ASPECTUAL COMPOSITION IN <*SER/ESTAR* + ADJECTIVE> STRUCTURES: ADJECTIVAL SCALARITY AND VERBAL ASPECT IN COPULAR CONSTRUCTIONS[*]

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ABSTRACT: The distribution of adjectives with the Spanish copulas *ser* and *estar* ('be') has been generally accounted for in the literature in aspectual terms, more specifically, in terms of the distinction between individual-level and stage-level predicates. Our claim is that the distributional properties of adjectives in the <*ser/estar* + A> structure can be better described if the scalar properties of the adjectives (in the sense of Kennedy & McNally 2005) are taken into account: open-scale/relative adjectives combine with *ser,* closed-scale/absolute adjectives combine with *estar*. From this hypothesis, a better theory arises about aspectual composition in the domain of copular structures (following the line of reasoning of Husband 2010, 2012 for stative predications). The scale structure of the adjectival complement is the source of the classification of the copular structure as an individual-level (*unbounded/homogeneous*) stative predication (*ser*) or as a stage-level (*bounded/quantized*) stative predication (*estar*).

Keywords: ser; estar; adjective; copula; standard of comparison; scalarity; aspectual composition

RESUMEN: La distribución de los adjetivos con los verbos copulativos *ser* y *estar* se ha explicado en la bibliografía en términos de la distinción entre predicados de individuo y predicados de estadio. En este trabajo, mostramos que las propiedades distribucionales de los adjetivos en las oraciones copulativas con *ser* y *estar* pueden describirse mejor si se tiene en cuenta la estructura escalar del adjetivo (en términos de Kennedy & McNally 2005). Específicamente, los adjetivos de escala abierta/relativos se combinan con *ser,* los adjetivos de escala cerrada/absolutos se combinan con *estar.* A partir de esta propuesta puede construirse una teoría sobre la composición aspectual en el dominio de las predicaciones copulativas en español paralela a la existente para los SSVV/vv eventivos, y para las predicaciones estativas en general (en la línea de los trabajos de Husband 2010, 2012). La estructura escalar de los adjetivos es la base de la clasificación de las estructuras copulativas como predicaciones estativas de individuo (o *no acotadas/homogéneas,* con *ser*) o como predicaciones estativas de estadio (o *acotadas/cuantizadas,* con *estar*).

Palabras clave: ser; estar; adjetivo; verbo copulativo; estándar de comparación; escalaridad; composición aspectual

1. Introduction

The goal of this paper is to account for aspectual composition in <*ser/estar* ('be_SER' and 'be_ESTAR' henceforth) + Adjective> copular structures in Spanish (*Juan es {falso / alegre}* 'Juan is_SER {false / happy}'; *Juan está {cansado / alegre}* 'Juan is_ESTAR {tired /

happy}', etc.).[1] We mainly focus on analysing the properties of adjectives that determine their combination with each of the copulas. This distribution has been generally accounted for in the literature in aspectual terms, more explicitly, in terms of the distinction between individual-level and stage-level adjectives [henceforth IL and SL]. We will show that the distribution of adjectives with *ser* and *estar* can be better captured if the scalar properties of the adjectives (in the sense of Kennedy & McNally 2005) are taken into account. Specifically, we will claim that open-scale/relative adjectives combine with *ser* and closed-scale/absolute adjectives combine with *estar*. Following Husband's (2010, 2012) ideas about aspectual composition on stative structures, we will argue that in copular structures in Spanish there is a homomorphism between the part-structure of the scale of the adjective selected by the copula and the aspectual/eventuality properties of the stative predications, as has also been proposed for degree achievements. *Ser* predications express homogeneous/unbounded/IL states; *estar* predications denote quantized/bounded/SL states. *Ser* and *estar* are analysed as a spell-out reflex at the VP level of the scalar properties of the adjectival complement.

The article is organized as follows. In §2 we briefly summarize the distribution of adjectives with the two Spanish copular verbs *ser* and *estar,* as it has been described in the literature. In §3 we review the main current proposals existing in the literature to explain the paradigm described in §2. We will focus on aspect/aktionsart-oriented proposals about the *ser/estar* distinction and, specifically, on the role given to the adjective in the compositional building up of the meaning of the stative predication within these proposals. We will devote special attention to Husband's (2010, 2012) hypothesis, according to which IL and SL stative copular predications in English (*be tall, be full*) denote homogenous and quantized states respectively, a property that stems from the scalar structure of the adjectival complement of the copula (*tall, full* in the previous examples). Taking this proposal as a point of departure, in §4-6 we explain the distributional properties of *ser* and *estar* in Spanish. In §4, we present Kennedy and McNally's (2005) semantic classification of adjectives, based on their scalar properties; in §5 and §6, we argue that the distribution of adjectives with the two Spanish copulas can be explained if we consider the adjective's scalar properties. In §7, we present the syntactic structure of copular sentences that we assume in this paper, which will be the basis to explain the syntax-semantics mapping in these structures. In §8, following Husband's (2010) semantic proposal for English copular structures, we claim that the scalar properties of adjectives are at the root of the aspectual properties of copular predications in Spanish. Finally, §8 presents our conclusions, open questions, and prospects.

2. The distribution of *ser* and *estar*

The distribution of adjectives with the two Spanish copular verbs, *ser* and *estar* ('be$_{SER}$', 'be$_{ESTAR}$'), is a widely studied phenomenon (see Marín 2000, Brucart 2009 or Camacho 2012 for current surveys of the relevant bibliography).[2] As generally acknowledged in the literature, some adjectives combine (usually) only with *ser*, (1);

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[1] There is dialectal variation regarding the combination of adjectives with the copulas *ser/estar*. We will not deal with dialectal variation in this paper. The data described correspond to the dialect of Spanish spoken in Madrid (Spain).

[2] In this paper, we restrict ourselves to the analysis of copular sentences with adjectival complements. DPs and NPs (which combine with *ser*), gerunds and past participles (which combine with *estar,* except for the verbal passive participles that combine with *ser*), and also PPs (which may combine with either copula) will be deliberately left out of our discussion.

others combine only with *estar*, (2); and, finally, there is a third group of adjectives that combine naturally with either *ser* or *estar,* (3).[3]

(1)   a. El   cuadro   {es / *está} auténtico.
           the painting   is$_{SER/*ESTAR}$ authentic
           'The painting is authentic.'
       b. El   periódico   {es / *está} semanal.
           the newspaper is$_{SER/*ESTAR}$ weekly
           'The newspaper appears weekly.'
       c. Juan {es / *está} {cauto /   discreto /   inteligente}.
           Juan is$_{SER/*ESTAR}$ {cautious/discreet /   intelligent}
           'Juan is {cautious / discreet / intelligent}.'
(2)   Juan {está / *es} {cansado / exhausto}.
       Juan is$_{ESTAR/*SER}$ {tired /   exhausted}
       'Juan is {tired / exhausted}.'
(3)   El   niño {es / está}   {pequeño / alegre /   delgado / nervioso}.
       the child is$_{SER/ESTAR}$ {small /   happy /   thin /   nervous}
       'The child is {small / happy / thin / nervous}.'

Many authors have noted that, within the group of adjectives that can be complements of either *ser* or *estar*, there are adjectives that have different meanings depending on which copula they are combined with, (4). The role of the subject may also determine which copula is selected, as the contrast between (3) and (5) shows.

(4)   a. Juan es listo.   / Juan está listo.
           'Juan is$_{SER}$ clever.'   / 'Juan is$_{ESTAR}$ ready.'
       b. El pastel es malo. / El pastel está malo.
           'The cake is$_{SER}$ bad.' (it is of bad quality)/'The cake is$_{ESTAR}$ bad.'(it tastes bad)
       c. El niño es vivo.   / El niño está vivo.
           'The boy is$_{SER}$ lively.'   / 'The boy is$_{ESTAR}$ alive.'
(5)   La casa {es / *está} pequeña.
       'The house is$_{SER/*ESTAR}$ small.'

Note also that some of the adjectives that are claimed in the literature to combine almost always with *ser,* cf. (1), can also co-occur with *estar* in certain syntactic environments, (6). These cases have been generally accounted for in terms of *coercion* (cf. Escandell & Leonetti 2002).

(6)   a. Últimamente Juan está muy discreto.
           lately   Juan is$_{ESTAR}$ very discreet
           'Juan is being very discreet lately.'
       b. Qué inteligentes están   hoy   tus   alumnos.
           how intelligent   are$_{ESTAR}$ today your students
           'How clever your students are being$_{ESTAR}$ today.'

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[3] Eventive subjects combine with *ser* independently of the kind of adjective selected by the copula, (i):
(i)   a. La niña {era/estaba} hermosa ('The girl was$_{SER/ESTAR}$ beautiful').
           b. El elegante vuelo de los pájaros hacia el sur {era/*estaba} hermoso (lit. *the elegant flying of the birds towards the South was$_{SER/*ESTAR}$ beautiful*).
See footnote 11 and section 9 for some additional remarks about eventive subjects in copular sentences.

    c. Desde su divorcio, Juan está muy cauto.
      since his divorce Juan is$_{ESTAR}$ *very discreet*
      'Since his divorce, Juan has been$_{ESTAR}$ very cautious.'

Additional examples of adjectives pertaining to the three classes described above are offered in (7), (8) and (9).

(7)   <u>Adjectives that combine only with *ser*:</u> apto ('suitable'), auténtico ('authentic'), búlgaro ('Bulgarian'), cauto ('cautious'), constante ('constant'; 'persevering'), cuidadoso ('careful'), culpable ('guilty'), (des)cortés ('(im)polite'), (des)leal ('(dis)loyal'), español ('Spanish'), evidente ('evident'), falso ('false'/ 'forged'), fiel ('faithful'), (im)prudente ('(im)prudent'), (in)discreto ('(in)discreet'), (in)capaz ('(un)able'; '(in)capable'), (in)justo ('(un)fair'), (in)moral ('(im)moral'), (in)mortal ('(im)mortal'; 'eternal'), inocente ('innocent'), inteligente ('intelligent'), (in)necesario ('(un)necessary'), presumido ('arrogant'; 'vain'), semanal ('weekly'), socialista ('Socialist'), etc.

(8)   <u>Adjectives that combine only with *estar*:</u> absorto ('absorbed'; 'captivated'), angustiado ('worried'; 'distressed'), asombrado ('atonished'), ausente ('absent'; 'distracted'), contento ('happy'), desnudo ('naked'), descalzo ('barefoot'), enfermo ('ill'), enojado ('angry'), harto ('fed up'), lleno ('full'), maltrecho ('battered'), muerto ('dead'), perplejo ('perplexed'), presente ('present'), quieto ('still'), satisfecho ('satisfied'), solo ('alone').

(9)   <u>Adjectives that combine with both copulas:</u> alegre ('happy'), alto ('tall'), (a)normal ('(ab)normal'), bajo ('short'), feliz ('happy'), feo ('ugly'), flaco ('thin'), gordo ('fat'), grande ('big'; 'tall'), hermoso ('beautiful'), inquieto ('restless'; 'worried'; 'lively'), joven ('young'), libre ('free'), listo ('clever'; 'ready'), malo ('bad'), mojado ('wet'), nervioso ('nervous'), pequeño ('small'), orgulloso ('proud'), tranquilo ('calm'; 'quiet'), transparente ('transparent'), viejo ('old'), vivo ('alive'; 'lively').

3. Previous accounts of the *ser/estar* distinction

In this section we will review some of the proposals existing in the literature to account for the *ser/estar* distinction and the distribution of adjectives with each of the copulas.

3.1. Ser *and* estar *predications. Individual- and stage-level predications*

Spanish is a language where the notion of something's or someone's "state of being" (quoting Roby's 2009 words) is expressed by means of the use of one of the two copular verbs available: *ser* and *estar* ('be$_{SER}$', 'be$_{ESTAR}$'). These two *be*-type verbs are not in free variation, as noted in the preceding section; one or the other copula is used depending on the type of state being described.

However, the exact "type of state" that *ser*-predications and *estar*-predications describe has never been unanimously agreed upon in the literature, and many different theories are found to explain this distinction.[4]

First, from the traditional perspective, *ser*-predications denote permanent states whereas *estar*-predications denote transitory states (*La Tierra es redonda* 'The Earth

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[4] See Roby (2009), Camacho (2012) and others for an exhaustive presentation and critical review of the most recent proposals about the *ser/estar* distinction.

is$_{SER}$ round' vs. *La Tierra está contaminada* 'The Earth is$_{ESTAR}$ polluted'). Many authors, however, have pointed out that this intuitive characterization is inaccurate. On the one hand, many adjectives express states that can be conceived as changeable (e.g. *madridista* 'Real Madrid supporter', *barcelonista* 'Football Club Barcelona supporter'), but even in this case they combine with the copula *ser: Juan es hoy madridista pero mañana será barcelonista* (lit. *Juan is$_{SER}$ today a Real-Madrid-suppporter but tomorrow he will be$_{SER}$ a F. C. Barcelona-supporter*). On the other hand, some permanent states require the copula *estar: Juan está muerto* ('Juan is$_{ESTAR}$ dead').

Second, in what we consider the current standard hypothesis about the *ser/estar* distinction, *ser*-predications are analysed as *individual-level* predications, while *estar*-predications are analysed as *stage-level* predications. However, the terms *individual* (IL) and *stage level* (SL) are not univocal but polymorphic. The difference between IL and SL predications has been analysed in different ways, for example, on the basis of an ontological distinction in the domain of individuals (IL and SL predicates select different kinds of semantic entities as subjects, Carlson 1977), or on the basis of a discourse-related distinction (Jäger 2001, Maiernborn 2005). It has also been analysed as an event-related difference: IL predicates lack an (Davidsonian) eventive argument in their thematic grid (or have a special one), whilst SL predicates have an event argument (Kratzer 1995, Chierchia 1995). The characterization of *ser* and *estar* predications in these terms has also been challenged by many authors (see Maienborn 2003, 2005, Schmitt & Miller 2007, Roby 2009, Camacho 2012 and others). If SL *estar*-predicates have an eventive argument, they should be able to occur with locative modifiers (assuming that these modifiers are sensitive to the presence of such an eventive argument), but cases like (10) are ungrammatical. Conversely, if IL predicates lack an eventive argument, IL predications should not be possible in conditional sentences, since they do not provide any variable (specifically, an eventive variable) for the quantifier to bind, but, again, examples like (11) are grammatical.

(10)　*La camisa está　mojada sobre　la　silla.
　　　 the shirt　is$_{ESTAR}$ wet　on　the chair
(11)　Siempre　que María es　cuidadosa, su　madre　se　alegra.
　　　 whenever　that María is$_{SER}$ careful,　her mother　SE　gets.happy
　　　 'Whenever María is careful, her mother is happy.'

The distinction between *ser*-predications (IL states) and *estar*-predications (SL states) has also been approached from the point of view of the internal temporal constitution of the state they express, that is, in terms of the aktionsart (aspect) of the predication. In this line, Luján (1981) claims that *estar*-predications denote *perfective states* (stative situations with an implied beginning or endpoint) and *ser*-predications denote *imperfective* states (without implied beginning or endpoints); similarly, Marín (2000, 2004) considers that *ser*-predications reflect temporally unbound states, while *estar*-predications reflect temporally bound states.

More recently, Husband (2010, 2012) reinterprets the individual/stage level distinction in the domain of states as a distinction between homogeneous and quantized states. IL and SL states are thus the stative counterpart of atelic/telic events, which are analysed by Husband (2010, 2012) in terms of homogeneous/quantized events, following Borer (2005). Consider the distinction between IL/SL stative predications illustrated in (12). This distinction is reflected in English in the generic vs. existential reading of the bare plural subject in each case, as generally assumed: in

(12a) the bare plural in subject position receives a generic reading; an existential reading is possible for the bare plural subject in (12b).

(12)   a. Tycoons own banks.   IL predication
         b. Tycoons own these banks.   SL predication   [Husband 2010: 22, (32)]

According to Husband (2010: 123), (12a) exemplifies a homogeneous state, whereas (12b) exemplifies a quantized state. Homogeneous expressions are both *cumulative* and *divisive*. Failure of either of these properties gives rise to a *quantized* expression. The formal definitions of quantized and homogeneous expressions from Borer (2005) are given in (13):

(13)   a. *Quantity:* P is *quantity* iff P is not *homogeneous.*
         b. *Homogeneous:* P is *homogeneous* iff P is *cumulative* and *divisive.*
         i.   P is *cumulative* iff $\forall x,y[P(x) \ \& \ P(y) \rightarrow P(x \cup y)]$
            That is: P is *cumulative* iff for all x and y with property P, the union of x and y also has property P.
         ii. P is *divisive* iff $\forall x[P(x) \rightarrow \exists y[P(y) \ \& \ y < x] \ \& \ \forall x,y[P(x) \ \& \ P(y) \ \& \ y < x \rightarrow P(x - y)]]$
            That is: P is *divisive* iff for all x with property P there is a proper part of x which also has property P, and for all x and y with property P if y is a proper part of x then the subtraction of y from x also has property P.
                                                   [From Husband 2010: 93]

In (12a) there is an unbound number of proper substates of the state 'own banks' that are also states of 'own banks'; it is a homogeneous state. Conversely, in (12b) there are no proper substates of the state 'own this bank' that are also states of 'own this bank'; it is a quantized state. Crucially, Husband (2010) notes that the aspectual properties of the entire stative predication are determined by the internal argument of the transitive stative verb. A bare plural internal argument leads to an IL/homogeneous predication, while a definite DP leads to a SL/quantized predication. Bare plurals are cumulative and divisive, hence homogeneous (*banks* has unbounded numbers of proper parts which are also *banks*); demonstrative DPs fail to be divisive, that is, there is no proper part of 'this bank' which is also 'this bank', hence they are quantized). The part-structure of the internal argument is thus mapped onto the part structure of the state. In (12a), the part-structure of *banks* is mapped to the part structure of the state *s* by asserting the existence of an unbounded number of proper substates *s′* which are ownings of the parts of *banks.* In (12b), the part-structure of *this bank* is mapped onto the part-structure of the state *s*. Since *this bank* has only one part, this mapping leads to a quantized state (Husband 2010 §3.4.2.1). Note that this is reminiscent of the effect that internal arguments have in determining the aspectual properties of eventive predications (for example in incremental theme verbs: *eat sandwiches* vs. *eat a sandwich*). Finally, since stative predicates are predicates of individuals, Husband (2010: §3.4.2.3, 2012) claims that the part structure of the state is mapped to the part structure of the subject, giving rise to a generic or existential interpretation (we will explore this mapping in detail in section 8). The interpretation of the subject is ultimately conditioned by quantization of the object.

Husband (2010, 2012) extends this proposal about homogeneous vs. quantized states to copular predications: *Men are tall* (generic reading of the subject) vs. *Men are drunk* (existential reading of the subject). In this case, it is the scalar structure of

the adjective that is the source of the aspectual properties of the stative predications and the interpretation of the subject. Crucially, Husband (2010: 24-25) suggests in passing that the *ser/estar* distinction in Spanish could be related to this difference between homogeneous vs. quantized states. This is the proposal about the denotation of *ser* and *estar* predications that we will take as a point of departure in this paper. Let us analyse aspectual composition in copular sentences in the next subsection.

3.2. Aspectual composition of stative copular predications

If the difference between *ser* and *estar*-predications is understood as an aspectual/aktionsart-related difference, as we assume in this paper following the ideas presented in the previous subsection, then the question that should be answered is how aspect is borne out compositionally in *ser/estar* structures, and, more specifically, what the relative contributions of the adjective and copula are from the aspectual point of view. In other words, if *ser*-predications denote individual-level states (that is, unbounded / imperfective / homogeneous states) and *estar* predications denote stage-level states (that is, bounded / perfective / quantized states), what is the role of the adjective in determining this aspectual characterization, and what is the role of *ser* or *estar*?

A general idea in the literature is that the aspectual properties of copular constructions are attributed to or correlated with the aspectual properties of the adjectives selected by the copular verbs. Adjectives are thus also classified into individual-level (or *imperfective*) adjectives (*auténtico* 'authentic', *falso* 'false / forged', *mortal* 'mortal') and stage-level (or *perfective*) adjectives (*ausente* 'absent', *contento* 'happy', *descalzo* 'barefoot'), and they are respectively related to the copulas *ser* and *estar* via some kind of checking mechanism or selection process. *Unmarked* or *ambivalent* adjectives, which can combine with both copulas, are also postulated: *alto* ('tall'), *blando* ('soft'). Luján (1981), Clements (1988), Fernández Leborans (1999) and Camacho (2012), among others, develop proposals of this kind.

A different line of analysis is taken by Romero (2009), who claims that, even if the difference between *ser* and *estar*-predications is an aspectual one, this difference cannot be attributed to the aspectual properties of the adjectives combined with the copulas: the property that determines the combination of adjectives with *ser* and *estar* has to do with the intersective/subsective distinction.

Similarly, Husband (2010) claims, with respect to stative *be* constructions in English, as stated above, that the distinction between IL (homogeneous) and SL (quantized) *be*-predications derives from the scale structure of the adjectival complement. Let us consider the aspectual distinction between the IL (i.e. homogeneous) stative *be*-predication in (14a) and the SL (i.e. quantized) stative *be*-predication in (14b). This distinction is reflected in the generic vs. existential reading of the subject in each case.

(14)   a. Norwegians are tall. / Whiskey bottles are big.   generic
         b. Norwegians are drunk. / Whiskey bottles are full.   existential

                                                      [adapted from Husband 2010: 137]

According to Husband (2010), the quantificational property of the stative predication derives homomorphically from the scale structure of the adjective selected by the stative verb. *Tall, big* are open-scale adjectives (they denote a scalar property without minimal/maximal degree-points), as will be shown below, whereas *drunk, full* are closed-scale adjectives (the scalar property of being drunk/full has

minimal/maximal degree-points). The scale structure of adjectives is also defined by Husband (2010: 164) in quantificational terms (open-scales are homogenous, closed-scales are quantized; we will come back to this issue in detail in section 8), and is thus mapped to the part-structure of the state. As was the case for examples like (12), the part-structure of the state is also mapped to the part-structure of the subject, giving rise to a generic or existential interpretation.

This proposal is thus parallel to the analysis given in Kennedy and McNally (1999) and Kennedy and Levin (2008), among others, to explain aspectual composition in the eventive domain, specifically with respect to degree achievements. According to these authors, the telicity properties of deadjectival degree achievements are homomorphically mapped from the scalar properties of the base adjectives. Open-scale adjectives give rise to atelic (homogeneous) verbs, (15); (partially) closed-scale adjectives give rise to telic (quantized) verbs, (16).[5]

(15)   a. The gap between the boats widened {for / ??in} a few minutes.
        b. The recession deepened {for / ??in} several years.
(16)   a. The shirt dried {??for / in} several hours.
        b. The sink emptied {??for / in} a few minutes.

Therefore, according to Husband's proposal, cross-categorial aktionsart-related distinctions receive a unified account on the basis of quantificational notions:

(17)

	Homogeneous	Quantized
Events	Atelic	Telic
States	IL	SL
Scales	open scale	Closed
Nominals	unspecified quantity	specified quantity

[Husband 2010: 188, 5.1]

Turning back to *ser/estar* in Spanish, we will claim, following Husband's (2010: 24-25) suggestion mentioned above, that the *ser/estar* distinction reflects a difference between IL/homogeneous vs. SL/quantized states, as the diagnostic related to the generic vs. existential reading of the subject of the predication indicates, (18) (see Camacho 2012 for additional diagnostics).

(18)   a. Una botella de agua es {transparente / larga}.   Generic Reading
           a   bottle of water is$_{SER}$ {transparent / big}
           'Water bottles are {transparent / big}.'
        b. Una botella de agua   está   {sucia / llena}.   Existential reading
           a   bottle of water is$_{ESTAR}$ {dirty / full}
           'A water bottle is {dirty / full}.'

In the following sections, we will focus on the scalar properties of the adjectives that combine with *ser* and *estar*. We will show that open-scale/relative adjectives combine with *ser* while closed-scale/absolute adjectives combine with *estar*. In §8 we

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[5] Note that sometimes the underlying argument of the adjective is also crucial to determine the aspectual properties of the VP:
(i)   a. Kim is lowering the heat → Kim has lowered the heat.   (atelic)
       b. Kim is lowering the blind --/-> Kim has lowered the blind.   (telic)

will analyse how the aspectual distinction between *ser* and *estar* predications are compositionally obtained at the v/VP level of the copular constructions, and how the interpretation of the subject is obtained.

Let us begin by introducing in the following section the semantic notions related to adjectival scalarity that will be necessary to develop our proposal.

4. Properties of gradable adjectives: scale structure and standard of comparison (Kennedy & McNally, 2005)

Kennedy and McNally (2005) classify adjectives into *scalar* (*alto* 'tall', *húmedo* 'wet') and *non-scalar* ones (*semanal* 'weekly'). Scalar adjectives express a *scale,* that is, a set of degrees *S* linearly ordered (with an increasing or decreasing relation *R*) with respect to a dimension *D*, (<*S,R* Δ>). Unlike non-scalar ones, these adjectives allow degree modification, as the following Spanish examples show (in this section we will only use Spanish adjectives as illustration):

(19) a. Un chico más alto que tú.
       a   boy   more tall than you
       'A boy taller than you.'
    b. Una toalla más húmeda que otra.
       a   towel more wet   than other
       'A towel wetter than the other one.'
    c. *Un periódico más semanal que otro.
       a   newspaper more weekly   than other

Scalar adjectives can be further classified according to the structure of the scale they express and the standard of comparison that is required to interpret the adjective's meaning. These two semantic parameters, scale structure and scale standard of comparison, will be dealt with in the following subsections.
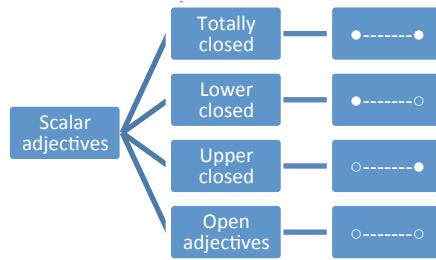
4.1. Scale structure

Adjectives like *alto* ('tall') or *inteligente* ('intelligent'), (20), are *open scale adjectives,* that is, they express an unbounded or *open-scale*: a scale with no maximal or minimal degree values. On the other hand, *closed-scale* adjectives express a scale with minimal and/or maximal degree values. Adjectives like those in (21a) are *totally closed* adjectives, since they express a scale with maximal and minimal degree values. Adjectives like (21b) (*lower-closed* adjectives) express a scale with a minimal degree value. Adjectives like (21c) (*upper-closed* adjectives) express a scale with a maximal degree value.

(20) Open-scale adjectives:
      un niño <u>inteligente</u> ('an <u>intelligent</u> boy')*,* un niño <u>alto</u> ('a <u>tall</u> boy').
(21) Closed-scale adjectives:
      a) Totally closed adjectives:
      un vaso {<u>lleno</u> / <u>vacío</u>} ('a <u>full</u> glass', 'an <u>empty</u> glass').
      b) Lower-closed adjectives:
      una toalla <u>húmeda</u> ('a <u>wet</u> towel'), un renglón <u>torcido</u> ('a <u>bent</u> line'), un hombre <u>cansado</u> ('a <u>tired</u> man').
      c) Upper-closed adjectives:
      una toalla <u>seca</u> ('a <u>dry</u> towel'), un renglón <u>recto</u> ('a <u>straight</u> line')

These different scalar structures can be graphically described as in (22), and formally expressed as in (23).

(22)

(23)   Typology of scale structures
     a. $<D_{(0,1)}, R, \Delta>$ Open scale
     b. $<D_{[0,1)}, R, \Delta>$ Lower-closed scale
     c. $<D_{(0,1]}, R, \Delta>$ Upper-closed scale
     d. $<D_{[0,1]}, R, \Delta>$ (Totally) Closed scale

Degree modifiers are sensitive to different subparts of the scale structure of adjectives. Modifiers like *totalmente* or *completamente* ('totally', 'completely') combine with upper-closed adjectives, (24). Modifiers like *ligeramente* ('slightly') combine with lower-closed adjectives, (25).

(24)   Upper-closed A: a. una toalla {completamente / totalmente}   seca
                                 a   towel {completely /   totally}   dry
                                 'a {completely / totally} dry towel'
                                b. un   renglón completamente recto
                                 a   line   completely   straight
                                 'a completely straight line'
(25)   Lower-closed A: a. una toalla ligeramente húmeda
                                 a   towel slightly   wet
                                 'a slightly wet towel'
                                  b. un renglón ligeramente torcido
                                 a line   slightly   bent
                                 'a slightly bent line'
                                c. un   hombre ligeramente cansado
                               a   man   slightly   tired
                               'a slightly tired man'

Totally-closed adjectives combine with both kinds of modifiers, (26). Open-scale adjectives are not compatible with either of them, (27). [6]

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[6] It must be acknowledged that these diagnostics are problematic. As Kennedy & McNally (2005) show, maximizers have an additional use in which they are roughly synonymous with *very,* (i). The true maximality use is distinguished because it entails that the end of a scale has been reached. Therefore, an example like #*The line is totally straight, though you can make it straighter* is a contradiction. Examples like (iia) and (iib) are not contradictory, vs. (iib').
(i)   a. I am totally intrigued.
             b. Está completamente tonto (lit. *he is completely stupid*).
(ii)   a. I'm totally intrigued by bowling, and Kim is even more intrigued by it than I am.

(26) Totally-closed A: un   vaso {completamente / ligeramente}{lleno / vacío}
                         a   glass {completely   slightly}   {full   empty}
                         'a {completely / slightly} {full / empty} glass'

(27) Open-scale A:
      *un niño {completamente / totalmente / ligeramente}   {alto / inteligente / gordo…}
      a   boy {completely   / totally   / slightly}   {tall/ intelligent/ fat}
      'a {completely / totally / slightly} {tall / intelligent / fat} boy'

4.2. Standard of comparison: relative vs. absolute adjectives

According to Kennedy and McNally (2005), adjectives can also be classified into *relative* and *absolute* depending on the way their standard of comparison is established (for different ways of understanding the *relative/absolute* distinction, see McNally 2011, Toledo & Sassoon 2011).

Relative adjectives, like *alto* 'tall'*,* have a context-dependent interpretation. In order to determine the truth of (28), a *standard value* for the property relative to a *comparison class* must be established: if the boy is 150 centimeter tall, the sentence will be true if the comparison class consists of four-year-old children, since the height of the boy probably exceeds the standard degree value for that class; it will be possibly false if the comparison class is comprised of eight-year-old children playing in a basketball team. Relative adjectives, according to Kennedy and McNally, give rise to entailments like (29). Similarly, with relative adjectives, sentences like (30) are not contradictions, since the truth conditions of the sentence are based on the comparison classes established for each use of the adjective:

(28) Ana vio a un niño {alto / inteligente / delgado}.
      Ana saw to a   boy   {tall / intelligent / thin}
      'Ana saw a {tall / intelligent / thin} boy.'

(29) a. Ana vio a un niño más {alto / delgado} que los demás --/-->
         Ana saw to a boy   more {tall / thin}   than the others
         Ana vio a un niño {alto / delgado}.
         Ana saw to a boy   {tall / thin}
         'Ana saw a boy {taller / thinner} than the others' --/-> 'Ana saw a {tall / thin} boy.'
      b. Ana vio a un político   más inteligente que los demás --/->
         Ana saw to a politician more intelligent than the others
         Ana vio a un político   inteligente.
         Ana saw to a politician intelligent
         'Ana saw a politician more intelligent than the others' --/-> 'Ana saw an intelligent politician.'

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b. Eres completamente tonto, pero tu hermano es todavía más tonto que tú (lit. *you are completely stupid, but your brother is even more stupid than you*).

b'. #Este vaso está completamente lleno, pero ese está más lleno (lit. *this glass is completely full, but that one is fuller*).

Similarly, a degree modifier like *completamente* is compatible with adjectives lacking a maximal degree when it quantifies over entities other than degrees. As Toledo & Sassoon (2011b: 145, fn 7) note, degree modifiers can quantify over different sort of entities: "For example, *completely different* can be interpreted as conveying 'different in every respect'; hence, in this example, *completely* operates over a domain of 'respects', rather than over degrees".

(30) a. Estos niños altos son jugadores de baloncesto bajos.
    these boys tall are players of basketball short
    'These tall boys are short for basketball players.'
  b. Este niño de dos años alto no es una persona alta.
    this boy of two years tall not is a person tall
    'This tall two-year-old boy is not a tall for a person.'
  c. Este jugador de sumo delgado no es una persona delgada.
    this player of sumo thin not is a person thin
    'This thin sumo wrestler is not a thin person.'
  d. Este jugador de fútbol inteligente no es un entrenador inteligente.
    this player of football intelligent not is a coach intelligent
    'This intelligent football player is not an intelligent coach.'
  e. Este elefante pequeño no es un animal pequeño.
    this elephant small not is an animal small
    'This small elephant is not a small animal.'

The interpretation of absolute adjectives, by contrast, is not context-dependent. Consider the lower-closed adjective *húmedo* ('wet'). The example in (31a), *Una toalla húmeda* ('a wet towel'), implies that the towel has a non-zero degree of wetness, so that the standard value required to interpret the predicate is the minimal degree value on the scale. These adjectives are called *minimal-standard adjectives*. In a similar way, (31b), *una toalla seca* ('a dry towel') means that the towel has the maximal value on the scale of the relevant property. *Seca* is thus in this case a *maximal-standard adjective*. Absolute adjectives, therefore, do not require a standard value relative to a contextually determined comparison class in order to be interpreted. For a towel to be wet or dry, it is not necessary to compare the towel to other more or less wet/dry things. The standard value needed to evaluate the predication is the minimal or maximal degree value on the scale that the adjective expresses. With absolute adjectives, sentences like (32) are contradictions.

(31) a. una toalla húmeda
    a towel wet
    'a wet towel'
  b. una toalla seca
    a towel dry
    'a dry towel'
(32) a. Esta tela húmeda es una hamaca seca.
    this cloth wet is a hammock dry
    'This wet piece of cloth is a dry hammock.'
  b. Esta tela seca es una toalla húmeda.
    this cloth dry is a towel wet
    'This dry piece of cloth is a wet towel.'

Kennedy and McNally (2005), note that, although the scalar properties of adjectives and the kind of standard of comparison they have are distinct semantic properties, there exists a strong correlation between them. Open-scale adjectives (*alto*, 'tall') are relative adjectives, with context-dependent standards. This correlation is exception-less. Totally and partially closed-scale adjectives are generally absolute adjectives whose standard of comparison is tied to the maximal or minimal point of the scale they express. For example, the lower-bound adjective *húmedo* ('wet') has a

minimal-standard; the upper-closed adjective *seco* ('dry') has a maximal standard, as we have shown above.[7] Therefore adjectives like *alto* will be referred to as open-scale/relative adjectives; adjectives like *húmedo* or *seco* will be classified as closed-scale/absolute adjectives (in the following, we will use for short the terms *relative* and *absolute* adjectives).

Now that we have introduced the difference between open-scale/relative adjectives and closed-scale/absolute adjectives, we will show, in the following section, how the scalar properties of adjectives determine their combination with the copulas *ser* and *estar*. Section 6 will be devoted to analysing the properties of those adjectives that can combine with both copulas. In §8 we will explore the composition of aspect and the interpretation of subjects in copular sentences.

5. *Ser/estar* and the gradability properties of adjectives

Our proposal is that the scalar properties of adjectives determine their combination with copular verbs in Spanish. Specifically, our claim is that *estar* combines with absolute adjectives, whose standard of comparison is the minimal or maximal degree value on the scale they express; and *ser* combines with relative adjectives, whose standard of comparison is contextually determined. Considering the examples analysed in the previous section, absolute adjectives like *(pared) {seca / húmeda / recta}* ('{dry / wet / straight} wall') combine with *estar*, (33a); relative adjectives like *(niño) {alto, delgado, inteligente}* ('{tall / thin / intelligent} boy') combine with *ser*, (33b) (recall that adjectives like *alto / delgado* are claimed to combine naturally with both *ser* and *estar*; *inteligente* is generally combined with *ser*, although it can co-occur with *estar* in certain contexts; the combination of these adjectives with *estar* will be dealt with in §6).

(33)   a. La pared está {seca / húmeda / recta}   [absolute adjectives]
          'The wall is$_{ESTAR}$ {dry / wet / straight}.'
       b. Juan es {inteligente / alto / delgado}   [relative adjectives]
          'Juan is$_{SER}$ {intelligent / tall / thin}.'

---

[7] However, nothing blocks the possibility of a closed-scale adjective having a relative standard of comparison. In fact, an adjective like *transparente* (*vestido transparente* 'transparent dress') seems to be a closed-scale but relative adjective (thanks to V. Demonte for suggesting this example):
(i)   Un   vestido completamente transparente.
          a   dress   completely   transparent ('a completely transparent dress')
(ii)   En la cocina, pon una cortina más transparente que   la   del   salón --/->
          in the kitchen,   put   a   curtain more transparent than   of   the-of   living-room
          pon una   cortina   transparente.
          put a   curtain   transparent
          'In the kitchen, put a curtain more transparent than that of the living-room --/-> Put a transparent curtain in the kitchen.'
These kind of cases should be investigated to explore whether it is the scalar structure of the adjective *per se* or the property of having a context-dependent standard of comparison or a fixed one (that is, the relative vs. absolute distinction) that determines the distribution of adjectives with the copular verbs. Note that precisely this debate has taken place with respect to degree achievements. Authors like Rothstein & Winter (2004) argue that the scale structure of adjectives (that is, the fact that the adjective has an open-scale vs. a closed-scale) determines telicity in deadjectival verbs. Kearns (2003) claims that deadjectival verbs are telic or atelic depending on the standard value of the adjectival base: adjectives with relative standards give rise to atelic deadjectival verbs; adjectives with absolute standards give rise to telic deadjectival verbs. Some authors claim that both proposals are on the right track, by virtue of the correlation stated in the text. Exploring this issue is a matter for further research.

Crucially, absolute and relative adjectives give rise to different entailment patterns in copulative sentences, as noted by Kennedy and McNally (2005). Minimal-standard adjectives give rise to the entailment pattern in (34a). If the standard for *húmedo* 'wet' (in *suelo húmedo* 'wet floor', *encimera húmeda* 'wet counter') lies on a minimum endpoint, the comparative entails that the floor's wetness exceeds that standard and the floor therefore counts as wet. Maximal-standard adjectives give rise to the entailment in (34b). If the standard of *seco* (in *suelo seco, encimera seca* 'dry floor/counter') lies on a maximum endpoint, the comparative entails that the counter does not reach that maximum and therefore is not dry.

(34)   a. Minimal-standard adjectives: X is more ADJ than Y → X is ADJ
            El   suelo está más húmedo que   la encimera → El suelo está húmedo
            the floor is$_{ESTAR}$ more wet   than the counter   the floor is$_{ESTAR}$ wet
            'The floor is wetter than the counter' → 'The floor is wet.'
        b. Maximal-standard adjectives: X is more ADJ than Y → Y is not ADJ
            El   suelo está más seco que la   encimera → La encimera no está seca
            the floor is$_{ESTAR}$ more dry   than the counter   the counter not is$_{ESTAR}$ dry
            'The floor is drier than the counter' → 'The counter is not dry.'

Since relative adjectives select a contextual midpoint standard (in an open-scale), they give rise to entailments like (35). The comparative means that Juan is taller/thinner than Pedro, but it does not entail that either of them is above or below the selected contextual standard.

(35)   Relative adjectives: X is more ADJ than Y --/-> X/Y is (not) ADJ
        Juan es más {alto / delgado / inteligente} que   Pedro --/->
        Juan is more {tall / thin /   intelligent} than Pedro
                {Juan / Pedro} (no) es {alto / delgado / inteligente}
                {Juan / Pedro} (not) is {tall / thin /   intelligent}
        'Juan is {taller / thinner /more intelligent} than Pedro' --/-> '{Juan / Pedro} is (not) {tall / thin / intelligent}.'

Let us return to the generalizations presented in §2 regarding the distribution of adjectives with the copulas *ser/estar*. Recall that adjectives like *cauto, discreto,* (1c), repeated here as (36a), are claimed to combine with *ser* (the use of these adjectives with *estar,* recall (6), will be analysed in the following section). If our proposal is on the right track, these lexical items should behave like open-scale/relative adjectives with respect to the diagnostics stated above. (36b) shows that these adjectives indeed express an open-scale, since combination with proportional modifiers is not possible. And the entailment patterns in (37) show that *cauto, discreto* are relative adjectives.

(36)   a. Juan es {cauto / discreto}. (*Juan está {cauto / discreto})
            'Juan is$_{SER/*ESTAR}$ {cautious / discreet}.'
        b. *Un niño {completamente / ligeramente} {cauto /   discreto}.
            a boy {completely /   slightly}   {cautious / discreet}
            'A {completely / slightly} {cautious / discreet} boy.'
(37)   Este médico{cauto /   discreto} no es una persona {cauta /   discreta}.
        this doctor {cautious / discreet} not is a   person {cautious / discreet}
        'This {cautious / discreet} doctor is not a {cautious / discreet} person.'

The entailment patterns in (38) show that these adjectives (let us take *cauto* to illustrate) behave as relative adjectives in copular structures.

(38)   Relative adjectives: X is more ADJ than Y --/-> X/Y is (not) ADJ
        a. Juan es más cauto   que Pedro --/-> {Juan /Pedro} (no) es cauto
          Juan is$_{SER}$ more cautious than Pedro   {Juan /Pedro} (not) is$_{SER}$ cautious
          'Juan is more cautious than Pedro' --/-> '{Juan / Pedro} is (not) cautious.'
        b. Juan es más cauto que Pedro, aunque los dos son incautos.
          'Juan is more cautious than Pedro, although both are incautious.'

By contrast, adjectives claimed to combine only with *estar* –recall the examples in (2), also (39)– are absolute adjectives; *cf.* also *Un jugador de fútbol enfermo es una persona enferma* ('An ill football player is an ill person'); *Un jugador de baloncesto cansado es un hombre cansado* ('A tired basketball player is an ill person'); *Un vaso lleno es un recipiente lleno* ('A full glass is a full container'). *Enfermo* ('ill'), *cansado* ('tired'), *lleno* ('full') and *vacío* ('empty') are all adjectives with scale closures, as shown in (40). The entailment patterns in (41) show that these adjectives (let us illustrate with *cansado* and *lleno*) behave like absolute adjectives in copular sentences.

(39)   Juan {está / *es} {cansado / enfermo}; El vaso {está / *es} {lleno / vacío}.
        'Juan is$_{ESTAR/*SER}$ {tired / ill}'; 'The glass is$_{ESTAR/*SER}$ {full / empty}.'
(40)   ligeramente {cansado / enfermo}; completamente {lleno / vacío}
        'slightly {tired / ill}'; 'completely {full / empty}'
(41)   a. Minimal standard adjectives: X is more ADJ than Y → X is ADJ
          Juan está más cansado que Pedro → Juan está cansado.
          'Juan is$_{ESTAR}$ more tired than Pedro'→'Juan is tired.'
        b. Maximal standard adjectives: X is more ADJ than Y → Y is NOT ADJ
          El vaso está más lleno que la taza →La taza no está llena.
          the glass is$_{ESTAR}$ more full than the cup   the cup not is$_{ESTAR}$ full
          'The glass is fuller than the cup'→'The cup is not full.'

Finally, non-scalar adjectives combine with *ser,* (42) (recall 1b).[8]

(42)   Ese edificio es   municipal; El periódico es   semanal.
        that building is$_{SER}$ municipal; the newspaper is$_{SER}$ weekly

Adjectives like *auténtico* ('authentic')*, falso* ('forged') or *capaz* ('able'), (recall 1a and 7), which combine only with *ser,* also seem to be non-scalar. These adjectives do not tolerate degree modifiers or appear in comparative sentences.

(43)   a.*Este diamante es   muy auténtico.
          this   diamond is$_{SER}$ very authentic
        b. *Este cuadro   de Picasso es   más   auténtico que aquel.
          this   painting by Picasso is$_{SER}$ more   authentic than   that (one).
        c. *El águila es más capaz   de volar que el pingüino.
          the eagle   is$_{SER}$ more capable of   fly   than the penguin

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[8] In this sense, classifying adjectives combine always with *ser:*
(i)   Esa ballena es   azul; El   vino es   blanco.
        this   whale   is$_{SER}$ blue; the   wine   is$_{SER}$ white

To summarize, in this section we have shown that open-scale/relative adjectives combine with *ser* and closed-scale/absolute adjectives combine with *estar*. It is interesting to note that this proposal is supported by some recent studies in language acquisition, namely Holtheuer (2003), who shows that children are sensitive to the relative / absolute distinction when they use copular verbs with adjectives in Spanish.

Nothing has been said up to this point with respect to adjectives that combine with both copulas. In the next section we will show that not only adjectives like *alto* ('tall'), *pequeño* ('small') and *delgado* ('thin') combine with *ser* and *estar*, as has been claimed in the literature; also adjectives like *seco* ('dry', 'rough') (described as an adjective that combines with *estar*), on the one hand, and *capaz* ('capable, able') and *fiel, leal* ('faithful, loyal') (regarded as adjectives that combine exclusively with *ser*), on the other, can combine with either copula in certain contexts. Crucially, these adjectives behave as relative when combined with *ser*, and as absolute when combine with *estar*. The analysis of these cases will lead us to suggest that the relative/absolute distinction is a property that is not lexically encoded in adjectival elements, but rather introduced in the syntax by functional structure. Therefore, any adjective could, in principle, receive an interpretation as a relative or absolute adjective. Consequently, we expect that any adjective can combine with *ser* and *estar*.

6. Adjectives that combine with *ser* and *estar*

As noted in §2 (recall (3)), there are adjectives that can combine naturally with either *ser* or *estar*. Adjectives like *alto* ('tall'), *bajo* ('short') and *inquieto* ('nervous') combine with either of the copulas without any change in the dimension expressed, (44).

(44) a. El niño {es /está} {alto / bajo}.
          'The boy is $_{SER/ESTAR}$ {tall / short}.'
      b. Juan {es /está} inquieto.
          'Juan is$_{SER/ESTAR}$ nervous.'

However, crucially, when combined with *ser,* these adjectives show a *relative* behaviour; by contrast, when combined with *estar,* they show an *absolute* behaviour, as corroborated by the entailment patterns they give rise to, (45)-(46).[9]

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[9] Note that the alternation between the two copulas is sometimes restricted by the kind of subject selected in the construction, as the contrast between (i) and (ii) shows.
(i)   a. La niña es {grande / pequeña}. – b. La niña está {grande / pequeña}.
          the girl is$_{SER}$ {big /   small}   *the girl is$_{ESTAR}$ {big /   small}*
          'The girl is$_{SER/ESTAR}$ {tall / short}.'
(ii)   a. La casa es {grande / pequeña}. – b.*La casa está {grande / pequeña}.
          the house is$_{SER}$ {big /   small}   *the house is$_{ESTAR}$ {big /   small}*
          'The house is$_{SER/*ESTAR}$ {big / small}.'
   In (ia), it is claimed that the girl is tall (lit. 'big') with respect to a context-dependent comparison class (e.g. little girls at school); in (ib), *grande* (lit. 'big') is interpreted as an absolute adjective, with a fixed, non-context-dependent, standard value: the standard value will be the minimal degree of the property in this case –this fixed degree seems to be established according to a specific discourse context, cf. Maienborn (2005). The sentence means, thus, that the girl has a non-minimal degree of the property 'bigness' relative to a discourse-specific situation. Note that (iib) becomes grammatical if a discourse situation is built that makes it possible to attribute to the house a non-minimal degree in a closed scale of 'bigness' –as would be the case in a magic show in (iii)–. The fact that no comparison class is needed to evaluate the property in (ib) and (iib) is behind the claim made by Falk (1979) that ambivalent adjectives combined with *ser* indicate a comparison between an entity and other entities of

(45)   a. Mi hija   es   más alta que   tu   hijo, pero ella no es alta.
           my daughter is$_{SER}$ *more tall than your son, but she not is*$_{SER}$ *tall*
           'My daughter is taller than your son, but she is not tall.'
      b. *Mi hija   está   más alta que tu   hijo, pero ella no está   alta.
           my daughter is$_{ESTAR}$ *more tall than your hijo, but she not is*$_{ESTAR}$ *tall*

(46)   a. Mi hijo es   más inquieto que   el tuyo, aunque   los dos son
           my son is$_{SER}$ *more restless than the yours, although the both are*$_{SER}$
           niños tranquilos.
           boys calm
           'My son is more restless than yours, although both of them are calm boys.'
      b. *Mi hijo está   más inquieto que el   tuyo, aunque   los dos están
           my son is$_{ESTAR}$ *more restless than the yours, although the both are*$_{ESTAR}$
           tranquilos.
           calm

Within the pool of adjectives that combine with both copulas, as stated in §2, there are adjectives like those in (4) and (47) that refer to different dimensions when combined with each of the copulas (sometimes different kinds of subjects are also required in each case).

(47)   a. Juan es malo; El pastel es malo.
         'Juan is$_{SER}$ bad'; 'The cake is$_{SER}$ bad (it is of bad quality).'
      a'. Juan está malo; El pastel está malo.
         'Juan is$_{ESTAR}$ ill (lit. bad)'; 'The cake is$_{ESTAR}$ bad (it tastes bad).'
      b. Juan es bueno; El pastel es bueno.
         'Juan is$_{SER}$ good'; 'The cake is$_{SER}$ good (it is of good quality).'
      b'. Juan está bueno; El pastel está bueno.
         'Juan is$_{ESTAR}$ handsome (lit. good)'; 'The cake is$_{ESTAR}$ bad (it tastes bad).'

Crucially, these adjectives are absolute when combined with *estar* and relative when combined with *ser*, as shown in the entailments in (48).[10]

(48)   a. Mi pastel es   {más malo / peor} que el tuyo,
        my cake is$_{SER}$ *{more bad / worse} than the yours,*
        aunque   ambos son   buenos.
        although both are$_{SER}$ *good*
        'My cake is$_{SER}$ worse than yours although both are$_{SER}$ good.'
      b. #Mi pastel está   más malo que el   tuyo.
        my cake is$_{ESTAR}$ *more bad   than the yours*

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its class (general norm), whereas ambivalent adjectives combined with *estar* describe a comparison between the actual state of an entity and what we consider habitual for that entity (individual norm).
(iii)   Cuenta 1, 2, 3 y la casa estará pequeña
        'Count one, two, three… and the house will be$_{ESTAR}$ small.'
[10] The use of *estar* in examples like *El pastel está {malo / bueno}* ('The cake is$_{ESTAR}$ {good / bad}'), *El jamón serrano está delicioso* ('This serrano-ham is$_{ESTAR}$ delicious') have been dubbed *evidential* in the literature. As an anonymous referee notes, in these examples, the temporal point of the sentence refers to the perception of the state by the speaker, but the property is assumed to refer to the individual. These examples pose a challenge for the analysis of the adjectival complements of copular verbs in terms of individual vs. stage adjectives, but not to the proposal developed in the text. However, how to derive the evidential reading within our proposal is unclear to us at this point.

aunque   ambos   están   buenos.
*although   both   are*ᴇꜱᴛᴀʀ *good*

c. Mi pastel está   más malo que el   tuyo → Mi pastel está malo.
*my   cake is*ᴇꜱᴛᴀʀ *more bad   than the yours   my   cake   is*ᴇꜱᴛᴀʀ *bad*
'My cake is worse than yours'→ 'My cake is bad.'

At this point, it is important to note that even adjectives that have been claimed to combine only with *ser* can be found in combination with *estar,* and, conversely, adjectives that have been claimed to combine only with *estar* can be combined with *ser*. Let us take this second case first.

Consider an adjective like *seco* ('dry') in (49a). Although *seco* was classified as a closed-scale/absolute adjective in §4, and behaves as such when combined with *estar* –recall (34); also (49b)– examples like (50) where *seco* combines with *ser* are also possible. Admittedly, in (50a), *seco* ('brusque') refers to a different dimension and requires an animate (human) subject. In (50b), on the other hand, the adjective refers to the same dimension as in (49). Crucially, *seco* in *un tipo seco* ('a brusque fellow') or *un clima seco* ('a dry climate') is interpreted as a relative, and the adjective also behaves as relative in the copular structures of (50), as shown in the entailments in (51).

(49)   a. El suelo está seco.
            'The floor isᴇꜱᴛᴀʀ dry.'
        b. El   suelo está más seco que la   encimera
           *the floor is*ᴇꜱᴛᴀʀ *more dry   than the counter*
           → La   encimera no   está seca.
              *the   counter   not is*ᴇꜱᴛᴀʀ *dry*
           'The floor is drier than the counter'→ 'The counter is not dry.'
(50)   a. Juan es   seco.
            *Juan is*ꜱᴇʀ *dry*
            'Juan is very brusque.'
        b. El clima es seco.
           'The climate isꜱᴇʀ dry.'
(51)   a. Juan es más seco   que Pedro aunque   los dos   son sociables.
            *Juan is*ꜱᴇʀ *more dry   than Pedro although the both are friendly*
            'Juan is more brusque than Pedro although both are friendly.'
        b. El   clima   de Lisboa es   más seco que   el   de Barcelona,
           the climate of Lisbon is ꜱᴇʀ *more dry   than   the of Barcelona,*
           pero ninguno de los dos es seco.
           but   none   of the two is   dry
           'The climate of Lisbon is drier than the climate of Barcelona, but neither of them is dry'

Finally, remember that some of the predicates included in the group of adjectives that combine with *ser* can co-occur with *estar* in certain syntactic environments, (52), recall (6). Although we cannot provide a proposal about what these syntactic environments have in common (exclamative sentences, predications linked to a definite temporal point, etc.), it is crucial to point out that these adjectives show

absolute behaviour with respect to the diagnostics used in this paper when combined with *estar*, (53).[11]

(52) a. ¡Qué inteligentes están   los alumnos (hoy)!
           how clever   are$_{ESTAR}$ the students (today)!
      b. Hoy   Juan está capaz   de todo.
           today Juan is$_{ESTAR}$ capable   of everything
      c. Desde que ella fue descubierta, tú   estás   muy leal al   presidente.
           since   that she was discovered, you   are$_{ESTAR}$ very loyal to.the president
           'Since she was discovered, you have been very loyal to the president.'

(53) a. Ana es más inteligente que Juan, pero Ana no es   inteligente.
           Ana is$_{SER}$ more intelligent than Juan, but   Ana   not is$_{SER}$ intelligent
           'Ana is more intelligent than Juan, but Ana is not intelligent.'
      b. *Hoy Ana está más   inteligente que   Juan,
           today Ana is$_{ESTAR}$ more intelligent than Juan,
           pero Ana no   está inteligente.
           but Ana not   is$_{ESTAR}$ intelligent

Data like (52) have been accounted for in terms of *coercion* in those proposals that argue that the distribution of adjectives with *ser* and *estar* is explained on the basis of the IL/SL distinction. Adjectives like *leal* ('loyal') or *inteligente* ('intelligent') are classified as IL adjectives, therefore they are combined with *ser*. When combined with *estar*, IL adjectives are *coerced* into a SL reading. As proposed by Escandell and Leonetti (2002: 163), "coercion is a reinterpretation process set up to eliminate the conflicts between the semantic content of a constituent and the requirements of other elements in the same construction".

Within the proposal developed in this paper, analysing these kind of examples as cases of coercion would have the following implications: (a) adjectives are lexically either relative (e.g. *alto* 'tall', *inteligente* 'intelligent') or absolute (e.g. *seco* 'dry') (being relative or absolute is thus a lexical property of adjectives); (b) *ser* and *estar* select for relative and absolute adjectives respectively; copular verbs have thus selection properties related to the scalar properties of their complements; (c) *ser* and *estar* trigger coercion of their adjectival complements: *ser* coerces absolute adjectives into relative ones, (50); and *estar* coerces relative adjectives into absolute ones by fixing their standard of comparison (hence bounding the scale). Alternatively we would have to assume that many adjectives are lexically both relative and absolute, in order to explain how the selectional restrictions of the copular verbs are satisfied.

However, we would like to adopt a different theoretical perspective about the set of data discussed in this section that avoids arguing for a double lexical classification of adjectives as relative and absolute, and also avoids *massive coercion*. We think that the fact that many adjectives show variable behaviour with respect to their classification as relative or absolute adjectives (hence the possibility of combining them with both copulas) is better accounted for if an exo-skeletal analysis of these

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[11] Note that this coercion process is not possible with eventive subjects:
(i)   Juan es descortés.
            'Juan is$_{SER}$ impolite.'
(ii)   En la fiesta, Juan estuvo muy descortés con ese comportamiento.
            'In the party, Juan was$_{ESTAR}$ very impolite with that behaviour.'
(iii)   Su comportamiento {fue / *estuvo} muy descortés.
            'His behaviour was$_{SER/*ESTAR}$ very impolite.'

scalar properties is adopted. Being relative or absolute should be considered, thus, not an intrinsic lexical property of adjectives but rather a property built up in the syntax.

6.1. Variable behaviour of adjectives. An exo-skeletal approach

Exo-skeletal approaches to the scalar properties of adjectives, whereby the scale structure of adjectives is not part of the adjective's lexical representation, have been adopted in Park (2008) and Husband (2010). Let us briefly present Husband's (2010) ideas, developed to account for the variable behaviour of an adjective like *dry* in English. As already noted in Kennedy and McNally (2005), *dry* behaves as a relative adjective in (54) and as an absolute one in (55).[12]

(54) a. This region of the country is drier than that one (though both are dry).
　　　 b. This region of the country is not dry (but it's not wet either).
(55) a. The glasses are drier than the plates (#though both are dry).
　　　 b. The glasses are not dry (#though they're not wet either).

Kennedy (1999) analyses adjectives as measure functions (type <e,d>). To derive properties of individuals from measure functions, Kennedy proposes that adjectives are combined with a null degree morpheme that gives rise to the positive form of the adjective. The denotation of the *pos* morpheme is offered in (56). The *pos* morpheme creates a property of individuals and also introduces the standard of comparison via the relation *R*. *R* is the relation that holds between the degree returned by the measure function $g(x)$ and the standard of comparison, *d*. Since the relation *R* depends in part on the scale structure of the adjective (remember the correlation between closed-scale adjectives and absolute standards and open-scale adjectives and relative standards), there is an interaction between the *pos* morpheme and the scale structure of the adjective.

(56) $[\![\,pos\,]\!] = \lambda g \in D_{<e,d>} \ \lambda d \lambda x \ [\boldsymbol{R} \ (g(x)) \ (d)]$

Husband (2010: 150) claims, in order to explain the variable behaviour of *dry*, "that there are multiple *pos* morphemes in the grammar, but that adjectives themselves do not encode a scale structure as part of their lexical representations. Instead, the grammar allows all adjectives to occur freely with any *pos* morpheme". *Pos-open*, (57a), gives rise to open-scale/relative adjectives. These adjectives express a property of individuals such that the measurement of the individual with respect to the dimension of the scale is greater than some contextually provided standard of comparison. *Pos-lower-closed*, (57b), and *Pos-upper-closed*, (57c), give rise to lower-closed-scale/absolute adjectives and upper-closed-scale/absolute adjectives. These adjectives express a property of individuals such that the measurement of that individual with respect to the dimension of the scale is greater than the minimum on

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[12] Deverbal adjectives are expected not to show a free variable behaviour if, as Kennedy & McNally (1999) claim, their scalar structure is related to the event structure of the verb they are derived from (see Gallego & Uriagereka 2009). Park (2008) notes that adjectives show variable behaviour even with respect to the property of being scalar/non-scalar, (i), (ii). For her, gradability *per se* is carried by functional structure.
(i)　　　{El vaso / Juan} es japonés.
　　　　 '{The glass / Juan} is Japanese.' (relational adjective, non-scalar)
(ii)　　　{Juan / El　vaso} es muy　japonés.
　　　　 {Juan / the　glass} is very　Japanese
　　　　 'Juan behaves in a Japanese manner'; 'The glass has a Japanese style.'

the scale, in the former case, and at the maximum point on the scale, in the latter (Husband 2010: 144-145).

(57)   a. $[\![\,\text{pos}_{\text{open}}\,]\!] = \lambda g \in D_{<e,d>}\ \lambda x\ [(g(x)) \geq \textbf{stnd}(g)]$
       b. $[\![\,\text{pos}_{\text{lower-closed}}\,]\!] = \lambda g \in D_{<e,d>}\ \lambda x\ [(g(x)) > \textbf{min}(g)]$
       c. $[\![\,\text{pos}_{\text{upper-closed}}\,]\!] = \lambda g \in D_{<e,d>}\ \lambda x\ [(g(x)) = \textbf{max}(g)]$

So, returning to *dry,* Husband (2010:150) claims that it can occur with any *pos* morpheme in the grammar. When *dry* combines with *pos*$_{\text{open}}$, a relative standard is required and the concept underlying *dry* coerces to allow an open-scale meaning. When *dry* occurs in the environment of *pos*$_{\text{upper-closed}}$, a maximal absolute standard is required and the concept underlying *dry* coerces to allow this meaning.[13]

Under this account, the scalar properties of *dry,* or any adjective, are seen as a consequence of it occurring in the environment of a particular type of *pos* morpheme. In this paper, we will analyse the *pos* morpheme as the head of a syntactic projection DegP, merged above AP. With respect to the copula, we claim that the verbs *ser* and *estar* are V heads, spell-out reflexes of the scalar properties of the adjective (remember that variable scalar behaviour of adjectives also obtains in non-predicative contexts, when the adjective is a modifier inside the DP, and therefore it is not the copular verb which triggers the relative/absolute character of the adjective). Let us turn to the syntax of copular sentences in the next section. Aspectual composition in copular sentences will be examined in §8.

7. The syntax of copular sentences

The syntactic structure of copular sentences that we will take as a point of departure to account for aspectual compositionality in these structures is that shown in (58). In the previous section we have argued for the proposal that scalar properties of adjectives are severed from lexical items themselves, and encoded in a syntactic projection DegP, whose head is the *pos* morpheme. Consequently, a lexical item like *seco* ('dry')*, alto* ('tall'), or indeed any adjective, can be interpreted as a relative or absolute adjective. With respect to the distribution of adjectives with the copular verbs, we assume that *ser* and *estar* are generated as Vs. They are thus lexical (although meaningless) verbs, and not auxiliaries generated in T (see, among others, Adger & Ramchand 2003, for the predicative copula in Irish; Matushansky 2002, for *seem* in English).[14] *Ser* and *estar* are generated in the same position and project the

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[13] The fact that some adjectives do not show (totally free) variable behaviour in this respect must be related to the inability of the concepts that the adjectives evoke to be modeled according to the scalar requirements imposed by the *pos* morpheme (moreover, as Husband 2010 claims, it must be accepted that extralinguistic factors play a role in our acceptability judgments).

[14] The most widespread proposal for the structure of copular sentences claims that the subject of the clause and the adjectival predicate are generated within a Small Clause (the copula is taken to be a verbal node selecting the SC, the head of the SC, or alternatively it is merged in T, as an auxiliary verb). The semantic proposal we will develop in the following section could be adapted to compositionally obtain from a structure like (i), where the copula selects for a SC constituent:

(i)   [$_{\text{SVoice}}$ DP$_i$ [$_{\text{Voice'}}$ Voice [$_{\text{SV}}$ Copula [$_{\text{SC= DegP}}$ t$_i$ [$_{\text{Deg}}$ [pos SA]]]]]]

However, SCs behave syntactically as constituents, contrary to what happens with the complex subject + adjective in copular sentences, as shown in (ii), (iii).
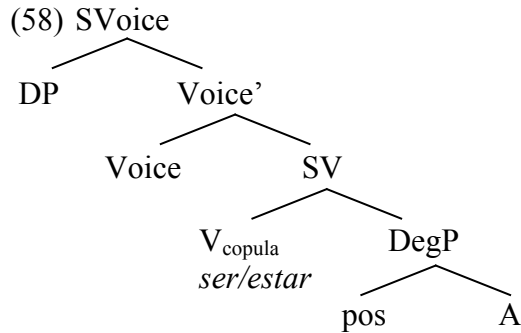
(ii)   A: Tú   consideras a Juan guapo.
         you consider   to Juan handsome
        B: No, yo lo que considero es a Juan listo.
          no, I it that consider is to Juan bright
        'A: You consider John handsome. B: No, what I consider is that Juan is bright'.

same syntactic structure, each of them being a spell-out reflex of the properties of their complements. *Ser/estar* are thus reflections of the essentially meaningless copula of predication argued for in Russell (1919: 119) and Partee (1998), (59). Finally, we follow Kratzer (1996) and Husband (2010) in assuming that the external argument of stative predications is introduced by a Voice head, as is the case of the subject of eventive verbs. Voice introduces the external argument of the copular predication, with the theta role of *holder*.

(58) SVoice

```
        SVoice
       /      \
     DP      Voice'
            /      \
        Voice       SV
                  /    \
            V_copula    DegP
            ser/estar   /  \
                      pos    A
```

(59) $[\![be_{pred}]\!] = \lambda P \lambda x[P(x)]$

   In the following section, taking (58) as a basis, we will account for aspectual composition in copular sentences.

8. Aspectual composition in copular sentences

   In this section we will try to explain how aspect is borne out in copular structures, if the copulas (*ser* and *estar*) are aspectually inert, as we claim.[15] As was stated in §3, *ser*-predications denote individual-level states –that is, homogeneous states–and *estar* predications denote stage-level states –that is, quantized states; accordingly, indefinite subjects may have a generic reading in sentences with *ser*-predications, and they are existentially interpreted in sentences with *estar*-predications, as shown in (18), and also in (60), (61) and (62).

(60)   a. Un niño es alto.
         'A boy is_SER tall.'
         b. Un vaso está lleno.
         'A glass is_ESTAR full.'
(61)   a. Un jugador de baloncesto es alto.
         b. Un jugador de baloncesto está alto.
            'A basketball player is_SER / is_ESTAR tall.'
(62)   a. Una botella de whiskey es oscura.
            'A whiskey bottle is_SER dark.'
         b. Una botella de whiskey está llena.
            'A whiskey bottle is_ESTAR full.'

(iii)   A: Juan es guapo.
             Juan is   handsome
          B: *No, lo que es es Juan listo.
             no, it   that is   is Juan bright
          'A: Juan is nice. B: No, what it is, is that Juan is bright.'

[15] This section basically constitutes an extension, reformulated and adapted in some respects, of Husband's (2010) ideas about aspectual composition in copular *be*-sentences in English.

In this section we show, as already noted in §3 following Husband's (2010) ideas, that the aspectual/quantificational properties of the *ser/estar*-predications derive homomorphically from the scale structure of the adjectives selected by the stative verbs (remember that *ser/estar* are aspectually inert in our proposal). In (60a), (62a) *alto* 'tall' and *oscuro* 'dark' are open-scale/relative adjectives; in (60b), (62b) *alto* 'tall' and *lleno* 'full' are closed-scale/absolute adjectives. As claimed by Husband, scale structure is a special type of part-structure sensitive to quantization (open-scales are homogenous and closed-scales are quantized) that is mapped to the part-structure of the state. The part-structure of the state is subsequently mapped to the part-structure of the subject, giving rise to its generic or existential interpretation. In the remainder of this section, we will explain in detail these steps in the semantic interpretation of copular sentences; we will take examples (60) to illustrate.

8.1. Homogeneous and quantized scales

Let us begin by showing how the notions of *homogeneous* and *quantized* are applied to *scale structure*. In order to understand the notion of *part of a degree* or *subtraction of degrees,* which is necessary to account for *homogeneity* and *quantization,* Husband (2010) adopts Kennedy's (2011) definition of a *degree*, where degrees are understood as sets, (63). This definition enables the use of natural set-theory operations to define (a) what a part of a degree is and (b) the operations needed to define the part-structure of scales, (64).

(63)   A degree *d* is a convex nonempty subset of a scale S such that
$$\forall p_1, p_2 \in d, \forall p_3 \in S, p_1 < p_3 < p_2 \rightarrow p_3 \in d$$
[Husband 2010: 165, (65)]

(64)   For all degrees d_1, d_2 of a scale S,
a. Part of Degree: $d_2 \leq d_1 =_{\text{def}} d_1 \cup d_2 = d_1$
b. Proper Part of Degree: $d_2 < d_1 =_{\text{def}} d_1 \neq d_2 \ \& \ d_1 \cup d_2 = d_1$
c. Subtraction of Degrees: $d_1 - d_2 =_{\text{def}} d_1 / d_2$
[Husband 2010: 166, (66)]

Let us consider now how Husband applies these definitions to capture the difference between open and closed scales.

Open-scales (*tall*) are cumulative and divisive –remember the definitions in (13)–. For the scale of *tall* to be cumulative, any two degrees of tallness must union to be a degree of tallness. Assume that the examples in (65), where two individuals are presented, Anthony *a* and Cleopatra *c,* are true. If this is the case, then, as Husband (2010: 166) claims "there is a degree and d_a = tall(a) and a degree d_c = tall(c), and $d_a >$ stnd(tall) and and $d_c >$ stnd(tall). Suppose that Anthony was taller than Cleopatra, such that $d_a > d_c$. Since $d_a \cup d_c = d_a$, and d_a is the degree of Anthony, and (65) is true, then d_a is a degree of tallness." Open-scales are thus cumulative.

(65)   a. Anthony is tall   tall(a) > stnd(tall)
b. Cleopatra is tall   tall(c) > stnd(tall)   [Husband 2010: 166, (67)]

The scale of *tall* will be divisive if any degree of tallness has a proper part which also is a degree of tallness and the subtraction of any two degrees of tallness in which one is a proper part of the other yields a degree which falls under tallness. Let us again quote Husband (2010: 166-167) to explain how divisiveness applies to (65):

Assume again that [(65)a] is true; that is $d_a >$ stnd(tall). Assuming that the scale of height is dense, then there is a degree $d_b < d_a$ such that d_b [is part of] d_a and $d_b >$ stnd(tall) satisfying divisive's first conjunct. Now, as a totally open scale, $S_{height} = (0, \infty)$. As subsets of S_{height}, $d_a = (0, p_a)$, $d_b = (0, p_b)$, and p_b is less than p_a. Then $d_b - d_a = [p_b, p_a)$. Note of course that this interval contains values which are all heights that count as tall, satisfying divisive's second conjunct. Having satisfied both conjuncts, open scales are divisive. Since open scales are both cumulative and divisive, they are homogeneous.

Closed scales, by contrast, are quantized. Consider the adjective *full*. The scale structure of *full* is cumulative if the union of any two degrees of fullness is also a degree of fullness. The scale structure of *full* is divisive if any degree of fullness has a proper part which also is a degree of fullness and the subtraction of any two degrees of fullness in which one is a proper part of the other yields a degree which also falls under fullness. Let us once more quote Husband (2010: 167) in order to show that the scale of *full* is quantized (cumulative, non-divisive).

Cumulative: assume we have two individuals, the bottle b and the cup c, such that the examples in [(66)] are judged true.
(66)   a. The bottle is full.   full(b) = max(full)
         b. The cup is full.   full(c) = max(full)
Then there is a degree $d_b =$ full(b) and a degree $d_c =$ full(c), and $d_b =$ max(full) and $d_c =$ max(full). Note that since the scale of extent is (totally) closed, $S_{extent} = [0,1]$, $d_b = d_c = [0,1]$. Clearly then d_b U $d_c = [0,1]$, which is the maximum degree, and closed scales are cumulative.
Divisive: Assume again that [(66)a] is true; that is $d_b =$ max(full) and $d_c =$ max(full). Since $d_b = [0,1]$, i.e. the maximum degree of extent, then there cannot be a degree d_a such that $d_a < d_b$ and $d_a =$ max(full), as any proper part of d_b will fail to include the maximum point on the scale. As such, closed scales fail to satisfying divisive's first conjunct and are not divisive. Since closed scales are cumulative but not divisive, they are quantized.

8.2. The mapping to homogeneous and quantized states
It is time now to explain how the homomorphism from adjectival scale structure onto the aspectual/quantificational properties of the stative predication works.

According to Husband (2010: 171), the pos_v morpheme encodes this homomorphism between scale structure and eventualities (Kennedy & Levin 2008), (67). Pos_v merges with the adjective, and turns a measure function from individuals to degrees into a property of eventualities; it maps the part-structure of its argument to the part structure of the state (scale to event-structure mapping), (68).[16]

(67) $[\![pos_v]\!] = \lambda g \in D_{m\,\Delta} \lambda e \exists x[g(x)(e) \geq$ stnd(g) & $\forall d'[d' \leq g(x)(e)$ & $d' \geq$ stnd(g) $\rightarrow \exists e'$ [$e' < e$ & $g(x)(e') = d'$]]]
      "For every subdegree which is still at or greater than the standard, the mapping to events proposes the existence of a substate such that the substate is a state of being equal to that degree."

[Husband 2010: 171, (71)]

(68)   <s,t>

      pos$_{v\, <<e,d>,\, <s,t>>}$ A$_{<e,d>}$ [Husband 2010: 172, (72)]

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[16] The type of pos_v is <<e,d>, <s,t>> (and not the usual type for *pos* <<e,d>, <e,t>>). Husband (2010) suggests that it could perhaps be argued that the denotation of adjectives is of type <α,d>, where α ranges over both individuals and states (Husband 2010: 171, footnote 14).

Consider now how this proposal works for *El niño es alto*. The pos_v node maps a measure function into a property of events, introducing a mapping to events. As Husband claims, for every subdegree which is still at or greater than the standard, the mapping to events proposes the existence of a substate, such that it is a state of being equal to that degree. Since *alto* ('tall') is here an open-scale adjective, the homogeneous scale is mapped onto a homogeneous state.

In *El vaso está lleno*, pos_v maps the measure function into a property of events with the addition of a mapping to events; since the scale in this case is quantized, the state itself is quantized.
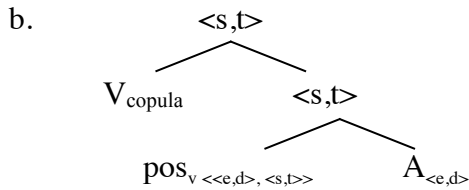
(69) $[\![pos_v \text{ alto}]\!] = \lambda s \exists x[\text{alto}(x)(s) \geq \text{stnd}(\text{alto}) \ \& \ \forall d'[d' \leq \text{alto}(x)(s) \ \& \ d' \geq \text{stnd}(\text{alto}) \rightarrow \exists s' \ [s' < s \ \& \ \text{alto}(x)(s') = d']]]$

(70) $[\![pos_v \text{ lleno}]\!] = \lambda s \exists x[\text{lleno}(x)(s) \geq \text{stnd}(\text{lleno}) \ \& \ \forall d'[d' \leq \text{lleno}(x)(s) \ \& \ d' \geq \text{stnd}(\text{lleno}) \rightarrow \exists s' \ [s' < s \ \& \ \text{lleno}(x)(s') = d']]]$

[Adapted from Husband 2010: 173 (73)]

At this point of the derivation we claim that the copula is merged. As was stated above, we take the copula to be the essentially meaningless copula of predication.

(71) a. $[\![\text{copula}]\!] \ \lambda P_{\{s,t\}} \lambda s.P(s)$
      b.

```
                    <s,t>
                   /     \
          V_copula        <s,t>
                         /     \
    pos_v <<e,d>, <s,t>>      A_<e,d>
```
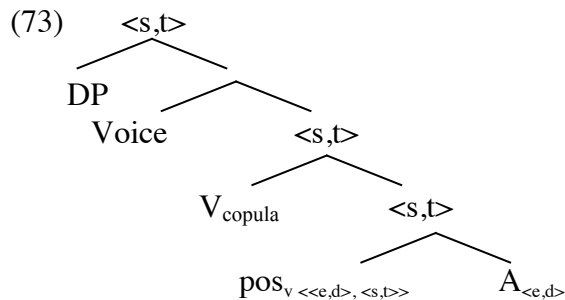
8.3. The interpretation of the subject in copular structures

The stative Voice head, whose denotation, following Husband (2010: 173), appears in (72). This node introduces the external argument and also maps the part-structure of the state onto the part structure of the individual. The composition of the VoiceP is thus (73).[17]

(72) $[\![\text{Voice}_S]\!] = \lambda x \lambda s \ [\text{Holder}(x) \ (s) \ \& \ \forall s' \ [s' \leq s \rightarrow \exists x'[x' \leq x \ \& \ \text{Holder}(x')(s')]]]$

[Husband 2010: 173, (74)]

(73)

```
        <s,t>
       /     \
     DP       \
          Voice    <s,t>
                  /     \
          V_copula       <s,t>
                        /     \
    pos_v <<e,d>, <s,t>>      A_<e,d>
```

Therefore, the whole derivation for the examples *Un niño es alto* ('A boy is tall') and *Un vaso está lleno* ('A glass is full') is shown in (74). The scale-structure of the adjective ultimately determines the aspectual properties of *ser/estar* copular structures:

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[17] DP and Voice are combined via Event Identification (and not via Functional Application) (see Husband 2010: 124). We leave aside the details of this process here.

(74)   a. ⟦Un niño es alto⟧

   λs [Holder($niño$) (s) & ∀s' [$s' ≤ s$ → ∃y'[$y' ≤$ niño & Holder(y')(s')]] & ∃x[alto(x)(s) ≥ stnd(alto) & ∀d'[$d' ≤$ alto(x)(s) & $d' ≥$ stnd(alto) → ∃s' [$s' < s$ & alto(x)(s') = d']]]]

   b. ⟦Un vaso está lleno⟧

   λs [Holder($vaso$) (s) & ∀s' [$s' ≤ s$ → ∃y'[$y' ≤$ vaso & Holder(y')(s')]] & ∃x[lleno(x)(s) ≥ stnd(lleno) & ∀d'[$d' ≤$ lleno(x)(s) & $d' ≥$ stnd(lleno) → ∃s' [$s' < s$ & lleno(x)(s') = d']]]]

[Adapted from Husband 2010: 174, (76)]

9. Conclusions. Further research

In this paper, we have shown that the distribution of the two Spanish copulas, *ser* and *estar*, when combined with adjectival complements, is sensitive to the scalar properties of the adjective. Moreover, we have shown how aspectual composition is built up in copular sentences. The aspectual properties of *ser/estar* structures are derived from the scalar properties of the adjectives that appear in these constructions.

There are however, some empirical questions to be addressed. First, as shown in (75), elative adjectives combine with *ser* and *estar* but, in the former case, do not behave like relative adjectives with respect to the diagnostics stated above. The special scalar properties of this group of adjectives, already described by Cruse (1986), need further investigation.

(75)   a. Ese vestido {es / está} horrible; El perro {es / está} gigantesco.
   'That dress is_SER/ESTAR horrible'; 'The dog is_SER/ESTAR enormous.'
   b. *Ese vestido es más horrible aún que este,
   that dress is_SER more horrible even than this,
   pero ninguno de los dos es horrible.
   but none of the two are_SER horrible

Second, predications with eventive subjects are only possible with *ser*, as shown in (76)-(77). In (76), the adjectives *cansado* ('tired'), *grave* ('seriously ill'), combine with non-eventive subjects and the copula is *estar*. By contrast, the examples in (77) show that when the subject is eventive, the verb must be *ser* in all cases.[18]

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[18] (76a) is well formed using *ser* when the subject *Juan* gets an eventive interpretation (*Juan's attitude is tiring*). It must be noted, as pointed out by an anonymous reviewer, that examples like (i) are possible. In (i), the subject is eventive but *estar* is possible. However, it seems that only a restricted set of adjectives can appear in these kinds of examples: *divertido* ('fun' 'entertaining'), *aburrido* (lit. 'bored' / 'boring'), *interesante* ('interesting'). By contrast, adjectives like *alegre* or *cruel* ('happy', 'cruel') give rise to ungrammatical examples:

(i)   {La boda/ el cumpleaños/ la fiesta / la reunión} {fue /estuvo} {divertida / aburrida /interesante}.
   'The {wedding / birthday / party / meeting} was_SER/ESTAR {fun / boring / interesting}.'

(ii)   {La boda / el cumpleaños / la fiesta / la reunión} {fue / *estuvo} {alegre / cruel}.
   'The {wedding / birthday / party / meeting} was_SER/*ESTAR {happy / cruel}.'

These examples deserve further investigation. What is crucial for the purposes of this paper, as the examples in (iii) and (iv) show, is that the interpretation of the adjective in (i) is relative when the verb is *ser* and absolute when it is *estar*:

(iii)   a. La boda fue más divertida que el cumpleaños, pero los dos fueron aburridos.
   'The wedding was_SER more fun than the birthday party, but both were_SER boring.'
   b. *La boda estuvo más divertida que el cumpleaños, pero los dos estuvieron aburridos.
   'The wedding was_ESTAR more fun than the birthday party, but both were_ESTAR boring.'

(76) a. Juan {*es / está} cansado.
       'Juan is$_{*SER}$/$_{ESTAR}$ tired.'
     b. Su marido {#es / está} grave.
        'His husband is$_{#SER}$/$_{ESTAR}$ seriously ill.'
(77) a. Trabajar en una mina {es / *está} cansado.
        'Working in a mine is$_{SER}$/$_{*ESTAR}$ tiring.'
     b. Su enfermedad {es / *está} grave.
        'His illness is$_{SER}$/$_{*ESTAR}$ severe.'

These contrasts seem to be parallel to those in (78), with PP arguments (see Brucart 2009 about these kinds of examples). In sentences with *ser* the subject *class* and *conference* are interpreted as events; with *estar*, they are interpreted a locations, hence the ungrammaticality of *La conferencia está en el aula 12,* since *conferencia* cannot be interpreted as a physical place.

(78) a. La clase {es / está} en el   aula   12.
        the class is$_{SER}$/$_{ESTAR}$ in   the   room   12
        'The class is in room 12.'
     b. La   conferencia {es / *está} en el   aula   12.
        the conference is$_{SER}$/$_{*ESTAR}$ in   the   room 12
        'The conference is in room 12.'

Note that, in examples like (77), the adjective is interpreted as relative, as shown by the entailments in (79).

(79) En verano, nadar es   más   cansado que tomar el   sol --/->
     in summer, swim is$_{SER}$ more   tired   than take   the sun
     {nadar / tomar el   sol} (no) es   cansado.
     {swim /   take   the sun} (not) is$_{SER}$ tired
     'In summertime, swimming is more tiring than sunbathing' --/-> '{Swimming / Sunbathing is (not) tiring}.'

Therefore, adjectives like *cansado* ('tired') are interpreted as relative in this context, where they combine with *ser*. It remains to be determined why eventive subjects can only appear in copular sentences headed by *ser*, hence co-occurring with relative adjectives (remember the exceptions stated in footnote 18).

Moreover, nothing has been said in this paper with respect to the extension (or possible modification) of the proposal presented here to cases where the complement of the copulas are DPs, PPs or adverbs; or to other non-copulative uses of *ser/estar* (for example as auxiliaries in the passive voice or progressive tense). This is definitely an aspect that should be explored.

(80) a. María {es / *está} monja; María {es / está} muy monja.
        María is$_{SER/*ESTAR}$ nun; María is$_{SER/ESTAR}$ very nun
        'María is a nun (relational adjective)'; 'María really behaves like a nun.'

     b. María es   {de Madrid /*sin dinero}.
        *María is$_{SER}$ {from Madrid / *without money}*

'María is from Madrid'; 'María is broke.'
b'. María está   {*de   Madrid / sin dinero}.
   María is_{ESTAR}   *{*from Madrid / broke}*
c. Esto es así; Esto está bien.
   'This is_{SER} so'; 'This is_{ESTAR} OK.'

Though many aspects remain open, we hope that this new approach to the distribution of adjectives with the two Spanish copulas *ser/estar* opens a new line of research in this area of the lexicon-syntax-semantics interface.

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