

THE INFERENCE OF TEMPORAL PERSISTENCE AND THE INDIVIDUAL/STAGE LEVEL DISTINCTION: THE CASE OF *SER* AND *ESTAR* IN SPANISH

Silvia Gumiel-Molina; Norberto Moreno-Quibén; Isabel Pérez-Jiménez¹

Universidad de Alcalá; ILLA-Consejo Superior de Investigaciones Científicas;
Universidad de Alcalá & ILLA-Consejo Superior de Investigaciones Científicas

Abstract

In this paper we propose that the differences between *ser* and *estar* predications traditionally associated to the IL/SL distinction (having to do with their different combination with adverbs quantifying over situations, locative and temporal modifiers, etc.) can be explained without arguing that *ser* and *estar* sentences have different event/aspectual/Aktionsart-related properties. Specifically, we claim that in copular sentences with adjectival complements, the different kinds of elements that build up the comparison class needed to evaluate adjectival properties can account for the IL/SL character of the predication (specifically, the IL/SL distinction is linked to the relative/absolute distinction). This proposal, together with the hypothesis that relative adjectives trigger by default an inference of temporal persistence, can account for all the aforementioned differences between *ser* and *estar* sentences. We thus claim for an extension of the explanatory value of the stage/level distinction to the domain of gradability.

1. Introduction. Aspectual and comparison-based approaches to the *ser/estar* alternation

The distinct properties of copular sentences headed by the verbs *ser* and *estar* in Spanish have been characterized in the literature from many different perspectives. On the one hand, the differences between *ser* and *estar* predications have been explained in aspectual/event-structure/Aktionsart terms (*aspectual approaches*, Luján 1981, Clements 1988, Fernández-Leborans 1999, Gallego & Uriagereka 2009, Zagona 2010, Marín 2010, Gumiel-Molina & Pérez-Jiménez 2012, Roy 2013). On the other hand,

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they have been accounted for in terms of how properties are attributed to subjects (*comparison-based approaches*, Crespo 1946, Bolinger 1947, Roldán 1974, Carlson 1977, Falk 1979, Franco & Steinmetz 1983, 1986, Gumiel-Molina, Moreno-Quibén & Pérez Jiménez, 2015a).

With respect to copular sentences with adjectival predicates, the primary goal of both aspectual and comparison-based approaches has been to account for the fact that some adjectives combine only with one of the copulas while some other adjectives combine naturally with both *ser* and *estar*. Specifically, *relational* adjectives combine with *ser*, (1), and *perfective adjectives* (i.e. adjectives morphologically-related to verbal participles that have an internal argument and express the result state of a process, Bosque 1990) combine with *estar*, (2).²

- (1) Adjectives that combine only with *ser* (Relational adjectives): comunista ‘Communist’, español ‘Spanish’, falso (as in *billete falso* ‘false/forged note’), semanal ‘weekly’, vegetariano ‘vegetarian’, etc.
- (2) Adjectives that combine only with *estar* (Perfective adjectives): absorto ‘absorbed’ / ‘captivated’, borracho ‘drunk’, cansado ‘tired’, contento ‘happy’, desnudo ‘naked’, descalzo ‘barefoot’, encinta ‘pregnant’, enfadado ‘angry’, enfermo ‘sick’, exhausto ‘exhausted’, harto ‘fed up’, lleno ‘full’, maltrecho ‘beaten up’, mojado ‘wet’, muerto ‘dead’, perplejo ‘perplexed’, quieto ‘still’, satisfecho ‘satisfied’, solo ‘alone’, vivo ‘alive’, etc.

All the remaining gradable adjectives may combine with *ser* and *estar*, (3)³, although sometimes the subject of predication is crucial to determine co-occurrence restrictions (see (7) below).

² These adjectives can be also constructed with a classificative, non-gradable use, which expresses a property salient enough to define an individual as a particular member of a class. In this case, they combine with *ser*. These cases will be left aside in this paper.

- (i) a. El mantel es (*muy) limpio.
the tablecloth is_{SER} (*very) clean
- b. El mantel está (muy) limpio.
the tablecloth is_{ESTAR} (very) clean
‘The tablecloth is clean’

³ Qualifying gradable adjectives homophonous with relational adjectives are included in this group:

- (i) Juan, aunque es alemán, {es/está} muy español.
Juan, although is_{SER} German, is_{SER/ESTAR} very Spanish

- (3) Adjectives that combine with both copulas: alegre ‘happy’, alto ‘tall’, bajo ‘short’, cauto ‘cautious’, cuidadoso ‘careful’, delgado ‘thin’, (in)discreto ‘(in)discreet’, feliz ‘happy’, falso (as in *La gente es falsa* ‘People is fake’), feo ‘ugly’, flaco ‘thin’, gordo ‘fat’, grande ‘big’/‘tall’, guapo ‘handsome’, hermoso ‘beautiful’, húmedo ‘humid’/‘damp’, inteligente ‘intelligent’, inquieto ‘restless’/‘worried’/‘lively’, libre ‘free-spirited’/‘free’, nervioso ‘excitable’/‘nervous’, pequeño ‘small’, (im)prudente ‘(im)prudent’, presumido ‘arrogant’/‘vain’, tranquilo ‘calm’/‘quiet’, transparente ‘transparent’/‘see-through’, travieso ‘naughty’, viejo ‘old’, vivo ‘lively’, etc.

Besides this general goal, the aspectual and the comparison-based approaches focus on different kinds of empirical phenomena. Since aspectual approaches characterize *ser/estar* predications in terms of event/aspectual/Aktionsart-related differences, they focus, among other facts that will be presented in section 2, on the different behavior of temporal and locative modifiers in each kind of copular structure, (4), (5), or on the lifetime effects obtained with *ser*, (6) (where it is naturally interpreted that the referent of the subject is dead).⁴

- (4) a. Juan está borracho en la cocina.
 Juan is_{ESTAR} drunk in the kitchen
 ‘Juan is drunk in the kitchen.’
- b. */# Juan es alto en la cocina.
 Juan is_{SER} tall in the kitchen
- (5) a. Juan estaba borracho ayer.
 Juan was_{ESTAR} drunk yesterday
 ‘Juan was drunk yesterday.’
- b. */# Juan era alto ayer.
 Juan was_{SER} tall yesterday

‘Although Juan is German, he behaves like a Spaniard’

⁴ The examples are doubly marked as */# because they are generally judged as ungrammatical in the literature. However, as we will try to show in this paper, these examples are merely semantically/pragmatically odd in out-of-the blue contexts. Consequently, they will be marked as # to indicate semantic/pragmatic ill-formedness.

- (6) Juan era alto. vs. Juan estaba borracho.
 Juan was_{SER} tall Juan was_{ESTAR} drunk
 ‘Juan was tall.’ ‘Juan was drunk.’

On the other hand, comparison-based approaches have mainly focused on the explanation of so-called *subject effects* in examples like (7), where the subject of predication seems to crucially determine the combination with one of the copulas, apparently independently of any aspectual or event-related difference (see Gumiel-Molina, Moreno-Quibén & Pérez-Jiménez, 2015a).

- (7) a. María {es / está} grande.
 María is_{SER/ESTAR} big
 ‘María is big.’
 b. La casa {es / *está} grande.
 the house is_{SER/*ESTAR} big
 ‘The house is big.’

The individual-level / stage-level distinction [IL, SL henceforth], implemented in many different ways in the literature, is frequently found behind the explanations offered by aspectual- and comparison-based approaches to account for the distributional properties of adjectives in copular sentences as well as for the rest of empirical phenomena mentioned in the previous paragraphs. The occurrence of *ser* vs. *estar* in copular sentences is thus often considered the hallmark of IL-hood vs. SL-hood. Specifically, aspectual-based approaches claim for the existence of core (event/aspect/Aktionsart-related) semantic properties defining IL vs. SL predications, which are taken to explain not only the distributional paradigm presented in (1)-(3), but also the fact that locative/temporal modifiers are only possible in *estar* sentences and the fact that lifetime effects, on the contrary, are only triggered in *ser* sentences. Within aspectual approaches, different proposals attribute different relative roles to the copula and the adjective in determining the eventive/aspectual properties of the whole predication. The most widespread view in the literature is that adjectives have eventive/aspectual properties in the lexicon that determine their combination with each of the copulas (generally via a matching relation).

In this article, we develop an account of the data in (4)-(6) that is compatible with a comparison-based approach, which can also account for the *subject effects* illustrated in (7)⁵. Specifically, we claim that the empirical contrasts illustrated in (4)-(6) can be pragmatically derived from an *inference of temporal persistence* which is triggered only by *ser* predications. Our proposal is that the inference of temporal persistence, which is at the basis of the different behavior of *ser* and *estar* predications with respect to the afore-mentioned phenomena, is traced back to the way in which the comparison class needed to evaluate the adjectival predication within the copular structure is formed in each case. In other words, the inference of temporal persistence is traced back to the *relative* or *absolute* character of the adjectival complement of the copula. Therefore, no event/aspect/Aktionsart-related difference between *ser*- and *estar* predications needs to be postulated. Moreover we will claim that the property of being a relative / absolute adjective is not lexically determined, but syntactically derived.

The paper is organized as follows: In section 2 we review the different behavior of *ser* and *estar* copular sentences with adjectival complements with respect to the combination with adverbs quantifying over situations, locative/temporal modifiers and also with respect to the triggering of lifetime effects. In section 3 we present some of the more widespread aspectual-based proposals existing in the literature and the explanations given to account for the contrasts introduced in section 2. In section 4, we show that a pragmatic explanation in terms of an inference of temporal persistence associated to IL-predications can account for the different behavior of *ser* and *estar* predications with respect to the phenomena analyzed in section 2 (and, more broadly, can account for the difference between individual-level-hood and stage-level-hood). In section 5, we claim that the differences between *ser* (IL) and *estar* (SL) predications with adjectival complements (expressing gradable properties) with respect to the diagnostics revised in the previous sections are ultimately linked to the different comparison class needed to evaluate the truthful applicability of the adjective in each case. The different kind of elements that comprise the class of comparison of the adjective in *ser*+A sentences vs. *estar*+A sentences, namely individuals vs. counterparts

⁵ It is not the specific goal of this paper to account for the distributional paradigm in (1)-(3). We refer the interested reader to Gumiel-Molina, Moreno-Quibén and Pérez-Jiménez (2015a) for such an account and for an explanation of *subject effects* of the kind shown in (7).

of individuals, gives rise to the inference of temporal persistence only in the former case.

2. Basic contrasts between *ser* and *estar* predications. The data

In this section, we will consider the different behavior of *ser* (IL) and *estar* (SL) predications a) in conditional sentences and in sentences with adverbs quantifying over situations (2.1), b) with respect to their combination with locative (2.2) and temporal modifiers (2.3) and c) with respect to the triggering of lifetime effects (2.4).⁶

2.1. Conditional sentences and sentences with adverbs quantifying over situations

As the following contrast shows, only *estar* (SL) predications are possible in conditional sentences (introduced by *siempre que* ‘whenever’, *cuando* ‘when’, *si* ‘if’), (9)a, and in

⁶ The generic vs. existential reading of indefinite subjects has also been considered as a diagnostic of the IL / SL distinction in Spanish. Indefinite subjects of IL predications receive a generic reading, (i)a; an existential reading is possible for the subjects of SL predications, (i)b.

- (i) a. Una botella de agua es {transparente / larga}.
 a bottle of water is_{SER} {transparent / big}
 ‘Water bottles are {transparent / big}’
 b. Una botella de agua está {sucia / llena}.
 a bottle of water is_{ESTAR} {dirty / full}
 ‘Water bottles are {dirty / full}’

[Gumiel-Molina & Pérez-Jiménez 2012: 40]

However, it must be noted that the contrast under (i) is not only dependent on the IL/SL distinction, whatever its implementation, but relies also on others factors related to the grammar of genericity, not well understood to the best of our knowledge. First, if an appropriate context is built up, the indefinite subject of *estar*-sentences can also receive a generic interpretation, (ii). Moreover, as Leonetti (1999: §12.3.3.3c) notes (cf. also Krifka *et al.* 1995, Fernald 1999), not every IL predicate gives rise to the generic reading of the subject. Only those IL predicates that express a property that is inherent to the subject trigger the generic reading, as the contrast in (iii) shows.

- (ii) a. Después de un incendio, un bombero está exhausto.
 after of a fire, a firefighter is_{ESTAR} exhausted
 ‘After a fire, a firefighter is exhausted.’
 b. En hora punta, un policía de tráfico está estresado.
 in hour rush, a police of traffic is_{ESTAR} stressed
 ‘In rush hour, a traffic officer is stressed.’
 (iii) a. Un niño es travieso.
 a boy is_{SER} naughty
 ‘Every boy is naughty.’
 b. #Un hombre es alto.
 a man is_{SER} tall
 ‘A man is tall.’

[Leonetti 1999: 876, (218a)]

The interpretation of indefinite subjects, then, which seem to involve a more complex set of factors than generally assumed related to the grammar of genericity and kinds, will be left aside in this paper as a diagnostic of IL/SL-hood.

sentences containing adverbs that quantify over situations (like *a menudo* ‘often’, *con frecuencia* ‘frequently’), (9)b. *Ser* (IL) predications are ungrammatical in these contexts, (8).

- (8) a. */#{Siempre que / cuando / si} el perro es delgado,
 {whenever / when / if} the dog is_{SER} thin
 Juan se alegra.
 Juan SE gets.happy
- b. */#El perro es delgado {a menudo / con frecuencia}.
 the dog is_{SER} thin often / frequently
- (9) a. {Siempre que / cuando / si} el perro está delgado,
 {whenever / when / if} the dog is_{ESTAR} thin
 Juan se alegra.
 Juan SE gets.happy
 ‘Whenever the dog is thin, Juan is happy’
- b. El perro está delgado {a menudo / con frecuencia}.
 the dog is_{ESTAR} thin often / frequently
 ‘The dog is often / frequently thin’

It is important to note that the ungrammatical reading in (8) arises if a change in the dog’s weight is considered, because such an interpretation (which is the interpretation obtained with *estar*) seems to be impossible with *ser*. However, note that the examples in (8) are acceptable in the following context: imagine canine contests in which the winner has to be thin (it has to be the thinnest dog or a dog thin up to a certain degree); in this context, if John’s dog is usually the thinnest dog, or at least thin enough to win many contests, the sentences are possible (the examples improve if a degree modifier is added: *suficientemente / bastante / lo bastante delgado* ‘enough thin’). Note that this interpretation does not imply any change in the dog’s weight across stages (which seems to be the meaning of (9)), but the comparison of the dog’s degree of thinness/fatness with the degree of the property shown by other individuals on different occasions. This observation will be crucial to develop our proposal.

2.2. Locative modifiers

Consider now locatives. The examples under (10) show that *estar* predications can co-occur with locative modifiers. The presence of locative modifiers in *ser* predications gives rise to ill-formedness (ungrammaticality for many authors). So, for example, (10)b can mean that the astronaut lost weight while being on Mars, but as he returned to Earth he became fat. (11)a cannot receive such an interpretation.

- (10) a. Juan estaba {borracho/ contento} en la cocina.
 Juan was_{ESTAR} drunk / happy in the kitchen
 ‘Juan was drunk in the kitchen.’
- b. El astronauta estaba delgado en Marte.
 the astronaut was_{ESTAR} thin on Mars
 ‘The astronaut was thin on Mars.’
- c. Juan estaba tranquilo en el jardín.
 Juan was_{ESTAR} calm in the garden
 ‘Juan is happy in the garden.’
- (11) a. */# El astronauta era delgado en Marte.
 the astronaut was_{SER} thin in Mars
- b. */# Juan era tranquilo en el jardín.
 Juan was_{SER} calm in the garden

However, the behavior of locatives is more complex. The examples in (11) (with *ser*) are ill-formed if a change in the property of the subject is interpreted across locations. However, note that locative modifiers are possible with IL predications when the locative is interpreted as restricting a subset of situations where the predicate is true i.e. if they are frame setting adverbials (Roy 2013, see also Maienborn 2005). In an example like (12) it is asserted that the astronaut (who, for example, weighs 100 kg) is thin with respect to his colleagues in the Mars-Mission (or even with respect to Martians!!), but is fat with respect to his gym-mates in Washington, for example (this interpretation is parallel to the ‘dog-contest’ interpretation possible for the examples in (8), as described above). In these cases, it seems that the locative contributes to narrow down the comparison class needed to evaluate the truthful applicability of the predicate, but there is no change as to the degree to which the subject possesses the property.

- (12) El astronauta es delgado en Marte,
 the astronaut is_{SER} thin in Mars
 pero gordo en su gimnasio.
 but fat in his gym
 ‘The astronaut is considered thin in Mars (with respect to his colleagues in Mars), but fat in his gym (with respect to people in his gym).’

Moreover, Maienborn (2005: 163) argues for the idea that contrasts of the kind exemplified in (10)-(11) cannot be linked with eventive properties differentiating IL from SL predicates. As she claims, examples like (13), with SL predications, receive the same odd interpretation as the examples in (11) with IL predications (examples (13)a,b are Maienborn’s example, judged as ungrammatical by the author). An example like (13)b cannot mean that there is an event of Carol being pregnant and this event is located in her room. Similarly, (13)c cannot be questioned as *¿Dónde está vivo el niño?* ‘Where is the baby alive?’.⁷

- (13) a. *La camisa está mojada en la silla.
 the shirt is_{ESTAR} wet on the chair
 b. *Carol está encinta en su habitación.
 Carol is_{ESTAR} pregnant in her room
 c. *El niño está vivo en su cuna.
 the baby is_{ESTAR} alive in his cot

These cases seem to be odd because it is not possible that the subject shows changes with respect to the property in question in different locations (event though we have a SL *estar* predication). Note that when this interpretation can be obtained, the examples are fine:

- (14) a. La camisa estaba mojada en la lavandería,
 the shirt was_{ESTAR} wet in the laundry
 pero hemos llegado a casa y ya está seca.
 but have arrived to home and already is_{ESTAR} dry

⁷ It must be noted that a conjunctive reading should be excluded in these examples: “Carol is pregnant and Carol is in the kitchen; The baby is alive and the baby is in the kitchen”.

‘The shirt was wet in the laundry, but look, we’ve just arrived home and it is already dry.’

- b. El zombi está muerto en su ataúd,
the zombie is_{ESTAR} dead in his coffin
pero vivo fuera de él.
but alive out of it
‘The zombie is dead in its coffin, but alive out of it.’

It seems then, that some predicates (*mojado* ‘wet’, *encinta* ‘pregnant’, *vivo* ‘alive’, *muerto* ‘dead’, recall that these predicates combine only with *estar*, (2)) describe properties that are interpreted as temporally stable with respect to some subjects (at least for a specific interval of time, as in the case of *encinta*) and also as stable across different locations.

2.3. Temporal modifiers

Consider now the behavior of temporal modifiers in *ser* (IL) and *estar* (SL) predications. As it was the case with locatives, temporal modifiers are only acceptable in *estar* sentences, as the contrast between (15) and (16) shows.

- (15) a. */#Mi padre era delgado anteayer
my father was_{SER} thin the.day.before.yesterday
(ahora es gordo).
(now is_{SER} fat)
- b. */#Mi hijo era bajo el mes pasado
my son was_{SER} short the month last
(ahora es alto).
(now is_{SER} tall)

- (16) Mi padre estaba {cansado / enfadado / enfermo / delgado}
my father was_{ESTAR} {tired / angry / sick / thin}
el mes pasado.
the month last
‘My father was {tired, angry, sick, thin} last month’

2.4. Lifetime effects

Consider finally the lifetime effects that arise when *ser* (IL) predications appear in the past tense. As noted many times in the literature (see Arche 2006 and references therein), the use of stative IL predicates in the past tense gives rise to the interpretation that a significant amount of time has passed since the state being described took place or to the interpretation that the referent of the subject of predication is no longer alive. These interpretations do not arise with *estar* (SL) predications.

- (17) a. Mi perro era delgado; Juan era inteligente.
my dog was_{SER} thin; Juan was_{SER} intelligent
'My dog was thin'; 'Juan was intelligent'
- b. Mi perro estaba delgado; Juan estaba enfermo.
My dog was_{ESTAR} thin; Juan was_{ESTAR} sick
'My dog was thin'; 'Juan was sick'

3. Aspectual approaches: Event/Aspect/Aktionsart-oriented explanations

As mentioned in the Introduction, the differences found between *ser* and *estar* predications with respect to the empirical phenomena analyzed in section 2 have been analyzed within aspectual approaches in terms of the IL/SL dichotomy. However, individual-level-hood and stage-level-hood have been characterized and defined in many different ways, leading to different proposals about what the core semantic (and/or syntactic) eventive/aspectual differences between *ser* and *estar* sentences are that would explain the aforementioned phenomena. Specifically, within aspectual approaches, the differences between *ser* and *estar* copular sentences have been mainly explained (a) in terms of differences in argument structure, or (b) in terms of differences in event/state boundaries.

3.1. Ser vs. estar predications: Differences in argument structure

From the first point of view, Kratzer (1989/1995), de Swart (1991), Diesing (1992) and Chierchia (1995), a.o, analyze the IL / SL dichotomy on the basis of the absence vs. presence of a (Davidsonian) event argument in the thematic grid of IL / SL predicates respectively, or on the special character or the eventive argument of IL predicates⁸. Following these authors, Lema (1996) and Fernández Leborans (1999), a.o., claimed that *ser*-predications (IL predications) lack an eventive argument, as opposed to *estar*-predications (SL predications).

As these authors note, the presence of the eventive variable in *estar* predications explains why only *estar* sentences can appear within a conditional structure or can be combined with quantifiers ranging over situations: only in *estar* predications there is an eventive variable available for the conditional operator or the quantifier to bind (recall (9)). On the contrary, *ser* predications do not provide any variable (specifically, an eventive variable) for the operators/quantifiers to bind, hence the ungrammaticality (according to the afore-mentioned authors) or deviance of the sentences in (8).⁹

Consider now locative and temporal modifiers. The examples under (10) showed that *estar* predications can co-occur with locative modifiers. Assuming that these modifiers are sensitive to the presence of an eventive argument, these examples are taken to show that *estar* predications encode such an argument. An example like (10)a means that there is an event of Juan being drunk and this event is located in the kitchen; i.e. the locative takes the event as its argument. Questions like *¿Dónde está borracho Juan?* ‘Where is John drunk?’ *¿Dónde está triste Juan?* ‘Where is John sad?’ are possible. *Ser* predications, lacking an eventive argument, are not compatible with locative modifiers, recall (11). Similarly, temporal modifiers select an event as argument and locate it in

⁸ According to Kratzer (1989/1995), SL predicates include a spatio-temporal/event variable that can be bound by Tense; IL predicates lack this variable. For Chierchia (1995), both SL and IL predicates have an event variable, but IL predicates compulsorily are combined with a generic operator, so that the eventive variable cannot be accessed; IL predicates are, thus, inherently generic. Finally, according to de Swart (1991), IL predicates have built in their semantic entry a uniqueness presupposition affecting the Davidsonian argument which prevents the predicate to apply in different spatio-temporal locations. These kinds of hypotheses have been challenged by many authors: see Maienborn (2003, 2005), Arche (2006), Schmitt & Miller (2007), Roby (2009), Camacho (2012), Jiménez-Fernández (2012), a.o.

⁹ Note that *ser* predications including *dispositional adjectives* are grammatical in these contexts, (i). For these adjectives, a special semantics has been proposed including eventive information, cf. Arche (2006).

(i) 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’

time. Therefore, only *estar* sentences are compatible with such modifiers (recall the contrast in (15)-(16)).

Similarly, for Kratzer (1989/1995), lifetime effects (2.4) derive from the lack of an eventive argument in IL predicates. In the absence of such an argument, the past tense operator binds the subject individual, giving rise to the interpretation that the subject has ceased to exist, (18).

- (18) a. Juan estaba enfermo / Juan was sick.
[in-the-past (e)] & [sick' (Juan, e)]
b. Juan era inteligente / Juan was intelligent.
[in-the-past (Juan)] & [intelligent' (Juan)]

3.2. *Ser vs. estar predications: Differences in event/state boundaries*

From a different perspective, as mentioned above, the characterization of IL and SL predications has been approached from the point of view of the internal temporal constitution of the situation they express. The schema in (19) summarizes the main proposals in the literature that account for differences between *ser* and *estar* predications in aspectual/Aktionsart terms:

- (19) a. *ser*: -*perfective* / *estar*: +*perfective*
Estar-sentences express that the property holds within a temporally bound interval, *ser*-sentences express a stative situation without boundaries (Luján 1981).
b. *ser*: -*nexus* / *estar*: +*nexus*; *ser*: -*resultative* / *estar*: +*resultative*
Estar-sentences encode a link to a previous situation (Clements 1988, a.o.).
c. *ser*: *unbounded* / *estar*: *bounded*
The difference relies on the existence of a temporal bound for the state described (Marín 2000, 2004).
d. *ser*: -*inchoative* / *estar*: +*inchoative*
Estar-sentences express the inception of a state (Camacho 2012).

- e. *Ser* expresses *central coincidence* / *estar* expresses *terminal coincidence* (Brucart 2009, Gallego & Uriagereka 2009, Zagona 2010, *this volume*, Fábregas 2012, a.o; in these proposals the just-mentioned semantic difference is linked to the presence/absence of an abstract syntactic preposition, and/or the featural content of the copulas).

Consider, for example, (19)a or (19)c. According to these proposals, the state boundaries argued for in *estar* (SL) predications can be accessed by locative and temporal modifiers. *Ser* (IL) predications, expressing a state lacking boundaries, are not compatible with locative/temporal modifiers; hence the contrasts presented in sections 2.2 and 2.3. Similarly, if *ser* (IL) predications are assumed express a state without boundaries, the past tense operator is unable to locate the state *per se* in the past and locates instead the individual referred to by the subject, giving rise to the lifetime effect.¹⁰

Before concluding this section, let us mention that, within aspectual approaches, different proposals attribute different relative roles to the copula and the adjective in determining the aspectual properties of the whole predication. A prevalent point of view is that a matching relation is established between the copulas and the adjectives, which also lexically encode aspectual properties, generally implemented as formal features. Adjectives can be thus *-/+resultative* (Clements 1988), IL or SL (Fernández Leborans 1999), *-/+ perfective* (Luján 1981) or *-/+ inchoative* (Camacho 2012), hence their combination with *ser* or *estar*. Adjectives that combine with both copulas, (3), are analyzed as aspectually neutral, unmarked or double-marked from the lexical point of view. From a different perspective, in Brucart (2009), Gallego & Uriagereka (2009),

¹⁰ Very recently, the IL/SL distinction in the domain of stative predications has been analyzed as a semantic distinction based on the part-structure of the situation described in terms of homogeneity vs. quantization (based on Borer 2005) of the state expressed (Husband 2010, 2012, Roy 2013). Husband (2010: 131) claims that life-time effects derive from this proposal: “Since individual-level predicates are homogeneous predicates, they apply to homogeneous stages of the subject, i.e. the individual itself. Lifetime effects arise in these cases because all of the stages of the individual are put in the past”. Stage-level predicates, on the contrary, are quantized predicates that apply to a quantized stage of the subject. Therefore, “lifetime effects do not arise because only some stage of the individual is put in the past”. Following Husband’s proposals, Gumiel-Molina & Pérez-Jiménez (2012) propose that *ser/estar* predications reflect a difference between homogeneous and quantized states that derives from the scalar properties of the adjectives that appear in the copular constructions. See Gumiel-Molina, Moreno-Quibén and Pérez-Jiménez (2015a) for a detailed criticism of this proposal.

Zagona (2010), the Aktionsart differences between *ser* and *estar* predications are acknowledged but they are conceived not as properties of the copulas *per se* but rather as reflexes of some adjectival property, which is syntactically built up (no matching relation between copulas and adjectives is thus argued for). As it will become clear in the following sections, our proposal follows this second line of reasoning.

4. A pragmatic explanation: the inference of temporal persistence

The goal of this section is to show that the different behavior of *ser* and *estar* predications with respect to the phenomena explored in section 2 (and, more broadly, the difference between individual-level-hood and stage-level-hood) can be explained in pragmatic terms and is not triggered by any core event/aspect/Aktionsart-related semantic (and/or syntactic) difference between the copulas and/or between their adjectival complements.

We will claim that the differences found between *ser* and *estar* predications with respect to their appearance in conditional sentences, their combination with adverbs of quantification (frequency quantifiers) and locative/temporal modifiers, or the triggering of lifetime effects, derive from the fact that *ser* predications –IL predications– give rise to an inference of temporal persistence which explicitly states that *if the property expressed holds at time t, it also holds at any past or future time t' if no information is given to the contrary* (McNally 1994: 9). More specifically, when copular sentences appear in conditional sentences (*when*-clauses), or include frequency adverbs, locative or temporal modifiers, the meaning obtained is that the property in question expressed by the copular sentence is holding across the specific times referred to by the *when*-clause and the frequency quantifier; and at the locations pinpointed by the locative/temporal modifiers. However, in *ser* sentences, the inference of temporal persistence renders the information expressed by these kinds of adjuncts irrelevant or uninformative: The temporal persistence associated with the IL predication covers by default the different times and event locations referred to by the *when*-operator, the frequency adverb, and the locative/temporal modifier, hence the unfelicitousness/pragmatic-illformedness of the examples presented in section 2.

If this proposal is on the right track, since the property of temporal persistence is an *inference*, it is expected to be cancellable if the right context is set up, specifically if a spatial/temporal limit is set in which the property in question holds. Let us revisit some of the data presented in section 2 under this new pragmatic light. The origin of the inference of temporal persistence will be explained in section 5.

4.1. Locative modifiers

Under the pragmatic explanation adopted in this section, the unacceptability of the examples in (11) (*#El astronauta era delgado en Marte* ‘The astronaut was thin in Mars’, *#Juan era tranquilo en el jardín* ‘Juan was calm in the garden’) arises because the temporal stability of the property, associated to the inference of temporal persistence triggered by the *ser* (IL) predication, makes the information expressed by the locative modifiers is uninformative (i.e. the information that the property holds at the location determined by the locative PPs is superfluous and the sentence is pragmatically illformed).

However, examples like (20) are perfectly acceptable. (20)a can mean that Alice (in the context of *Alice in Wonderland*) is 3 m. tall when she is in the house, i.e. that the property of being 3 m. tall holds when and only when she is in the house. When she is in the rabbit’s hole, the property that holds is her being 50 cm. tall. Alice’s height, which, as we know, is subject to (rapid) changes, is evaluated in both cases with respect to normal young girls (i.e. Alice is tall for a young girl when she is in the house; Alice is short for a young girl when she is in the rabbit’s hole). In this special context, the inference of temporal persistence triggered by the IL predication seems to be cancelled, given that the different locations at which Alice appears set up a limit to the persistence of the property. Something similar can be said about the example in (20)b, where the locative modifiers set up a time limit in which the properties in question hold.

- (20) a. Alicia es alta en la casa
Alicia is_{SER} tall in the house
y baja en la madriguera del conejo blanco.

- and short in the hole of the rabbit white
 ‘Alice is tall in the house but short in the white-rabbit’s hole.’
- b. Supermán es flacucho en el Daily Planet,
 Superman is_{SER} scraggy in the Daily Planet,
 pero corpulento en los cielos de Metrópolis.
 but sturdy in the sky of Metropolis
 ‘Superman is scraggy in the Daily Planet’s office, but sturdy in
 Metropolis’ sky.’

It is important to insist in the idea that in (20) the inference of temporal persistence is cancelled (i.e. the property changes across different locations), but the degree to which the subject possesses the property is evaluated with respect to a comparison class formed by other individuals (i.e. Alice is tall or short with respect to other young girls, for example) and not with respect to previous stages of the subject.

4.2. Temporal modifiers

The unacceptability of examples like (15)a (**/#Mi padre era delgado anteayer –ahora es gordo–*; lit. My father was thin the day before yesterday, now he is fat) and (15)b (**/#Mi hijo era bajo el mes pasado –ahora es alto–*; lit. My son was short last month, now he is tall) vs. (16) (*Mi padre estaba {cansado / enfadado / enfermo / delgado} el mes pasado* ‘My father was {tired / angry / sick / thin} last month’) can also be explained on pragmatic grounds, as derived from the inference of temporal persistence associated with IL predications. (15)b, for example, is pragmatically odd in the interpretation that my son’s height has changed considerably across a short period of time (one month), so that he was considered short with respect to fourteen year old children last month, but tall with respect to the same comparison class today. Again, the temporal stability of the property, imposed by the inference of temporal persistence triggered by the *ser* (IL) predication contradicts the information expressed by the temporal modifiers, hence the unacceptability of the sentence.

A similar explanation is given by Percus (1997) and Husband (2010) for the unacceptability of examples of the kind of (15)a,b. Specifically, these authors claim that this kind of examples are odd because they are “out-of-the-blue” utterances. Percus

(1997) claims that every utterance is interpreted with respect to some context. Out-of-the-blue sentences are evaluated with respect to our global context, i.e. world knowledge. What world knowledge tells us about individual-level predications is that they denote properties of individuals which tend to be stable over time. Temporal modifiers are not compatible with IL predications because these modifiers are at odds with our world knowledge about the properties these predications express.

However, Husband (2010), quoting Percus (1997), notes that temporal modifiers are possible with IL predications if a reasonable context is set up: on the one hand, temporal modifiers compatible with temporal stability are licensed with IL predications; on the other hand, if a local context is provided which suspends our world knowledge about the stability of some properties, temporal modifiers are acceptable in IL predications. These two conditions make temporal modifiers acceptable in *ser* sentences, as (21) shows. Again in these contexts, the inference of temporal persistence is cancelled.

- (21) a. Mi padre era delgado {haceun año / en su juventud}
 my father was_{SER} thin ago one year / in his youth
 (ahora es gordo).
 now is_{SER} fat
 ‘My father was thin {a year ago / in his youth} (now, he is fat)’
- b. Alicia era alta hace unos segundos,
 Alicie was_{SER} tall ago few seconds
 pero, tras haber comido el hongo,
 but after have eaten the mushroom
 es baja.
 is_{SER} short
 ‘Alice was tall a few seconds ago, but now, after having eaten the mushroom, she is short’

4.3. Lifetime effects

Finally, note that lifetime effects triggered by *ser* (IL) predications, recall (17)a, are easily cancelable, as (22) shows. This fact, according to our hypothesis, indicates that lifetime effects are not derived from any event/aspect/Aktionsart-related semantic

(and/or syntactic) property defining IL predications. The lifetime effect associated to *ser* predications would arise from the interaction between the inference of temporal persistence and the meaning of the past tense.

- (22) Juan era inteligente y entonces empezó a tocar el trombón.
 Juan was_{SER} intelligent and then started to play the trombone
 ‘Juan was intelligent and then he started playing the trombone.’

Authors like Magri (2009) also offer a pragmatic explanation to account for lifetime effects. According to Magri, IL predications like *(be) tall* are associated with an assumption about common knowledge (W_{ck}) such that “it follows from common knowledge W_{ck} that, if an individual is tall at a given time, then he is tall throughout his entire life span”. This assumption is stated as in (23), where $\lambda t.in^w(d,t)$ stands for the life span of an individual d at a world w . The only difference between IL and SL predications is that for IL predications W_{ck} contains no worlds where the extension of the predicate does not satisfy (23):¹¹

- (23) For every individual d in D_e and for every world w in W_{ck} compatible with common knowledge: if there is a time t' in T such that $[[tall]]^w(d,t')$, then $[[tall]]^w(d,t)$ for every time t such that $in^w(d,t)$. [Magri 2009: 271, (70)]

According to this proposal, lifetime effects derive from the interaction between the meaning of the past tense and this assumption about common knowledge. Similarly, the oddity of some locative and temporal modifiers with IL predicates arises when this common knowledge assumption is incompatible with the situation described.

4.4. Conclusion: the inference of temporal persistence

The previous sections have shown that the availability of *ser* and *estar* predications as restrictors of quantifiers (in conditional sentences headed by *cuando* ‘when’, *siempre*

¹¹ The assumption in (23) is in fact too strong: if John is tall at a given time, then he has to be tall at literally every time t throughout his life span, which may not be true. Assumption (23) should be restated as in (i), replacing John’s whole life span (ia) with some proper subset (ib), which might depend on the specific IL predicate considered, be vaguely defined, and context dependent.

- (i) a. $\lambda t.in^w(j,t)$
 b. $\lambda t.C_{tall}^w(j,t)$

que ‘whenever’), their co-occurrence with frequency adverbs (*a menudo* ‘often’, *con frecuencia* ‘frequently’, *si* ‘if’) and their combination with locative and temporal modifiers are not determined by intrinsic semantic (and/or syntactic) eventive/aspectual/Aktionsart-related properties of the copulas and/or their adjectival complements. All the empirical phenomena presented in the previous sections are better explained on the basis of the so-called inference of temporal persistence, which was formulated by McNally (1994) as in (24). This pragmatic explanation of the behavior of IL predications naturally accounts for the fact that the inference is cancellable due to contextual changes.

- (24) “Individual-level predicates are associated with an inference of temporal persistence; stage-level predicates are not. The inference of temporal persistence in effect specifies the following: if an eventuality is going on at time *t* and you have no information that it is not going on at some later time *t'* [and equally at a previous time *t''*], then infer that it is going on at that later [and previous] time *t'* as well. Note that this is a default inference, surfacing only if there is no information to the contrary.” (McNally 1994: 9, apud Condoravdi 1992: 9, additions between brackets by McNally 1994)

The inference of temporal persistence associated to IL predicates was formulated by McNally (1994) to account for the contrast between IL and SL predicates (assuming a lexicalist approach to the IL/SL distinction) as depictive secondary predicates: only stage-level predicates can occur as depictive secondary predicates, as the Spanish examples in (25) show.

- (25) a. *María llegó a su casa {cansada / sola / sobria}.*
 María arrived to her house {tired / alone / sober}
 ‘María arrive home {time, alone, sober}.’
- b. **/#María llegó a su casa {alta / joven / lista}.*
 María arrived to her house {tall/ young/ bright}

According to McNally (1994) (see also Gumiel-Molina, Moreno-Quibén & Pérez-Jiménez 2015b), secondary predicates must fulfill a simultaneity condition (broadly speaking, the situation they describe must be simultaneous to the situation described by

the main predicate of the sentence). Simultaneity must be relevant and informative, hence non-trivially met. Given the inference of temporal persistence triggered by IL predicates, the simultaneity condition is trivially met in many cases in out of the blue sentences containing secondary predicates, giving rise to infelicitous sentences like (25)b. However, if the right context is set up, the inference can be cancelled, (26).

- (26) a. La malvada bruja tomó la pócima y
the wicked witch took the potion and
llegó joven a casa del príncipe.
arrived young to house of the prince
‘The wicked witch took the potion and arrived young to the
prince’s house.’
- b. Alicia comió el hongo y salió alta
Alice ate the mushroom and went tall
de la casa de la oruga.
of the house of the caterpillar
‘Alice ate the mushroom and went off the caterpillar’s house
(being) tall.’

Now, if the behavior of *ser* predications (IL predications) with respect to the facts revised in the preceding section is not triggered by any eventive/aspectual/Aktionsart-related semantic or syntactic property which could define the IL / SL distinction but is related to the (cancellable) inference of temporal persistence associated to IL predications, the question that should be posed is the following: How does the inference of temporal persistence arise in *ser* predications, and, more generally, in IL predications? Can it ultimately be associated to any (non eventive/aspectual/Aktionsart-related) syntactic/semantic property characterizing *ser* vs. *estar* predications, i.e. IL vs. SL predications?

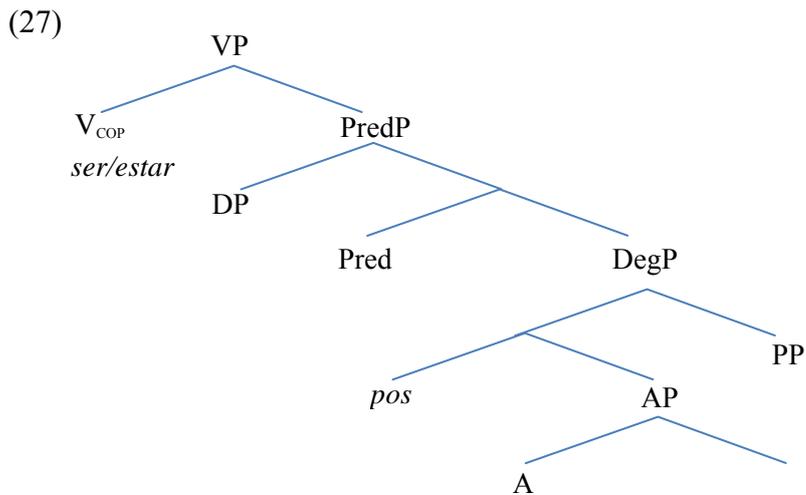
5. The origins of the inference of temporal persistence: the formation of comparison classes in copular sentences with adjectival complements

Following Gumiel-Molina, Moreno-Quibén and Pérez-Jiménez (2015a) [henceforth, GMP (2015a)], our proposal is that, in fact, *ser* (IL) and *estar* (SL) predications are similar from the eventive/aspectual/Aktionsart point of view. The differences between *ser* (IL) and *estar* (SL) predications with adjectival complements (expressing gradable properties) with respect to the diagnostics revised in the previous sections are ultimately linked to the different comparison class needed to evaluate the truthful applicability of the adjective in each case. The different kinds of elements that comprise the class of comparison of the adjective in *ser*+*A* sentences vs. *estar*+*A* sentences give rise to the inference of temporal persistence only in the former case. In section 5.1 we will summarize GMP's (2015a) proposal about the nature of the *ser* / *estar* distinction. The connection between GMP's (2015a) proposal and the inference of temporal persistence will be explicitly stated in section 5.2. In this section, the connection between the relative /absolute distinction and the IL / SL distinction will be also dealt with.

5.1. *Relative / absolute adjectives in ser/estar copular sentences*

In GMP (2015a), following standard assumptions about the structure of copular sentences, we assume that copulas are verbs (V) selecting for a Predication Phrase as complement, (27) (Bowers 1993, Baker 2003, Mikkelsen 2005 and others). The Pred node, in the case of copular sentences with adjectival complements, introduces the AP and its associated functional projections (DegreePhrase) and also the subject of predication (the individual argument of the gradable property) via functional application. Our claim is that *ser* and *estar* have as complements predications expressing different ways of attributing properties to subjects. Specifically, as will be explained below, V_{ESTAR} has as a complement a Predication Phrase (PredP) that includes stages of the subject of predication, whereas V_{SER} has as a complement a PredP that does not contain stages of the subject but different individuals.¹² In other words, our proposal is that *estar* co-occurs with absolute adjectives (in terms of Toledo & Sassoon 2011, i.e. adjectives that have stages of an individual in their comparison class) while *ser* co-occurs with relative adjectives (which have individuals in their comparison class).

¹² The ideas developed in the text are compatible both with approaches that claim that *ser/estar* have selection restrictions as part of their meaning which determine (in semantic and/or syntactic terms) the possible complements they may combine with; and also with approaches that claim that *ser/estar* are the spell-out reflexes of some semantic/syntactic property of their PredP complements. We remain neutral on this aspect in this paper.



Following Toledo & Sassoon (2011), we assume that all gradable adjectives require a standard of comparison established in relation to a comparison class to be interpreted. The difference between relative and absolute adjectives, which is at the core of their co-occurrence with *ser* and *estar*, is determined by the nature of the comparison class selected in each case. The comparison class of an adjective depends on the individual it is predicated of and can be established based on *variance between individuals* (relative adjectives, (28)) or based on *variance within the same individual* (absolute adjectives, (29)). Relative adjectives are decoded relative to an *extensional category*, generating a ‘between-individuals interpretation’ in which an individual is compared to other distinct individuals within the index of evaluation (which are also members of the category containing the individual the adjective is predicated of). Absolute adjectives are decoded relative to a *counterpart comparison class*, giving rise to a ‘within-individual’ interpretation, in which the adjective’s argument is compared to its *counterparts* in different indices (world-time pairs). For example, in (29)a, the description of the shirt as wet is based on a visualization of that shirt in various degrees of wetness rather than on its juxtaposition with other concrete shirts (Toledo & Sassoon, 2011: 141). Similarly, in (29)b, the adjective generates an interpretation relative to a counterpart comparison class comprised of the same glass with different levels of water. That is, in the case of absolute adjectives only one individual contributes values to the comparison class;

counterparts are thus “possible temporal stages of the same individual in actual but not present circumstances (i.e. in the past) or in normal although not actual circumstances” (Toledo & Sassoon, 2011: 146).

- (28) Tu hijo *es*_{BE-SER} alto / Your son is tall
 (29) a. La toalla *está*_{BE-ESTAR} húmeda / The towel is wet
 b. El vaso *está*_{BE-ESTAR} lleno / The glass is full
 c. Tu hijo *está*_{BE-ESTAR} alto / Your son is tall

Note that many adjectives, in fact all the gradable adjectives in (3), can be interpreted as relative and absolute, hence combining with *ser* and *estar* ((28) - (29)c). Our proposal is that the relative/absolute distinction, defined with respect to the kind of elements that comprise the comparison class of the adjective, is introduced in the syntax by the *pos* (i.e. *positive*) morpheme, syntactically generated as the head of the Deg node present in the extended projection of adjectives, recall (27) (Abney 1987, Corver 1991)¹³. Following Kennedy (1999) and Fults (2006), GMP (2015a) claim that the comparison class acts as a second argument of the M function introduced by *pos*, (30).

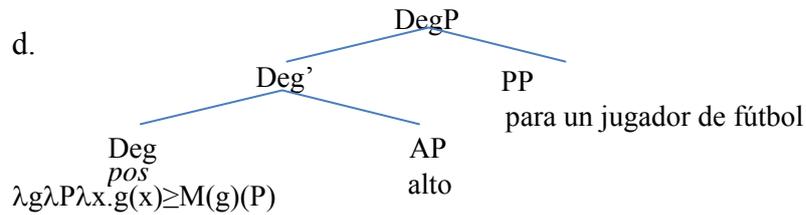
$$(30) \quad [[_{Deg} pos]] = \lambda g \lambda P \lambda x. g(x) \geq M(g)(P)$$

The function M sets the standard degree to which the reference degree (i.e. the degree assigned to the individual by the function) is compared, and can be regarded as a “function over gradable properties [g] and comparison class properties [P]” (Fults 2006: 134). The comparison class is normally instantiated by a PP headed by *for* in English or *para* in Spanish (Ludlow 1989, Contreras 1993 and many others), but it can also be instantiated by a null pronoun C (Stanley 2000, Kennedy 2007). An illustrative example is offered in (31).

- (31) a. alto para un jugador de fútbol
 tall for a player of soccer
 ‘tall for a soccer player’
 b. $\lambda x. alto(x) \geq M(alto)(\lambda y. jugador-de-futbol(y))$

¹³ The abstract functional morpheme expressing positive degree has no phonological expression in Spanish.

- c. The property of being tall to a degree equal to or greater than the standard degree of being tall in the class of soccer players



We claim that the comparison class introduced by *pos* can be, on the one hand, a set of individuals. In this case, it is extensionally defined as the set of individuals *y* such that *y* is *P* or is related to *P* in the world of evaluation (this extensional-comparison class is equivalent to the *between-individuals* comparison class of Toledo & Sassoon 2011), (32)a. Turning back to the example in (31), since the comparison class for *alto/tall* is comprised of individuals, the function *M* applied to this comparison class and to the gradable property returns a midpoint standard as the value to which the reference degree is compared, (32)b.

- (32) a. Comparison class= $\{y: P(y)\}=\lambda y.P(y)$
 b. Juan es alto para un jugador de fútbol.
 ‘Juan is tall for a soccer player.’
 $[[\text{Juan es alto para un jugador de fútbol}]]^{w,t}=1$ iff the degree of Juan’s height is equal to or greater than the standard degree of height of members of the class of soccer players as given by function *M*.

On the other hand, the comparison class introduced by *pos* can be intensionally defined (this is equivalent to the *within-individual* comparison class by Toledo & Sassoon 2011) as in (33), where *w'* ranges over world-time pairs. *A* is an accessibility relation that, given a world *w*, relates *w* to worlds *w'* which are normal or where all the things that normally hold hold (Asher & Morreau 1995).

- (33) Comparison class= $\lambda s.\forall w'[[w'A w][x \text{ is R(ealized) as } s \text{ at } w' \& \{P(x) \text{ or } x \text{ is related to } P\} \text{ at } s \text{ in } w']]]$

Given a world, the function in (33) returns the set of stages such that for every accessible typical world w' , the individual x has a realization s , and x normally {manifests/is/is related to} P at s in w' . This comparison class is effectively within individuals, in particular within the individual x , the argument of the predicate. From this viewpoint, stages are counterparts, entities that are instantiated in worlds in which typicality holds and the comparison class is intensional.

Let us illustrate with example (34). In the case of *lleno* ‘full’, the comparison class is comprised of different stages of the predicate argument, the restaurant in this particular case, as this argument is instantiated in different stages in every contextually salient typical world. It is therefore a *within-individual* comparison class. The function M will apply to this class and will return as its value one of the degrees of the gradable property as it is instantiated as a stage in those typical worlds. The fact that the degrees in question are manifested through stages has the consequence that the standard degree selected by M will count as maximal or minimal (within the comparison class). The adjective is thus interpreted as absolute.

- (34) a. El restaurante está lleno.
the restaurant is_{ESTAR} full
‘The restaurant is full.’
- b. $C = \lambda s. \forall w' [[w'Aw][x = \text{the restaurant is R(ealized) as } s \text{ at } w' \& \{P(x) \text{ or } x \text{ is related to } P\} \text{ at } s \text{ in } w']]$
- c. $[[\text{El restaurante está lleno } C_{\text{PRO}}]]^{w,t} = 1$ iff the degree of fullness of the restaurant is equal to the standard (maximal) degree of fullness of the restaurant as it would be typically instantiated as a stage s included in every normal world w' .

As mentioned above, we claim that being absolute or relative is not a *lexical* property of adjectives, but is syntactically linked to the degree morphology with which the adjective combines. The degree morpheme *pos* is responsible for the categorization of adjectives as absolute or relative. This explains that most gradable adjectives can behave as

relative or absolute adjectives, therefore combining with *ser* or with *estar*, recall ((28) - (29)c).¹⁴

So, informally speaking, in *ser*-sentences, the comparison class is between individuals, i.e. the property is not evaluated with respect to stages of the individual denoted by the subject of predication. Therefore, no change of the subject with respect to the property is necessarily assumed, giving rise to the inference of temporal persistence, contrary to what happens in *estar* sentences. This idea will be formally developed in the following section.

5.2. Comparison classes and the inference of temporal persistence

As it has been claimed in the preceding section, in *estar*-sentences, where absolute adjectives are found, the *within-individual* comparison class includes counterparts of the subject. Necessarily, then, there is a change regarding the degree to which the individual holds the property in different indices. Therefore, with absolute adjectives the inference of temporal persistence is not obtained. In other words, since the property contributed by the absolute adjective is evaluated with respect to stages of the subject, no inference of temporal persistence of the property with respect to the subject is available when the truth of the sentence is evaluated. Consequently, the fact that *estar* predications can appear in the scope of conditional or frequency operators, and the possibility of contextualizing the predication with locative/temporal modifiers, follow from the lack of temporal persistence ultimately associated to the absolute character of the adjectives appearing in these copular sentences.

On the other hand, in *ser*-sentences relative adjectives express the degree to which an entity has a specific property as compared to other entities (*between-individuals* comparison class). Relative adjectives, thus, give rise to the inference of temporal persistence as a default inference, since in the domain of the discourse in which the sentence is evaluated, stages of the subject/property are not found, but only different individuals instantiating different degrees of the property in question.

¹⁴ Cases of non-variability, namely relational adjectives (1), which combine with *ser*, and perfective adjectives (2), which combine with *estar*, receive an independent explanation. We refer the interested reader to Gumiél-Molina, Moreno-Quibén and Pérez-Jiménez (2015a).

Note, however, that this inference, being a default one, can be cancelled without coercing the relative adjective expressing the property into an absolute one, as can be observed in the example (35). Here the temporal modifier in the contrastive statement set up a limit to the persistence of the property without changing the nature of the comparison class associated with the adjectives (a *between-individual* comparison class formed by individuals with different degrees of height). Recall the crucial observations that were made above about the possible readings of the examples (8), (12), (20) and (21).

- (35) Alicia era alta hace unos segundos,
 Alice was_{SER} tall ago few seconds
 pero ahora, tras haber comido el hongo, es baja.
 but now, after have eaten the mushroom is_{SER} short
 ‘Alicia was tall a few seconds ago, but now, after having eaten the
 mushroom, she is short.’

At this point, let us clearly state the connection between the relative/absolute distinction and the IL/SL distinction. As it has been claimed, between-individual and within-individual comparison classes give rise to two different types of gradable adjectives, relative and absolute ones. If an adjective is evaluated with respect to a comparison class comprising counterparts of an individual, the property manifested by the counterparts of the individual in different indices must be interpreted as subject to variation. Therefore, the inference of temporal persistence which seems to be at the basis of the individual-level character of predicates (McNally 1994, Percus 1997, Magri 2009) does not arise, giving rise to the stage-level interpretation of the predication.

On the other hand, the inference of temporal persistence arises as a default inference in the case of relative adjectives since in the comparison class selected by these adjectives there are no stages instantiating different degrees of the property but just individuals manifesting different degrees of it.

In a nutshell, we propose that the Individual/Stage Level distinction is connected to the semantics of gradable adjectives (and also reflected in copular sentences) via

comparison class formation (i.e. the relative/absolute distinction) and the pragmatics of the inference of temporal persistence. The individual-level/stage-level distinction is thus recast in the adjectival domain as a distinction related to the kind of elements that build up the comparison class needed to evaluate adjectival properties, together with the inference of temporal persistence that is or is not obtained in the case of relative vs. absolute adjectives.

6. Conclusions

The general conclusions that arise from this proposal are the following. First, the differences between *ser* and *estar* predications traditionally analyzed as event/aspect/Aktionsart-related can be explained in comparison based approaches if these kinds of approaches are supplemented with a pragmatic notion such as the inference of temporal persistence, independently proposed to explain the behavior of IL predications in *when*-clauses (Condoravdi 1992) and in secondary predication contexts (McNally 1994). Second, the inference of temporal persistence emerges as a default inference in *ser*-sentences because of the way the comparison class of relative adjectives is formed. Relative adjectives express the degree to which an entity has a specific property compared to other entities (*between-individuals* comparison class). In this case, within the comparison class needed to evaluate the adjectival predication, there are no stages instantiating varying degrees of the property but distinct individuals with different degrees of it. No change in time of the property expressed by the relative adjective can be traced back. This allows us to explain the individual/stage level distinction in the domain of the copula+adjective predication in terms of the semantics of gradable adjectives via comparison class formation and the pragmatics of the inference of temporal persistence.

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