

Passive psych predicates¹

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1 Introduction

- Three classes of **psych(ological) verbs** (examples from Landau 2002):
 - Class I: Nominative experiencer, accusative theme; *John loves Mary*. [subj exp]
 - Class II: Nominative theme, accusative experiencer; *The show amused Bill*. [obj acc exp]
 - Class III: Nominative theme, dative experiencer; *The idea appealed to Julie*. [obj dat exp]

Research question 1: Can psych verbs form verbal passives?

- Belletti and Rizzi (1988); Grimshaw (1990): Verbal passives require external arguments.
 - ⇒ Only (and all) subj exp verbs can form verbal passives.
 - ⇒ Passives of obj exp verbs (if we find any) are adjectival.
- Mulder (1992); Pesetsky (1995): All transitive predicates derive verbal passives.
 - ⇒ Obj exp predicates can form verbal passives.
- **Agentive** ‘psych’ predicates lose all properties of psych predicates (Arad 1999; Pylkkänen 1999; Landau 2002, 2010; Fábregas et al. 2012, among many others).
 - On the agentive reading, these predicates have canonic external and internal arguments (agent-patient/theme) and are telic.
 - The verbs on this reading can form verbal passives across languages (e.g. Landau).
- **Lexical and aspectual characteristics of psych predicates:**
 - Subj exp predicates are (individual-level) states (received view).
 - No agreement about obj exp predicates:
 - * Telic (Grimshaw 1990; Pustejovsky 1991; Tenny 1994)
 - * Dynamic causatives (Pesetsky 1995; van Valin and LaPolla 1997)
 - * Stative (or non-stative subclasses) (Arad 1999; Pylkkänen 1999; Rozwadowska 2000; Bialy 2005; Marín 2001; Marín 2011; Marín and McNally 2011; Landau 2002, 2010)

Research question 2: Can psych verbs form adjectival passives?

- The lexical input requirements for adjectival passives:
 - Meltzer-Asscher (2011): Adjectival passives require a result state. ⇒ only telic predicates
 - Rapp (1996): Adjectival passives require a state. ⇒ telic and all stative predicates
 - Gehrke (to appear): Adjectival passives require a consequent (inchoative or result) state. ⇒ telic and some stative predicates

This talk: Check various predictions about the formation of adjectival and verbal passives with psych verbs against corpus data from Spanish.

¹This talk is a revised version of Gehrke and Marco (to appear).

- Working hypothesis for Spanish (cf. Bosque 1990, 1999; Marín 2004; Gehrke and Marco 2014):²
 - Verbal passive: (auxiliary) *ser* ‘be’ + past participle (PP) (2-a)
 - Adjectival passive: (copula) *estar* ‘be.LOC’ + PP (2-b), (3)
- (2) a. El régimen **fue aceptado** por millones de ciudadanos.
the regime was accepted by millions of citizens
‘The regime has been accepted by millions of citizens.’
- b. La película **está realizada** con talento y buenos actores.
the movie was.LOC realised with talent and good actors
‘The movie is made with talent and good actors.’
- (3) Juan **está maravillado** de lo que su hermano ha hecho.
John is.LOC amazed at the that his brother has done
‘John is amazed at what his brother has done.’

2 Theoretical options and predictions

- Standard assumptions about verbal passives:³
 - Syntactically derived from transitive verbs with external arguments (causes and agents).
 - The external argument is suppressed but can appear in an (optional) *by*-phrase.
 - The theme is promoted to subject position.

⇒ The input has to be a transitive verb with an external and an internal argument.

⇒ Verbal passives cannot be derived from verbs with non-thematic subjects.

NB Non-thematic subject: moved from a (VP-internal) object position (e.g. unaccusatives, raising) (cf. Belletti and Rizzi 1988; Pesetsky 1995)
- Standard assumptions about adjectival passives:
 - Adjectival passive formation: a (lexical or syntactic) operation which derives an adjective from a verb/root / which turns verbal structure into adjectival structure (e.g. Kratzer 2000).⁴
 - As a rule, the theme of the underlying verb appears in subject position (e.g. Direct Argument Generalisation in McIntyre 2013).

⇒ The input has to be a verb/root with an internal theme argument.⁵

²There is an additional, reflexive construction that expresses something like a passive meaning (1), which will not be a topic of this paper.

(1) Se venden zapatos en el mercado. ‘Shoes are sold in the market. / They are selling shoes in the market.’
SE sell.3PL shoes in the market

³The precise implementation of this operation is orthogonal to the topic of this paper, but see Gehrke and Grillo (2009) and literature cited therein for suggestions.

⁴Whether this operation takes place in the lexicon or in the syntax is not relevant for the purposes of this paper (see Meltzer-Asscher 2011; Bruening 2014, and literature cited therein, for two contrasting views).

⁵Maierborn (2009) claims (for German) that with the right context, any predicate can be the input to adjectival passivisation, and therefore argues against positing general semantic input conditions. We assume here that adjectival passives of other predicates can be pragmatically licensed (possibly along the lines of Maierborn’s overall account), if the context makes available something like a consequent state not lexically provided by the input verb, but we regard this as a marked case (see Gehrke to appear, for further discussion). In the remainder of this paper, we will not be concerned with pragmatically licensed adjectival passives, since we have not investigated in how far these particular generalisations from German carry over to Spanish in that respect (see Gehrke and Marco 2014, for other commonalities between German and Spanish adjectival passives relevant for this paper).

- No consensus about external arguments in adjectival passives:
 - Traditional view: No external argument (e.g. Baker et al. 1989; Kratzer 2000)
 - More recent view: The external argument is present in the syntax (e.g. McIntyre 2013; Bruening 2014), or at least in the semantics (e.g. Gehrke 2013, to appear).
 - Availability of (some) *by*-phrases, control into purpose clauses etc.

2.1 Psych verbs and verbal passives

Belletti and Rizzi (1988)

- Psych verbs assign an experiencer role and a theme role (also called stimulus).
 - (4) **Linking Principle for Experiencer Verbs:** Given a Θ -grid [Experiencer, Theme], the Experiencer is projected to a higher position than the Theme.
- *fear*-type (Italian *temere*) (**subj exp verbs** in Pesetsky 1995) [we provide Engl. examples]:
 - Experiencer is base-generated in subj position, theme/stimulus appears in obj position (5)
 - (5)
 - a. Peter loved Mary.
 - b. Mary was loved (by Peter).

⇒ Only this type of psych predicate derives a verbal passive.
- **Obj exp verbs** (label by Pesetsky 1995):
 - *worry*-type (Italian *preoccupare*) [**acc exp**] (6-a)
 - *please*-type (Italian *piacere*) [**dat exp**] (6-b)
 - (6)
 - a. The clown amused the children.
 - b. The idea appealed to Paul.
 - (Given (4),) the argument in subj position (Theme) is a derived subject, moved from the VP-internal direct object position.
 - The experiencer argument is generated VP-internally higher than the object position.
- Absence of a true external argument (in contrast to subj exp verbs):
 - Inability to bind anaphoric clitics (7-a)
 - Inability to be embedded in the causative construction (7-b)
 - Ban on extraction out of objects of obj exp verbs (7-c)
 - (7)
 - a. Gianni si {*preoccupa / teme}.
Gianni himself worries fears
'Gianni fears/*worries himself.'
 - b. Questo lo ha fatto {*preoccupare / temere} ancora di più a Mario.
this him has made worry fear still of more to Mario
'This made Mario worry/fear him even more.'
 - c. La ragazza di cui Gianni {*preoccupa / teme} il padre.
the girl of who Gianni worries fears the father
'The girl whose father Gianni fears/*worries.'

Assumption: Structures with nonthematic subjects cannot undergo passivisation (e.g. derived subjects in passive, raising, unaccusatives).

→ Obj exp verbs cannot derive verbal passives.

→ Passives of *worry*-verbs [acc exp] are adjectival (8).

- (8) a. Gianni è disgustato dalla corruzione di questo paese.
John is disgusted by the corruption of this country
b. Gianni è affascinato da questa prospettiva.
John is fascinated by this perspective

• Arguments in favour of the adjectival status of the participle:⁶

– Compatibility with adjectival morphology (9)

– Incompatibility with *venire*, which arguably selects for a verbal participle (10).

- (9) Gianni è affascinatissimo, preoccupatissimo etc.
Gianni is fascinated.SUP worried.SUP
'Gianni is very fascinated, very worried etc.'

- (10) a. Gianni viene temuto da tutti.
Gianni comes feared by everyone
b. *Gianni viene preoccupato da tutti
Gianni comes worried by everybody

(11) **Predictions of Belletti and Rizzi's (1988) account⁷**

- a. Subj exp verbs derive verbal passives.
b. Obj exp verbs do not derive verbal passives.
c. Passives of obj exp verbs are always adjectival.

Three possible readings of obj exp verbs (Arad 1999) (see also Pesetsky 1995)

• Agentive: An agent (a true external argument) intentionally brings about a change of state in the experiencer (12).

- (12) Nina frightened Laura deliberately / to make her go away.

– Under the agentive reading, all psych properties disappear.

⇒ Behaviour of a regular transitive verb with canonical subj and obj

• Eventive: A cause brings about a change of mental state in the experiencer (13).

- (13) The explosion / the noise / the thunderstorm frightened Laura.

• Stative (the 'typical' psych reading): No agent, no change of mental state (14)

- (14) a. John's haircut annoys Nina.
b. Blood sausage disgusts Nina.

⁶Further empirical support for the adjectival analysis comes from truncated forms, the unavailability of clitics in reduced relatives, and the unavailability of (some) standard *by*-phrases introduced by *da* (instead idiosyncratically requiring *di*); see Belletti and Rizzi (1988) for data and discussion.

⁷Similarly, Grimshaw (1990) argues that obj exp verbs do not derive verbal passives, but according to her this is because obj exp verbs are stative, and stative predicates are argued to generally only derive adjectival passives; see there and Pesetsky (1995) for further discussion and problems with this assumption.

Cross-linguistic variation & non-stativity requirement Landau (2002, 2010)

- Type A languages form verbal passives with eventive obj exp verbs (E, NL, Finn.) (15).
- Type B languages do not at all (I, F, Hebr.).

- (15) a. Bill was enraged by totally innocent remarks. (eventive)
b. *Panin was eluded by Smith's name. (stative)

Some diagnostics:

- Type A languages can passivise quirky objects (pseudo-passive or quirky passive) (16)
- Type B languages cannot attach *re-* to acc exp PPs (17)

- (16) a. The bed was slept in.
b. Sinu-sta pidetään. (Finnish)
you.ELA like.PASS
'You are liked.'

- (17) *risconcertato, *riterrorizzata, *rieccitato (Italian)
restartled reterrified reexcited

Spanish appears to be of Type B: No pseudopassive (18) or PPs with *re-* (19)

- (18) a. *{En} este cama era {en-}dormido {en}.
in this bed was in-slept in
Intended: 'This bed was slept in.'
b. *resorprendido, *reaterrorizado, *reentusiasmado
restartled reterrified reexcited

⇒ Spanish should lack non-agentive obj exp passives.

- (19) **Predictions of Arad's (1999) account plus Landau (2010)**
a. Obj exp verbs derive verbal passives under the agentive reading.
b. Obj exp verbs do not derive verbal passives under the stative or eventive reading.

2.2 Input requirements to adjectival passivisation

- Widespread assumption: The theme argument is in the result state associated with the underlying verb (e.g. Meltzer-Asscher 2011, for Hebrew).

- (20) **Predictions of Meltzer-Asscher (2011) and others**
a. The input to adjectival passivisation has to be a telic/resultative predicate (i.e. accomplishments, achievements?).
b. Atelic ones (i.e. activities, states, achievements?) cannot form adjectival passives.

NB: Different analyses of achievements classify them as telic (widespread view) or as atelic (e.g. Marín and McNally 2011, following Piñón 1997; cf. sections 2.3 & 4.1).

- Rapp (1996) on German adjectival passives:
 - Adjectival passive constructions are statives.
- ⇒ The verbal input has to contain a state component in its lexical semantics (event structure).

(21) **Predictions of Rapp (1996)**

- a. States, accomplishments, achievements can derive adjectival passives.
- b. Activities cannot derive adjectival passives.

NB Additional restrictions could be formulated (e.g. Rapp 1997).

• Gehrke (to appear) on German adjectival passives:

- The verbal input has to be/contain a state that can be interpreted as a consequent state (result state or inchoative state).

(22) **Predictions of Gehrke (to appear)**

- a. Inchoative states, accomplishments, achievements can derive adjectival passives.
- b. Non-inchoative states and activities cannot derive adjectival passives.

2.3 Spanish psych verbs

• **Three syntactic frames for obj exp verbs** (examples from Marín and McNally 2011):

- Acc(usative) frame (23-a)
- Dat(ive) frame (23-b)
- Refl(exive) frame (23-c)

- (23) a. Marta lo molesta.
Marta him.ACC bothers
'Marta (actively) bothers/is bothering him.'
- b. El humo le molesta.
the smoke him.DAT bothers
'The smoke bothers him.'
- c. Josep se molesta.
Josep SE bothers
'Josep gets bothered.'

• **Psych verbs that express non-inchoative states**

- **Subj exp verbs** express temporally persistent states (examples from Fábregas et al. 2012):
 - * Simple present without a habitual reading (24-a)
 - * Incompatibility with temporal modifiers like *ayer* 'yesterday' (out of context) (24-b)

- (24) a. {Odia / Aborrece / Teme} su libertad.
hates loathes fears his freedom
'He {hates/loathes/fears} his freedom.'
- b. ??Ayer {odió / aborreció / temió} su repentina libertad.
yesterday hated.3SG loathed.3SG feared.3SG his sudden freedom

- **Dat exp verbs** that only appear in this frame (25) or also in the refl frame (never with acc) (26) (from Fábregas et al. 2012).

- (25) a. Esta película de Woody Allen le gusta.
this film of Woody Allen DAT3SG pleases
'She likes this Woody Allen film.' (lit.: 'This Woody Allen film pleases her.')
- b. *Esta película de Woody Allen {se / lo} gusta.
this film of Woody Allen RFL3SG ACC3SG pleases

- (26) a. {Se / Le} interesa por la {política / actuación}.
 RFL3SG DAT3SG interests by the politics performance
 ‘He is interested in politics/the performance.’
 b. *Lo interesa la actuación.
 ACC3SG interests the performance

Two aspectual classes of (refl) acc exp verbs (Marín and McNally 2011)

- **Inchoative states**, the *aburrirse* ‘get bored’ class (27-a)
 - Denote the onset of a state and the state
 - Non-punctual, stative, durative; atelic, non-dynamic, inchoative
- **Boundary happenings** (~ achievements; cf. Piñón 1997), the *enfadarse* ‘get angry’ class (27-b)
 - Denote the onset (of a state, but not the state itself)
 - Punctual, non-stative, non-durative; atelic, non-dynamic, inchoative

- (27) a. Juan se está aburriendo.
 Juan SE is boring
 ‘Juan is (already) bored.’ (lit.: ‘Juan is boring himself.’)
 b. El perro se está asustando.
 the dog SE is frightening
 ‘The dog is getting (but is not yet) frightened.’

- Diagnostics for the STATIVITY of inch. states VS. NON-STATIVITY of boundary happenings: interpretation of the simple present as non-habitual (28-a) vs. necessarily habitual (28-b)

- (28) a. Con su hermana pequeña se aburre.
 with his little sister SE bores
 ‘With his little sister he is bored (now).’
 b. Se asombra / asusta con los fuegos artificiales.
 SE amazes frightens with the fires artificial
 ‘He is (generally) amazed/frightened by fireworks.’

- Diagnostics for DURATIVITY of inch. states VS. NON-DURATIVITY of boundary happenings:
 - Progressive: regular prog. with inch. states (27-a), ‘preliminary circumstance’ prog. (cf. Kearns 2003) with boundary happenings (27-b)
 - *For*-adverbials: continuous with inch. states (29-a), iterative with bound. happ.s (29-b)
- Diagnostics for ATELICITY of both: *in/for*-adverbials (29)

- (29) a. Se {aburrió / divirtió} durante / *en toda la tarde.
 SE bored amused during in all the afternoon
 ‘He was bored/amused (continuously) the whole afternoon.’
 b. Se {asustó / enfadó} durante / *en toda la tarde.
 SE frightened angered during in all the afternoon
 ‘She got frightened/angry (repeatedly) the whole afternoon.’

Further atelicity diagnostics: incompatibility with *finish* (30), impossibility in *una vez* ‘one time’ absolutes (31)

- (30) a. *Ha terminado de {aburrirse / preocuparse}.
 has finished of bore-SE worry-SE
 ‘She has finished being bored/worried.’

- b. *Ha terminado de {asustarse / enfadarse}.
has finished of frighten-SE anger-SE
'He has finished getting frightened/angry.'
- (31) a. *Una vez preocupados tus padres por tu situación, te ayudarán.
one time worried your parents about your situation you help.FUT.3PL
Intended: 'Once your parents are worried about your situation, they will help you.'
- b. *Una vez enfadado el director, los actores trabajaron más.
one time angered the director the actors worked more
Intended: 'Once the director was angry, the actors worked more.'

NB *Una vez* absolutes require a telic input (cf. Luisa Hernanz 1991; Marín 2004).

- Diagnostics for NON-DYNAMICITY of both: incompatibility with *lentamente* 'slowly' (32) and *parar* 'stop' (33)

- (32) a. *Juan se aburre / se obsesiona / se preocupa lentamente.
Juan SE bores SE obsesses SE worry slowly
- b. *Juan se asusta / se enfada / se sorprende lentamente.
Juan SE frightens SE angers SE surprises slowly
- (33) a. Ha *parado / dejado de {aburrirse / agobiarse}.
has stopped stopped of bore-SE overwhelm-SE
'She has stopped being bored/being overwhelmed.'
- b. Ha *parado / dejado de {enfadarse / asustarse}.
has stopped stopped of anger-SE frighten-SE
'He has stopped getting angry/frightened.'

NB *Parar* 'stop' entails the cessation of a dynamic eventuality, *dejar* 'stop' the cessation of any eventuality (cf. de Miguel 1999).

- Diagnostics for INCHOATIVITY of both (both make reference to the onset/boundary of an eventuality): interpretation with reference time and quantificational adverbials

- With inchoatives: the onset occurs within the reference time interval (34-a)
- With non-inch. stative: The reference time interval is included in the interval over which the state in question holds (the event time); e.g. subj exp Vs (34-b), dat exp Vs (34-c)

- (34) a. Siempre que Ana tiene un examen, se preocupa mucho.
always that Ana has an exam SE worries very much
'Whenever Ana has an exam, she gets very worried.'
- b. ?Siempre que Ana tiene un examen, odia las lenguas.
always that Ana has an exam hates the languages
- c. ?Siempre que Ana tiene un examen, le gustan las lenguas.
always that Ana has an exam her.DAT please the languages

- **Different classes of acc exp verbs** (wrt the 3 frames in (23), and on non-agentive reading), according to the diagnostics discussed above (Fábregas et al. 2012):

A refl only (e.g. *arrepentirse* 'regret', *obstinarse* 'obstinate') 2 types (as above)

- * Non-stative punctual (boundary happening) (e.g. *encariñarse* 'grow fond of')
- * Stative non-punctual (inchoative states)(e.g. *arrepentirse* 'repent')

B all 3 frames (dat, acc, refl) (e.g. *indignar(se)* '(get) upset'): 3 types [dat: non-inch. stative]

- * Inch. state in acc and refl frames (e.g. *preocupar(se)* 'worry/get worried')
- * Bound. happening in acc and refl frames (e.g. *enfadar(se)* 'anger/get angry')
- * Inch. state in refl, bound. happening in acc frame (e.g. *indignar(se)* '(get) upset')

2.4 Summary and predictions about Spanish psych passives

- Aspectual properties of Spanish psych verbs:
 - Subj exp verbs: (non-inchoative) statives
 - (Non-)reflexive dat exp verbs: (non-inchoative) statives
 - (Non-)reflexive acc exp verbs:
 - * Inchoative states (*aburrir(se)*)
 - * Boundary happenings (*enfadar(se)*)
 - Agentive acc exp verbs are telic, non-psych [cross-linguistically; cf. Arad (1999)]⁸
- **Prediction 1 concerning verbal passives of subj exp predicates**
 - Subj exp participles can freely combine with *ser* to form verbal passives (all accounts).
- **Prediction 2 concerning verbal passives of obj exp predicates**
 - a. Acc exp PPs cannot combine with *ser*: They cannot derive verbal passives (Belletti and Rizzi 1988; Grimshaw 1990).
 - b. Acc exp PPs can combine with *ser* on agentive, but not on stative reading (Arad 1999).
 - c. Dat exp PPs cannot form verbal passives (all accounts).
- **Prediction 3 concerning adjectival passives of subj and dat obj exp predicates**
 - a. Subj and dat exp PPs cannot combine with *estar*: Only telic/resultative verbs, but not states, can derive adjectival passives (Meltzer-Asscher 2011, for Hebrew).
 - b. These PPs can freely combine with *estar*: All we need to form an adjectival passive is a stative component (Rapp 1996, for German).
 - c. These PPs cannot combine with *estar*: These verbs do not express inchoative states (Gehrke to appear, for German) (building on ‘inchoative state’ in Marín and McNally 2011).
- **Prediction 4 concerning adjectival passives of acc obj exp predicates**
 - a. Acc exp PPs cannot combine with *estar*, except when they have an agentive reading (~telic, according to Arad 1999) (Meltzer-Asscher 2011).
 - b. These PPs can appear with *estar*: All psych verbs have a stative component (Rapp 1996).
 - c. These PPs can appear with *estar*: They express the onset of a state (Gehrke to appear).

3 Data analysis

- The data for this study have been extracted from a corpus of Spanish:
 - From the 20th century, more than 8 million words, a wide variety of genres
 - Sources: *Gutenberg project*⁹ 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.¹⁰
- We obtained and analysed the frequency counts of all occurrences of psych PP with *ser/estar*.¹¹

⁸Agentive readings are generally only found with acc exp verbs (cf. Fábregas et al. 2012, and literature cited therein).

⁹<http://www.gutenberg.org/>

¹⁰<http://nlp.lsi.upc.edu/freeling/>

¹¹For this we used the *IMS Open Corpus Workbench* (<http://cwb.sourceforge.net/>) and the open-source statistical software R (R-Development-Core-Team 2010).

- All data were examined and corrected manually.
- We compiled the following lists of 131 psychological verbs (building on Marín and McNally 2011; Fábregas et al. 2012, Marín pc):
 - Subj exp verbs (25): *aborrecer* ‘abhor’, *adorar* ‘adore’, *amar* ‘love’, *anhelar* ‘yearn’, *apreciar* ‘appreciate’, *codiciar* ‘covet’, *deplorar* ‘regret’, *desear* ‘wish’, *despreciar* ‘despise’, *detestar* ‘hate’, etc.
 - Dat obj exp verbs (3): *agradar* ‘please’, *gustar* ‘like’, *placer* ‘please’.
 - Acc exp verbs (103):¹² *abrumar(se)* ‘burden’, *acongojar(se)* ‘grieve’, *afligir(se)* ‘upset’, *aliviar(se)* ‘alleviate’, *alterar(se)* ‘alter’, *alucinar(se)* ‘hallucinate’, *amedrentar(se)* ‘scare’, *animar(se)* ‘encourage’, *arrepentirse* ‘repent’, etc.
- Other groups of obj exp verbs:¹³
 - Non-punctual (inchoative states) (18): *aburrir(se)* ‘bore’, *agobiar(se)* ‘overwhelm’, *angustiar(se)* ‘distress’, *arrepentirse* ‘repent’, *atreverse* ‘dare’, *avergonzar(se)* ‘shame’, *confundir(se)* ‘confuse’, *distraer(se)* ‘distract’, *embotarse* ‘blunt’, *empecinarse* ‘insist on’, *encapricharse* ‘fancy, have a craving for’, *entretener(se)* ‘entertain’, *equivocarse* ‘be wrong’, *molestar(se)* ‘bother’, *obsesionar(se)* ‘obsess’, *obstinarse* ‘be obstinate’, *preocupar(se)* ‘worry’, *resignarse* ‘resign’.
 - Punctual (boundary happenings) (12): *asombrar(se)* ‘astonish’, *asustar(se)* ‘frighten’, *cabrear(se)* ‘piss off’, *empeñarse* ‘insist on’, *encariñarse* ‘grow fond of’, *enfadar(se)* ‘anger’, *enojar(se)* ‘anger’, *escamarse* ‘distrust’, *mosquear(se)* ‘annoy’, *ofender(se)* ‘offend’, *sorprender(se)* ‘surprise’, *vanagloriarse* ‘boast’.

3.1 *Ser/estar* with subj, acc and dat experiencer predicates

	<i>ser</i>	<i>estar</i>	p-value
+ subj exp Totals	88	1	
%psych	55.7%	0.4%	< 0.001***
%any PP	1.27%	0.03%	< 0.001***
+ acc exp Totals	70	271	
%psych	44.3%	99.6%	< 0.001***
%any PP	1.01%	7.58%	< 0.001***
+ dat exp Totals	0	0	
%psych	-	-	-
%any PP	-	-	-

Table 1: *Ser/estar* with participles of subj, acc and dat exp predicates.

- Remarks about the table (and the following table):
 - First row: Total number of *ser/estar* + psych PPs
 - Second row: Percentage of *ser/estar* with each type of psych verb relative to the total number of *ser/estar* with psych verbs
 - Third row: Percentage of *ser/estar* with each type of psych verb relative to the total number of *ser/estar* with any PP in the corpus (6923 and 3574, respectively)
 - The p-value measures the statistical significance of the differences in the proportions of *ser/estar* with psych PPs.

¹²The lists of acc exp verbs include acc exp verbs with both reflexive and non-reflexive forms and also those that only appear in the reflexive frame.

¹³All these verbs are included in the general lists of acc exp verbs.

The results

- **Subj exp PPs** appear almost exclusively with *ser* (99%), only once with *estar* (1%) ((35), an exception, see below); the difference is highly significant (χ^2 test, 1 d.f., $p < 0.001$).
 - ✓ Prediction 1 (all accounts) (subj exp verbs regularly form verbal passives)
 - ✓ Prediction 3a (Meltzer-Asscher 2011) (subj exp verbs do not form adjectival passives: only telic/resultative verbs do)
 - ✗ Prediction 3b (Rapp 1996) (subj exp verbs should form adjectival passives, since they have a stative component)
 - ✓ Prediction 3c (Gehrke to appear) (subj exp verbs do not form adjectival passives: only inchoative psych verbs do)

One case of an adjectival passive with a subj exp PP (35)

- (35) El signor Boldini, su maestro de canto, estaba admirado de la hermosura de su
the mister Boldini his teacher of singing was.LOC admired by the beauty of his
discípula.
disciple
'Mister Boldini, his singing teacher, was astonished by the beauty of his disciple.'

This example can be counted as exceptional:

- It sounds archaic (from Blasco Ibáñez, *Entre naranjos*, 1904).
- The verb *admirar* here seems to have another sense ('be astonished'), under which it should count as an acc exp verb.

- **Dat exp PPs** do not combine with *ser/estar*.
 - ✓ Prediction 2c (all accounts) (dat exp verbs cannot form verbal passives)
 - ✓ Prediction 3a (Meltzer-Asscher 2011) (dat exp verbs do not form adjectival passives, since only telic/resultative verbs do)
 - ✗ Prediction 3b (Rapp 1996) (dat exp verbs should form adjectival passives, since they have a stative component)
 - ✓ Prediction 3c (Gehrke to appear) (dat exp verbs do not form adjectival passives: only inchoative psych verbs do)

(But: only 3 dat exp verbs)

- **Acc exp PPs** appear significantly more often with *estar* (79%) than with *ser* (21%) (χ^2 test, 1 d.f., $p < 0.001$).
 - ✗ Prediction 2a (Belletti and Rizzi 1988) (obj exp verbs do not form verbal passives)
 - ✓ Prediction 4b (Rapp 1996) (acc exp verbs derive adjectival passives because they have a stative component)
 - ✓ Prediction 4c (Gehrke to appear) (acc exp verbs derive adjectival passives because they express the onset of a state)
- Pending (checking in context):
 - Prediction 2b (Arad 1999) (acc exp verbs form verbal passives on agentive reading only)
 - Prediction 4a (Meltzer-Asscher 2011) (acc exp verbs form adjectival passives on agentive reading only)

3.2 Summary

- The data support the following predictions:
 - 1: Subj exp participles can freely combine with *ser* to form verbal passives (all accounts).
 - 2c: Dat exp PPs cannot form verbal passives (all accounts).
 - 3a: Subj and dat exp PPs cannot combine with *estar*: Only telic/resultative verbs, but not states, can derive adjectival passives (Meltzer-Asscher 2011).
 - 3a: Subj and dat exp PPs cannot combine with *estar*: These verbs do not express inchoative states (Gehrke to appear).
 - 4b: Acc exp PPs can appear with *estar*: All psych predicates have a stative component (Rapp 1996).
 - 4c: Acc exp PPs can appear with *estar*: They express the onset of a state (Gehrke to appear).
- The data contradict the following predictions:
 - 2a: Acc exp PPs cannot combine with *ser* because these verbs cannot derive verbal passives (Belletti and Rizzi 1988; Grimshaw 1990).
 - 3b: Subj and dat exp PPs can freely combine with *estar*, since all we need to form an adjectival passive is a stative component (Rapp 1996).
- Other predictions (2b, 4a) pending checking in context (section 4).

4 Further discussion of acc exp predicates

- The findings for subj and dat exp predicates were not surprising and most accounts made the same predictions, except for Rapp (1996) (cf. Rapp 1997, for additional constraints).
- More careful analysis and discussion are needed for acc exp predicates:
 - Alternative approach to Marín and McNally (2011): At least the punctual subclass should be considered telic (achievements).
 - The role of agentivity: checking in context
- Possibility that the working hypothesis about Spanish passives is not always right: Some *ser*+PP constructions appear to be adjectival.

4.1 What if: Boundary happenings are achievements, and achievements are telic?

- Piñón (1997) divides predicates that are commonly classified as ‘achievements’ into two classes:
 - Boundary happenings (e.g. *begin*, *win*) are ‘real’ achievements: They make reference to the onset of an eventuality but to nothing else about the eventuality and are thus truly instantaneous and atelic.
 - Others that allow for some duration are changes of state and thus telic.
 - Traditionally, however, achievements are classified as telic (e.g. Vendler 1957; Dowty 1979; Rothstein 2004).
- ⇒ Under the traditional view, Meltzer-Asscher’s (2011) Prediction 4a (acc exp PPs cannot combine with *estar*, except under an agentive reading) should lead to different findings for punctual vs. non-punctual acc exp verbs (boundary happenings vs. inchoative states).

- Table 2 summarises the results with punctual and non-punctual acc exp verbs.

	Non-punctual PP	Punctual PP	p-value
Totals	979	584	
% <i>estar</i>	6.7%	6.8%	1

Table 2: *Estar* with (non-)punctual acc exp PP.

The findings: There are no significant differences between punctual and non-punctual acc exp PPs in combination with *estar* (χ^2 test, 1 d.f., $p = 1$).

- ⇒ Punctuality does not seem to be a distinguishing property.
- ⇒ Meltzer-Asscher's (2011) Prediction 4a cannot be right.

4.2 Checking agentivity in context

- Checking Arad's (1999) Prediction 2b and Meltzer-Asscher's (2011) Prediction 4b (acc exp verbs derive verbal/adjectival passives on agentive reading only): *by*-phrases

- Agentive verbal passives: *by*-phrases with animate nominals (36)¹⁴
- Non-agentive verbal passives: *by*-phrases with non-animate nominal (38).
- Non-agentive adjectival passives: *by*-phrases with non-animate nominal (39).

(37) [...] uno de sus diputados no fuera “molestado” por el juez Barbero.
 one of his congressmen not was bothered by the judge Barbero
 ‘... one of the congressmen was not bothered by Judge Barbero.’

(38) [...] la paz está siendo humillada por los conflictos fratricidas [...]
 the peace is.LOC being humiliated by the conflicts fratricide
 ‘Peace is being humiliated by (the) fratricide conflicts.’

(39) a. Estaban preocupados por el anuncio de un nuevo tren sanitario.
 were.LOC worried by the announcement of a new train sanitary
 ‘They were worried by the announcement of a new sanitary train.’
 b. [...] el zapatero estaba inspirado por las teorías del Estudiantón
 the shoemaker was.LOC inspired by the theories of the Estudiantón
 [Belarmino Froilán Escobar].
 Belarmino Froilán Escobar
 ‘The shoemaker was inspired by the theories of Belarmino Froilán Escobar.’

- ⇒ Examples like (38) indicate that not all verbal passives of acc exp verbs have to be agentive, calling into question Prediction 2b (but see (41), section 4.3).
- ⇒ Similarly, the examples in (39) show that there are non-agentive adjectival passives of acc exp verbs, calling into question Prediction 4a.

¹⁴An additional test that we could employ is compatibility with advbers like *deliberadamente* ‘deliberately’:

(36) El ruido interrumpió mi lectura, y aunque no fui molestado, el suceso me dejó una mala impresión.
 the noise interrupted my reading and although not was bothered the event me left a bad impression
 ‘The noise interrupted my reading, and although I was not bothered, the event left me with a bad feeling.’

4.3 Are some *ser*+PP constructions adjectival?

- Some *ser*+PP combinations do not behave like verbal passives, but rather like adjectival ones: coordination with adjectives, adjectival degree modification (40)

- (40) a. Esto va á ser largo y aburrido [...]
this goes to be long and boring
'This is going to be long and boring.'
- b. Cuanto más animados fuesen los debates, el botafumeiro giraría más
as more animated were the debates the thurible span more
velozmente.
quickly
'As the debates became livelier, the thurible span around faster.'

- In some *ser*+PP combinations, *by*-phrases and degree modifiers co-occur (41).

- (41) a. Los cinco vascos éramos bastante odiados por la tripulación.
the five Basque were quite hated by the crew
'The five Basque were quite hated by the crew.'
- b. [...] estos adminículos son muy apreciados por todos los pobres [...]
those accessories are much appreciated by all.PL the.PL poor.PL
'Those accessories are highly appreciated by all the poor.'

⇒ This calls into question the widespread view that *ser*+PP combinations are (always) verbal.

- Some psych PPs could have been grammaticalised (reanalysed) as genuine adjectives, e.g. *aburrido* 'boring', *animado* 'lively' (lit.: 'animated').
 - Others, especially those that co-occur with *by*-phrases are more puzzling.
- Future research

5 Conclusion

- We conducted a corpus study of Spanish to test whether different kinds of psych verbs derive verbal and/or adjectival passives. The findings:
 - Subject experiencer verbs only derive verbal passives (as assumed by most).
 - Dative experiencer verbs do not derive either (as assumed by most).
 - Accusative experiencer verbs derive both (and quantitatively more adjectival passives).
- The findings lend support to Gehrke's (to appear) proposal that adjectival passives can be derived from verbs that make reference to the onset of a state (building on the notion of 'inchoative state' in Marín and McNally 2011).
- The findings are problematic for Meltzer-Asscher's (2011) proposal that the input to adjectival passives has to be telic (undergeneration), as well as for Rapp (1996) proposal that the input has to be stative (overgeneration) (additional constraints are formulated in Rapp 1997).
- The findings do not fully support any of the predictions we tested for verbal passives:
 - Belletti and Rizzi (1988) incorrectly predicted that acc exp verbs should not derive any verbal passives, but we found many such passives.
 - Arad (1999) (and others) incorrectly predicted that acc exp verbs only derive verbal passives on the agentive reading, but we also found verbal passives with non-agentive readings.

- Open issues:
 - Does the latter point mean that Spanish is not of Type B (contra the diagnostics proposed by Landau 2010), but of Type A and should thus be able to derive verbal passives under the eventive reading?
 - Are some *ser*+PP combinations adjectival passives, or even constructions where the PP has been reanalysed as a genuine adjective?

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