatically with linguistic information (morphosyntactic tag and lemma), using the open source language analyser FreeLing.⁵
- Frequency counts of all occurrences of *by*-phrases with *ser* + past participles (PP) (verbal passive) and with *estar* + PP (adjectival passive) were obtained and analysed.⁶
- All data were examined and corrected manually.

3.2 *By*-phrases with *ser* and *estar* plus participle

	<i>Estar</i> + PP	<i>Ser</i> + PP	p-value
Totals	3,574	6,923	
With <i>by</i> -phrases	292	752	
With <i>by</i> -phrases (%)	8.2%	10.9%	< .001***
Pronouns (%)	3.1%	6.3%	< .05*
Proper names (%)	4.1% (5.8%)	7% (10%)	< .01**
Possessive determiners (%)	3.8%	4.7%	.6463
Demonstrative determiners (%)	1%	1.1%	1
Definite determiners (%)	42.5%	52.4%	< .01**
Indefinite determiners (%)	18.5%	9.2%	< .001***
Bare singulars (%)	1.7%	2.7%	.5009
Bare plurals (%)	18.8%	9.2%	< .001*
Other quantificational determiners (%)	6.2%	7.3%	.6041
Infinitive (%)	1%	1.1%	-

Table 1: *By*-phrases with *estar* + PP and *ser* + PP.

- *By*-phrases with adjectival passives are not exceptional: 8.2% (N = 292/3,574) of adjectival passives in Spanish contain *by*-phrases.
- There are more *by*-phrases with verbal passives (10.9%; N = 752/6,923).
⇒ This difference is highly significant ($\chi^2 = 18.77$, 1 d.f., $p < .001$).

⁴<http://www.gutenberg.org/>

⁵<http://nlp.lsi.upc.edu/freeling/>

⁶For this we used the *IMS Open Corpus Workbench* (<http://cwb.sourceforge.net/>) and the open-source statistical software R (R-Development-Core-Team 2010).

- There are significant differences in the type of complements of *by*-phrases:
 - The frequency of *by*-phrases with NP complements headed by **definite determiners, pronouns** and **proper names** is significantly *higher* with *ser* + PP than with *estar* + PP.⁷
 - The frequency of *by*-phrases containing **bare plurals** and **indefinite determiners** is significantly *lower* with *ser* + PP than with *estar* + PP.
 - There is no significant difference for bare singulars, possessives, demonstratives, and other quantificational determiners.
 - These findings fit the impressionistic view presented in section 2:
 - Higher number of indefinite and bare noun phrases with adjectival passives → ‘more generic’ (typical NPs for weakly/non-referential nouns)
 - Higher number of definite noun phrases (incl. demonstratives and possessives) and proper names with verbal passives → ‘more specific/concrete’ (NB: informal characterisation)
 - As a rough quantitative measure of the ‘generic’ vs. ‘specific’ character of the complements of *by*-phrases with adjectival and verbal passives and adjectives, we calculated:
 - *Genericity index* → Summing up all counts of indefinite determiners and (singular and plural) bare nouns, divided by the total number of *by*-phrases within each construction.
 - *Specificity index* → Summing up of all counts of pronouns, proper names, possessives and demonstratives, divided by the total number of *by*-phrases.
 - Definites were not taken into account in this first approximation: In Romance languages, the definite article is used for both (regular) definiteness and kind reference (see Chierchia 1998; Dayal 2004, and literature cited therein).
- Scale from 0 (minimum) to 1 (maximum)

	<i>Estar</i> + PP	<i>Ser</i> + PP
Genericity index	0.4	0.2
Specificity index	0.1	0.2

Table 2: Genericity and specificity indices of *by*-phrases with *estar* + PP and *ser* + PP.

- The genericity index is higher for adjectival than for verbal passives (as expected).
- The specificity index for adjectival passives is very low. → The relevant nominals have a rather low referential character (as expected).
- For verbal passives, both indices are the same and rather low (presumably because we left out definites).
(No difference was predicted / expected since in principle any type of noun phrase can appear in *by*-phrases with verbal passives.)

⁷For proper names, the number in parentheses indicates the percentage of (non-bare) proper names with determiners, whereas the number without parentheses is the percentage of bare proper names. The sum of both percentages gives the total percentage of proper names with respect to the total number of *by*-phrases. This also applies to the tables on the following pages.

- Closer inspection of definites in *by*-phrases with adjectival and verbal passives:
 - Many definites with adjectival passives behave like generics (e.g. (23-a)) or like weak definites (e.g. (23-b)) (‘non-referential’ from now on).
Aguilar-Guevara and Zwarts (2011): Weak definites denote uniquely identifiable (well-established) kinds or subkinds of individuals, but do not establish a discourse referent.⁸
 - If you change the number of the NP or if you add a token modifier, a strong definite reading is enforced, and the respective *by*-phrase is unacceptable.

- (23) a. [...] nuestra vida está regida por los símbolos.
our life is.LOC governed by the symbols
‘Our life is governed by symbols.’
- b. Otras estaban quemadas por el sol, como insectos que acabasen de rozar el fuego.
others were.LOC burnt by the sun, as insects that finished of graze the fire
‘Others were burnt by the sun, as insects that have just grazed the fire.’

	<i>Estar + PP Ser + PP</i>	
Totals	124	394
‘Non-referential’ definite NP	58.9%	36.3%
Referential definite NP	41.1%	63.7%

Table 3: (‘Non’-)referential definites in *by*-phrases with *estar + PP* and *ser + PP*.

⇒ Revision of the genericity and specificity indices of *by*-phrases with *estar + PP* and *ser + PP* taking into account definite determiners:

	<i>Estar + PP Ser + PP</i>	
Genericity index (revised)	0.6	0.4
Specificity index (revised)	0.3	0.5

Table 4: Revised genericity and specificity indices of *by*-phrases with *estar + PP* and *ser + PP*.

Interim conclusion: The complements of *by*-phrases with adjectival passives (*estar + PP*) are different from those with verbal passives (*ser + PP*).

3.3 State- vs. event-related *by*-phrases

⇒ Is there a difference between state-related and event-related *by*-phrases?

- Eventive predicates (150 verbs in total): activities (e.g. *acariciar* ‘stroke’, *buscar* ‘search’), accomplishments (e.g. *arreglar* ‘fix’, *atravesar* ‘cross’), achievements (e.g. *abrir* ‘open’, *alcanzar* ‘achieve’) (see also de Miguel 1999; Marín 2001)
- Stative predicates (165 verbs in total): individual-level predicates (e.g. *adorar* ‘adore’, *amar* ‘love’), object experiencer psych predicates (e.g. *asustar* ‘frighten’, *aburrir* ‘bore’) (on their stative characterisation cf. Marín and McNally 2011, and literature cited therein)

	<i>Estar</i> + PP-eventive	<i>Ser</i> + PP-eventive	p-value
Totals	515	854	
With <i>by</i> -phrases	28	136	
With <i>by</i> -phrases (%)	5.4%	15.9%	<.001***
Pronouns (%)	3.6%	7.4%	.7538
Proper names (%)	7.1% (3.6%)	4.4% (9.6%)	.7698
Possessive determiners (%)	-	5.9%	-
Demonstrative determiners (%)	-	2.9%	-
Definite determiners (%)	32.1%	57.4%	<.05*
Indefinite determiners (%)	25%	6.6%	<.01**
Bare singulars (%)	3.6%	0.7%	.3132
Bare plurals (%)	25%	8.1%	<.01**
Other quantificational determiners (%)	3.6%	5.1%	1
Infinitive (%)	-	-	-

Table 5: *By*-phrases with *estar* and *ser* + eventive predicates.

- Table 5: Event-related *by*-phrases (similar to the results in Table 1):
 - *By*-phrases are more frequent with *ser* + PP than with *estar* + PP.
 - Significantly higher number of **indefinite determiners** and **bare plurals** with *estar* + PP
 - Significantly higher number of **definite determiners**, **possessives**, and **demonstratives** with of *ser* + PP; in fact, no such cases were found with *estar* + PP.
 - No significant differences for **pronouns** and **proper names**

	<i>Estar</i> + PP-stative	<i>Ser</i> + PP-stative	p-value
Totals	319	419	
With <i>by</i> -phrases	53	58	
With <i>by</i> -phrases (%)	16.6%	13.8%	.3007
Pronouns (%)	1.9	15.5%	<.01**
Proper names (%)	3.8 (1.9%)	3.4% (8.6%)	.3259
Possessive determiners (%)	7.5	12.1%	.6324
Demonstrative determiners (%)	3.8	1.7%	.605
Definite determiners (%)	67.9%	51.7%	.1212
Indefinite determiners (%)	5.7	5.2%	1
Bare singulars (%)	1.9	-	-
Bare plurals (%)	-	5.2	.2447
Other quantificational determiners (%)	1.9	5.2%	.6197
Infinitive (%)	5.7	-	-

Table 6: *By*-phrases with *estar* and *ser* + stative predicates.

- Table 6: State-related *by*-phrases behave the same with both types of passives:
 - No significant differences, except for pronouns ($p < .01$, according to Fisher's exact test)
 - Contrast with eventive predicates (Table 5), and with the general results (Table 1)

⁸In particular, weak definites cannot be modified (by token modification) and do not support pronominal anaphora (i.e. are discourse opaque) (cf. Carlson et al. 2006; Aguilar-Guevara and Zwarts 2011).

4 Conclusion

- *By*-phrases are possible (German, Spanish) and equally attested (Spanish) with both adjectival and verbal passives.
 - ⇒ Both kinds of passives involve implicit external arguments.
 - However, (event-related) *by*-phrases are crucially different in both types of passives:
 - In both, the external argument is bound at the point of participle formation.
 - In adjectival passives, the external argument remains in the kind domain, because an event-related *by*-phrase modifies an event kind.
(A theoretical possibility: These modifiers semantically incorporate into the participle, before the participle is adjectivised.)
 - In verbal passives, the *by*-phrase can modify an event token.
- ⇒ This accounts for the differences in the kinds of complements in such phrases.
- There are two different kinds of *by*-phrases with adjectival passives:
 - Event-related ones which modify an event kind.
 - State-related ones which modify a state token; their complements show characteristics of event-related *by*-phrases with verbal passives.

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