Abstract

The Cognitive Sources of Language Change and Variation: Connecting Synchronic Variation and Diachrony in Spanish Copula Use

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Recent investigations into the sources of language change have focused on identifying the systematic patterns of variation across languages and providing generalizations that may explain these changes. Here, I address the question of whether these systematic developmental paths in the meanings of expressions may rely on cognitively relevant properties that facilitate changes in language. Ultimately, this dissertation aims to provide a characterization of how these cognitive sources may lead to language variation and stable changes in language. This question is addressed by investigating the patterns of synchronic variation in Spanish copula use across four dialects. The motivation for this dissertation relies on two main observations from previous literature. The first is a synchronic observation pointing to variation in copula use across Spanish dialects. The second is a diachronic observation indicating that, over time, the domain of the use of *estar* has been encroaching upon the domain of *ser*. What is the connection between synchronic variation in copula use and the observed diachronic pattern of encroachment?

To address this question, I first describe the distributional patterns of the Spanish copulas with a wide range of predicate types, along with prior observations suggesting variation in copular use across dialects. Then, I present the boundedness-presupposition analysis, which relies on methodological tools from model-theoretic semantics and conceptual semantics, to account for the range of uses of *estar* and the variability in copula use. The analysis locates the differences between the copulas in the

presuppositional component of *estar*, which is not present in *ser*. This presuppositional component is experimentally tested in four dialects of Spanish (Argentinian, Iberian, Mexican and Venezuelan) using four different methodologies: 1) an acceptability-rating questionnaire, 2) a fill-in-the-blank task, 3) a self-paced reading study and 4) an EEG/ERP study.

The main finding from this investigation is that copula acceptability and use are sensitive to systematic contextual modulation across dialects. Specifically, *estar* sentences increase in acceptability and are less costly to process when preceded by contextual information that satisfies *estar*'s pressupositional component. The EEG/ERP data provide a finer-grained understanding of the interactions between the lexical meaning of *estar* and the contextual information as the sentence unfolds. A main conclusion from this dissertation is that the variation observed in copula use in Modern Spanish can be understood as a manifestation of the diachronic development of encroachment of *estar*. The variation in copula use across dialects is a reflection of specifc stages of development of *estar*'s encroachment, with certain dialects (Mexican and Venezuelan Spanish) being further ahead in the process of encroachment than others (Iberian and Argentinian Spanish.) The dissertation concludes that it is this additional information provided by *estar* that speakers exploit over time and that serves as a driver of encroachment of *estar* over time.

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List of Abbreviations

CL   clitic

FEM   feminine

FUT   future

INF   infinitive

IO   indirect object

MASC   masculine

PART   participle

PAST   past tense

PL   plural

PRES   present tense

SING   singular

SUB   subjunctive

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Chapter 1

Introduction

The meaning of grammatical expressions varies across time, often in a systematic manner, such that similar developmental paths of change may be observed across languages. Of relevance for this dissertation is the observation that languages with multiple copulas show similarities in the distributional restrictions on copula use and the distinct semantic content associated with each copula. In the Native American language Washo, for example, the distinction between *k*-prefixed and non *k*-prefixed copulas has been related to the individual-level/stage-level distinction (Bochnak et al., 2011), which correspond to the ontological distinction between two predicate types originally proposed by Carlson (1977). Stage-level predications refer to stages of an individual, whereas individual-level predicates predicate something about the individual. The same distinction has been associated with the copulas *is* and *that* in Scottish Gaelic (Ramchand, 1996); whereas a generic/non-generic distinction has been used to explain the differences between the copulas *hu/hi* in Hebrew (Greenberg, 1998).

The focus of this dissertation will be on the Spanish copula system, and particularly on the distinction between the copulas *ser* and *estar* (translated as English 'be'). The differences between the two copulas are often explained with the temporary via-à-vis permanent distinction and this is one of the main rules of thumb used by learners of Spanish as a second language. Counterexamples for this distinction are, however, easy to

find. The study of copula use in Spanish will serve as an entry point to answer the larger question that underlies the investigation: What are the sources of linguistic variation such that we can find systematicities across copula systems? How is the synchronic variation related to the diachronic developmental path of the copulas? This introductory Chapter place these questions into the broader context of the field and describes the structure of the dissertation.

1.1 A Contribution to the Study of Language Change and Variation

Investigations into the field of language change and variation may provide answers to very distinct fields of inquiry. For example, they may serve to study the structure of language *per se*, or they may be used as a tool to investigate human history by studying language distribution. Historical linguistics plays also a role in the study of the human mind since the structure of language may reflect more general cognitive processes. Change can tell us something about systematicities across speakers and communities. Indeed, in the last decades, a main focus of diachronic linguistics have been to describe instances of language change and identifying generalizations over those changes. These generalizations capture systematic patterns of variation that over time lead to stable changes in language. It is these systematic patterns of variation, within the realm of the Spanish copular system, that is the focus of this dissertation.

The objectives for a general theory of language change were explicitly described by Weinrich and colleagues (1968) and still resonate within the current field of historical linguistics. Deo (2015) provides a related set of questions that any theory of semantic change should be able to address:

1. What is the semantic content corresponding to the functional expressions that constitute the input to or the output of a grammaticalization path?

2. What is the logical relation between the meanings of these expressions such that a 'path' may exist between them?

3. What are the necessary and sufficient conditions for the *recruitment* of lexical material to generate functional material?

4. What factors of usage and grammar are involved in *categoricalization* and *generalization* of innovated functional material in a given linguistic system?

5. Is reduction in inventory (i.e. *loss*) spontaneous a concomitant of *generalization* or can it be both?

[Deo (2015:395)]

The current dissertation will address these questions in relation to the Spanish copula system, but the results will contribute to the larger theoretical enterprise of identifying the key components of any theory of semantic change. The dissertation explicitly addresses the nature of the lexical content of expressions that are part of a grammaticalization path. As will be shown, it characterizes the precise lexical content of variant copular expressions and how it relates to the context of use. Question 2, the characterization of *developmental paths* in language change, will be addressed by investigating the connection between synchronic variation and diachrony. The interplay between the two will become crucial to understand the development of grammaticalization paths. Question 3 on the conditions that allow recruitment of new lexical items is addressed by investigating the cognitive forces that may drive variation in language. The question is approached from a pragmatic/semantic perspective by investigating the crucial role of the context during innovation of new forms/uses. Question 4 relates to the propagation of innovated variants across a population, a process that relies on categoricalization and generalization. I address this question partly by investigating the interplay between the Spanish copulas over time and their encroachment of *estar* onto the domain of the use of *ser*. Finally, question 5 addresses the role of loss of existing variants

and how they compete with innovated expressions. Here, I will make use of diachronic and cross-linguistic data to investigate the possibilities of loss of an innovated variant and the systematicities in the recruitment of innovated expressions.

1.2 Motivation and Structure of the Dissertation

As described earlier in this Chapter, the motivation of the current dissertation is to address two main questions that are crucial for the study of language change and variation:

- How can we characterize the sources of linguistic variation such that they lead systematicities across languages and, specifically, across copula systems?

- How is synchronic variation in language related to stable diachronic changes?

I will start from the observation that there is synchronic variation in patterns of copula use in Modern Spanish. The variation is observed across Spanish varieties and speakers (**Chapter 2**). I will then present an overview of previous analyses that have been proposed to explain the differences between the copulas: the temporary/permanent distinction (e.g., Ramsey, 1984; Bello, 1921; García de Diego, 1951; Roca-Pons, 1958), comparison-based analyses (Falk, 1979; Franco and Steinmetz, 1983; Gumiel-Molina et al., 2015), aspectual analyses (Hanssen, 1913; Gili Gaya, 1943; Luján, 1981; Roby, 2009), the individual-level/stage-level predicate distinction (Fernandez Leborans, 1999, Leonetti, 1994) and presupposition-based accounts (Roldán 1974a-b; Clements 1988; Maienborn, 2005). This overview will lay the background necessary to introduce an analysis that describes the Spanish copulas as presuppositional variants that pose different requirements on the discourse context. The analysis accounts for a broader number of distributional patterns than previous accounts and explains the synchronic variation observed across Spanish varieties (**Chapter 3**).

The processing predictions of the presuppositional analysis will be tested using four different methodologies with participants from four varieties of Spanish: 1) acceptability

questionnaire and 2) fill-in-the-blank task (Argentinian, Iberian, Mexican and Venezuelan Spanish) (**Chapter 4**) 2) self-paced reading study (Iberian and Mexican Spanish) (**Chapter 5**) and 3) event-related potential study (Iberian Spanish) (**Chapter 6**). The varieties have been selected on the basis of previous observations that *estar* uses differ in these varieties (Argentinian: Fuchs, personal communication; Iberian, Venezuelan and Mexican Spanish: de Jonge, 1992; Malaver, 2009, 2012; also for Mexican Spanish: Gutiérrez, 1992; Cortés-Torres, 2004). The experimental data will shed light on the extent to which there is variation across Spanish dialects and the possibilities for variation. The results of each study will be discussed along with the implications for our understanding of the differences between the Spanish copulas.

The last part of the dissertation will be devoted to discussing the implications of the analysis and experimental data for the study of copula variation. I will show how synchronic variation in copula use is a manifestation of the diachronic changes observed in the development of the two copulas since the 12th century. I will focus on the systematic development of *estar* from its meaning as a locative to the new uses of *estar* found in Modern Spanish (**Chapter 7**). The dissertation will conclude with a general discussion of the main findings of the dissertation, their connection to the initial questions that motivated the dissertation and guidelines for future directions.

Chapter 2

Distributional Patterns of *ser* and *estar* in Modern Spanish

2.1 Introduction

This Chapter will present an overview of the distributional patterns of the copulas *ser* and *estar* in Modern Spanish. It is divided into two sections, the first section presents a description of copula uses based on the types of predicates that can appear with each of the copulas. I will focus primarily on contrastive uses of the copulas because it is in this domain where the meaning differences between the copulas and their constraints can be more clearly observed. The data will also serve to support the view that the Spanish copulas are not semantically empty; rather, they contribute to the predication with specific semantic nuances. The examples presented in this Chapter come from several sources: grammars on Modern Spanish from the late 19th century until the beginning of the 21st century, journal articles on copula distribution beginning in the early 20th century, and data from the *Corpus de la Real Academia Española* 'Corpus of the Royal Spanish Academy' (CRAE)[1].

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[1]CREA is one of the most extensive corpora in Modern Spanish with over 17000 million forms. The examples are representative of a variety of Spanish dialects and it draws on data from different types of texts (oral conversations, newspapers, scientific literature, literary works, etc.).

Whereas the first part of the Chapter will present the main generalizations on copula use without reference to any dialectal differences. The second part of the Chapter will show that the distributional patterns of the copulas may vary across Spanish dialects by introducing previous work on copula variation in Modern Spanish. This overview will show how *estar* can be used in contexts in which only *ser* was allowed in the past and how some *estar* predications have received a new interpretation in Modern Spanish. Taken altogether, Chapter 2 serves as an entry point to understand the distributional patterns of the copulas that are generally accepted in Modern Spanish, but also the possibilities for variation that are found across dialects of Spanish.

2.2   Overview of Distributional Patterns

The Spanish copulas *ser* and *estar* serve a wide range of functions in Modern Spanish. They can be used in non-overlapping contexts, for example, there are certain nominal and prepositional predicates that only accept *ser*, whereas only *estar* is allowed in the progressive form. With respect to adjectival predicates, the number of adjectives that co-occur with only one of the copulas appears to be relatively small compared to nearly 80% of adjectives that occur contrastively with both copulas (Mesa Alonso et al., 1993). Most of the literature on copula choice has focused on the contrastive uses in combination with adjectival predicates, to which an important part of this chapter will be devoted. In addition, both copulas can appear with nominal and locative predicates and with past participles. I will review each of these uses in the following sections, starting with copula uses in combniation adjectival predications, with the goal of identifying the main generalizations that play a role in determining copula use. As will be seen, *ser* has often been treated as the 'default copula' and the focus has been in describing the uses in which *estar* is acceptable.

2.2.1 Adjectival Predicates

Adjectival predicates (APs) that can appear with both copulas have received the greatest attention in the literature because it is in this domain that one sees the greatest amount of constraints and variability in interpretation associated with copula choice. The distinction between *ser* and *estar* has often being understood in terms of the dichotomy permanent or inherent (with *ser*) vis-à- vis temporary or accidental (with *estar*). However, due to the number of counterexamples that such a distinction faces, more recently *estar* predications have been understood as expressing a sort of contrast, which *ser* predications lack. These two main observations will be described in § 2.2.1.1 and § 2.2.1.3, along with special cases that diverge from this generalization, such as so-called subjective readings in § 2.2.1.4.

2.2.1.1 Temporariness Readings

Grammarians at the end of the 18th century characterized the meaning differences between the two copulas in terms of an opposition: *ser* refers to an inherent property and *estar* refers to an accidental property. One of the first descriptions of the uses of *ser* and *estar* in Modern Spanish can be found in Ramsey's influential work *A Textbook of Modern Spanish* (1894) in which the author describes the different copula uses with APs and concludes that *estar* is used with the meaning of 'to be by condition, outwardly, relatively', whereas *ser* expresses that a property is 'by nature, inwardly, absolutely'.[2] The examples in (2.1) and (2.16) illustrate these different uses of the copulas.

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[2]The dichotomy permanece vis-à-vis temporariness can also be found in earlier references, such as Bello (1847), and it reappears in several grammars: Hanssen (1913), García de Diego (1951) and Roca-Pons (1958) among others.

(2.1)

a.   *Estas manzanas* **son** *agrias.*
      these apples   ser.PRES.3PL sour
      'These apples **are** of the sour kind.'

b.   *Estas manzanas* **están** *agrias.*
      these apples   estar.PRES.3PL sour
      'These apples **are** sour (because they have not ripened yet).'

[Ramsey 1894:310]

In (2.1a), *ser* attributes the property of being sour to a kind of apples –it is an intrinsic property of the apples. In contrast, the use of *estar* in (2.1b) is licensed because the apples are not in the expected or desired state, ripened, but they soon will be. The opposition *inherent* vis-à-vis *accidental*, however, faces a number of counterexamples, such as the following:

(2.2)

a.   *Guillermo* **está** *completamente calvo.*
      Guillermo estar.PRES.3SING completely   bold
      'Guillermo **is** completely bold.'

b.   *La casa de Catalina* **estaba** *destrozada.*
      the house of Catalina estar.PAST.3PL destroyed
      'Catalina's house **was** destroyed.'

c.   *Sus troncos* **estaban** *retorcidos.*
      Their trunks estar.PAST.3PL twisted
      'Their trunks **were** twisted.'   [Bull 1942:434]

In none of the examples in (2.2) *estar* expresses an non-temporary property. In all cases, the property attributed to the referent can be conceived as permanent. As Bull (1942:434) says 'there is no going forward or backward from the states expressed in these sentences. Guillermo stays bald until his dying days [...], Catalina's house has disappeared forever, and the tree trunk will continue to be twisted until it rots away with decay'. On the basis of these and similar examples, it has been proposed that the primary use of *estar* is to indicate that a change has already taken place, rather than to refer to the accidental status of the property. The native speakers' intuition that *estar* expresses an accidental, and therefore

temporary, property is only a corollary of this use. Because a change has taken place, one tends to conclude that the property is unstable, non-permanent and therefore non-inherent (Bull 1942:435; see also Gili Gaya, 1998 for a similar view).

2.2.1.2 Bounded and Unbounded Predicates

There are some predicates that seem to show a tendency to appear with one of the copulas (e.g., Luján, 1980; Clements, 2006; Schmitt and Miller, 2007; Marín, 2009; Múgica and Mangialavori Rasia, 2012). Marín's (2004) captures this bias in terms of the distinction between 'bounded' and 'unbounded' predicates. I will use his terminology for now as a first approximation to the distinction. Marín distinguishes between two groups of adjectival predicates that have been claimed in the literature to generally appear with either *ser* (2.3a) or *estar* (2.3b). Examples of these uses are shown in (2.4) below.

(2.3)

a. cauto, constante, cuidadoso, cortés, leal, prudente, capaz, discreto, justo, mortal, noble, inteligente, llevadero, odioso, sabio, temerario.[3]

b. absorto, angustiado, asombrado, ausente, contento, desnudo, descalzon, enfermo, enojado, harto, lleno, maltrecho, muerto, perplejo, presente, quieto, satisfecho, solo, vacío.[4]

<div align="right">[Marín, 2004:37]</div>

(2.4)

a. *Hank* **es/*está**   *cauto/inmoral/inteligente.*
    Hank ser/estar.PRES.3SING cautious/inmoral/intelligent
    'Hank **is** cautious/inmoral/intelligent.'

b. *Chinasky* ***es/está**   *borracho/descalzo/solo.*
    Chinasky ser/estar.PRES.3SING drunk/barefoot/alone
    'Chinasky **is** drunk/barefoot/alone.'   [Marín, 2004:38]

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[3]cautious, constant, careful, polite, loyal, prudent, capable, discreet, just, mortal, noble, intelligent, easy-going, hateful, wise, reckless

[4]absorbed, anguished, amazing, absent, content, naked, barefoot, ill, angry, fed up, full, injured, dead, perplexed, present, calm, satisfied, alone, empty

One of the properties that seem to play a role in distinguishing between these two groups of adjectives is whether or not they make reference to a specific temporal interval. Those in (2.3b) describe a property that is temporally delimited, which Marín calls a *bounded predicate*, whereas adjectives in (2.3a) do not specify that the property holds at a particular point in time and are therefore referred to as *unbounded predicates*. The characterization of these predicates in terms of their temporal reference is in line with *estar*'s higher acceptability with predications that are temporally restricted. Marín provides additional evidence in support of this characterization of predicate types by providing evidence from pseudocopulative verbs, such as *volverse* 'become', *ponerse* 'react', *ir 'go'*, *andar* 'walk' or *quedarse* 'stay' , which also show sensitivity to this distinction:

(2.5)

a. *Se*   **volvió**   *cortés/capaz/discreta*
    REFL become.PRES.3SING polite/capable/discreet
    '(S/He) **became** polite/capable/discreet.'

b. *Se*   ***volvió**   *borracha/contenta/enferma*
    REFL become.PRES.3SING drunk/happy/ill
    '(S/He) **became** drunk/happy/ill.'

(2.6)

a. *Se*   ***puso**   *cortés/capaz/discreta*
    REFL put.PRES.3SING   polite/capable/discreet
    '(S/He) **reacted** in a polite/capable/discreet way.'

b. *Se*   **puso**   *borracha/contenta/enferma*
    REFL put.PRES.3SING   drunk/happy/ill
    '(S/He) **reacted** in a drunk/happy/ill way.'

(2.7)

a. *Juan* **va/anda**   *nervioso*
    Juan go/walk.PRES.3SING nervous
    'Juan **is in a state of** nervousness.'

b. *Juan* ***va/anda**   *intelligent*
    Juan go/walk.PRES.3SING intelligent

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'Juan **is in a state of** intelligence.'

(2.8)

a. *Esteban se **quedó** perplejo*
    Esteban REFL stay.PRES.3SING perplexed
    'Esteban **stayed** perplexed.'

b. *Esteban se ***quedó** cuidadoso*
    Esteban REFL keep.PRES.3SING careful
    'Esteban **stayed** careful.'   [Marín, 2004:38]

Crucially, the distinction between these two predicate types can be contextually modulated. For example, predicates that typically occur with *ser* can also appear with *estar* if the predication is contextualized such that the predication is characterized as holding temporarily, as in the following examples:

(2.9) **Context:** Juan seems very witty today and is answering all questions correctly in class:

*Juan **está** inteligente.*
Juan estar.PRES.3SING fintelligent
'Juan **is** behaving in an intelligent way.'

(2.10) **Context:** Juan approaches wearing a bowler and walking with a cane in his hand:

¡Vaya! ¡Estás muy británico!
wow! estar.PRES.2SING very British!
'Wow! You **are/look like you are** acting British!'

[Escandell-Vidal and Leonetti, 2002:10-11]

The example in (2.9) describes Juan's behavior given a *particular situation*, for example, if Juan is behaving in a particularly friendly way today; or she usually does not do her homework well, but today she is answering all questions correctly. In (2.10), *estar* is acceptable in a situation in which Juan is wearing a bowler and walking with a cane in

his hand. The generalization that has been provided is that the context needs to indicate a temporary ascription of the referent to a particular state for the use of *estar* to be felicitous (Luján, 1981; Escandell-Vidal and Leonetti, 2002; Maienborn, 2005).

2.2.1.3   Contrast-Based Differences

There is a class of *estar*-predications that seem to be better characterized as denoting a contrast, rather than a temporary predication:

(2.11) **Context:** A Spanish tourist visits the Sistine Chapel in Rome and says:

> *¡Qué   hermoso* **está**   *esto!*
> How   pretty   estar.PRES.3SING this
> 'How pretty this **is**!'

(2.12) *Me   gusta   la   nieve de las montañas   porque   siempre*
　　　 IO   love.PRES.1SING the snow   of the mountains because always
　　　 está   *blanca.*
　　　 estar.PRES.3SING white
　　　 'I love the snow in the mountains because it **is** always white.'

[Crespo 1946:49]

Estar is acceptable in (2.11) in a context in which the beauty of the Sistine Chapel has not undergone a change and it is not expected to change in the future. In fact, it could be the first time the tourist visits the Chapel. In (2.12), the snow is described as being *always* white, therefore it is expected to be a permanent property. The use of $estar$, however, is felicitous in these examples. What these uses seem to have in common is that they indicate a contrast between the property that is predicated of the referent and the expectations of the speaker.

Crespo (1942) is among the first authors to provide a characterization of the type of contrast expressed by *estar*. He argues that the contrast can be of two kinds: a contrast with the state of *another entity* or with another state of the *same individual*. Some examples are as follows:

(2.13)

a. *La nieve **está** sucia en las calles.*
the snow estar.PRES.3SING dirty on the streets
'The snow **is** dirty on the streets.'

b. ***Vamos a Casa Juan, allí las sopas están rebuenas.***
go.IMP.1PL to Casa Juan there the soups estar.PRES.3PL delicious
'Let us go to Casa Juan, there the soups **are** delicious.'

c. *La pobre Dolores todavía **está** alegre como siempre, cuando*
the poor Dolores still estar.PRES.3SING happy as always when
sepa la noticia se pondrá triste.
know.SUBJ.3SING the news REFL become.FUT.3SING sad
'The poor Dolores **is** still happy, as always, when she finds out the news, she will become sad.'

d. *Carlos **está** muerto.*
Carlos estar.PRES.3SING dead
'Carlos **is** dead.' [Crespo, 1946]

In (2.13a), *estar* expresses a contrast between the current state of the snow at utterance time and the original state of the snow, which is of white color. In (2.13b), the contrast is with a different entity, the taste of the soups at another (non-specified) location. The last two examples illustrate contrasts that involve a comparison between states of the same individual. The contrast can be established with a future state of the referent, as in (2.13c), in which Dolores is described as a happy person, but who will soon be sad. In (2.13d), *estar muerto* 'to be dead' contrasts with a prior state of Carlos when he was alive (Crespo, 1946:55).

This notion of contrast is also found in combination with adjectives of size, which I will refer to as *relational uses* of gradable adjectives. In such cases, the property denoted by the adjective obtains to a degree that depends on the relation between the entity-denoting subject and another entity salient in the discourse context. In these cases, *estar* is often translated into English as 'to fit':

(2.14)

a. *Te regalaré unos zapatos en buen uso que me*
CL.IO give as a present.FUT.1SING some shoes of good use that CL.IO

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están *grandes.*
estar.PRES.3PL big
'I will give you some shoes of good quality that **are/fit me** too big (for me).'

[Morley 1942:465, from *El sombrero de tres picos* by Alarcón]

b. *Otras prendas que a la edad de ocho años había*
other clothes that to the age of eight years have.PAST.3SING
desechado   Mariquita porque la **estaban** *chicas*
get rid of.PAST.PART Mariquita because CL.IO estar.PAST.3PL small
'Some clothes that Mariquite got rid of when she was eight because they **fit** small.'

[Morley 1942:465, from *¡Carlitos!* by Taboada]

If there is no possibility of establishing a contrast, the use of *estar* decreases in acceptability. For example, in (2.15a), the use of *estar* is not felicitous because worlds are usually conceived as being round-and not, for example, squared. However, *estar* is felicitous if the contrast is made with another state of the world that is explicitly described in the immediate context, as in (2.15b).
(2.15)

a. *?El mundo* **está** *redondo*
the word estar.PRES.3SING round
'The world **is** round.'

b. *El mundo, ahora,* **está** *redondo y sólido, antes era una*
the world now estar.PRES.3SING round and solid before ser.PAST.3SING a
espiral nebulosa blanca.
spiral nebulae white
'The world **is** round and solid now, before it **was** a white spiral nebulae.'

[Crespo 1946:49]

2.2.1.4 Subjective Readings

The use of *estar* usually comes to express an emotional reaction of the speaker, as in (2.16), in which the mother dissociates herself from the norm (the usual state of the daughter) and describes her as prettier because of the red kerchief she is wearing:

(2.16) *Hija   mía, no   sabes   lo guapa que* **estás**   *con*
    daughter mine NEG know.PRES.2SING IO pretty that estar.PRES.2SING with
    ese   pañolín   colorado.
    that   kerchief   red
    'My child, you do not know how (unusually) pretty you **are** with that red kerchief.'

        [Ramsey 1894:311, from *Sinfonía pastoral, Adagio cantábile* by Palacio Valdés]

Another example that illustrates *estar*'s use to express subjective claims, and particularly to convey a change in the speaker's attitude, is the following conversation between a magistrate and a lawyer:

(2.17)

a.   Magistrate:

    ¡Qué guapa **estaba**   *esta tarde   la   señá Frasquita!*
    How   pretty   estar.PAST.3SING this   afternoon   the   Mrs.   Frasquita
    'How pretty is (**estar**) Mrs. Frasquita this afternoon!'

b.   Lawyer:

    *¡Cómo guapa! ¡***Es***   guapa!*
    How   pretty!   ser.PRES.3SING   pretty
    'What do you mean she is (**estar**) pretty! She is (**ser**) pretty!'
        [Bull 1942:438, from *El sombrero de tres picos* by Alarcón]

In (2.17a), the magistrate indicates a change of opinion with respect to Mrs Frasquita's beauty at a particular point in time, and the lawyer (2.17b) answers indicating with *estar* that the beauty of Mrs. Frasquita is not an accidental property that holds only that afternoon; rather, it is a long-held belief (Bull, 1942:438).

Some authors have noted that the uses of *estar* to express subjective claims correlate with uses that are based on at least one previous encounter with the referent. The main claim is that the use of *estar* is licensed because the speaker can resort to prior evidence, which is usually associated with stimulation of one or more of the five senses (e.g., Escandell-Vidal and Leonetti, 2002; Roby, 2009). Indeed, Querido (1976) was among the first authors to argue that *estar* is the appropriate copula to report a first sensorial experience. The following examples are illustrative of this use:

(2.18)

    Esto **está**   *buenísimo.*
    this   ser/estar.PRES.3SING delicious
    'This tastes delicious.'

    John Goodman **está**   *genial en esa película.*
    John Goodman estar.PRES.3SING great   in   that movie
    'John Goodman is great in that movie'.

                                        [Escandell-Vidal & Leonetti, 2002:10]

(2.19)

a.   *Esta paella* **está**   *riquísima.*
      this   paella estar.PRES.3SING delicious
      'This paella **is** delicious.'

b.   *Me encanta esta canción.* **Está**   *linda.*
      IO   love   this song.   estar.PRES.3SING beautiful
      'I love this song. It **is** beautiful. '

                                        [Roby, 2009:93]

Some authors have attempted to explain these subject uses of *estar* by relating them to the temporariness meaning of *estar* predications. Roby (2009), for example, argues that direct evidence is always linked to stimulation of one of the five senses, which occurs during a delimited period of time. In (2.19a), the delimited period of time is the very moment when the speaker tastes the paella; whereas in (2.19b), the relevant time is when the speaker hears and recognizes the song. It is the temporary nature of these sensory experiences that, according to Roby, licenses the use of *estar*.

2.2.1.5 Semantic Effects with Polysemous Adjectives

The final class of adjectival predicates that we are going to consider are polysemous adjectives whose final interpretation depends on their combination with *ser* or *estar*. In

such cases, not only does the use of *estar* signal that the property denoted by the adjective holds temporarily of the subject referent, but the property itself is understood to be qualitatively different depending on the final interpretation. This is the case of the adjectives *bueno* 'good' in (2.20a-b), and *malo* 'bad' in (2.21a-b). In combination with *ser*, these adjectives refer to the personality of the subject referent, whereas with *estar*, they refer to the current health state of the referent.

(2.20)

a. *Su   hermano* **es**   *bueno.*
   Your brother   ser.PRES.3SING good
   'Your brother **is** good.'

b. *Su   hermano* **está**   *bueno.*
   Your brother   ser.PRES.3SING good
   'Your brother **is** well (in good health).'   [Ramsey 1894:313]

(2.21)

a. *Mi hijo* **es**   *malo.*
   My son   ser.PRES.3SING bad
   'My son **is** bad.'

b. *Mi hijo* **está**   *malo.*
   My son   ser.PRES.3SING bad   (in bad health).
   'My son **is** ill.'   [Ramsey 1894:313]

In addition, copula choice may be used with this class of adjectives to make a distinction between kind and temporary interpretations. For example, the use of the adjective in (2.22a) is interpreted as referentially denoting a particular entity in the discourse context, whereas in (2.22b), the nominal is taken to refer to the kind 'steel'. Similarly, the use of *estar* in (2.23) is interpreted referentially as denoting a particular summer that is relevant in the context; whereas in (2.23), the use of *ser* refers to the kind 'summer'.

(2.22)

a.   *El   acero **está**   duro*
        the   steel   estar.PRES.3SING hard
        'The steel **is** hard.'

a.   *El   acero **es**   duro*
        the   steel   ser.PRES.3SING hard
        'Steel **is** hard.'

(2.23)

a.   *El   verano   **está** caluroso.*
        summer estar.PRES.3SING hot
        'The summer **is** hot.'

a.   *El   verano   **es** caluroso.*
        summer ser.PRES.3SING hot
        'Summer **is** hot.'

2.2.2 Locative Prepositional Predicates

In Spanish, *ser* and *estar* can appear with several locative prepositional phrases, such as *en* 'in' (2.24a), *por* 'for' (2.24b) and *al/a la* 'to the' (2.24c). *Estar*, however, is the most common copula with prepositional predicates to express physical location or position in space, regardless of its duration.

(2.24)

a.   *La mesa **es/está**   en la   cocina.*
        the   table ser/estar.PRES.3SING in   the   kitchen
        'The table **is** in the kitchen.'

b.   *La entrada **es/está**   por la   izquierda.*
        the   entry   ser/estar.PRES.3SING for   the left
        'The entry door **is** on the left.'

c.   *El chiringuito **es/está**   a la   orilla del   río.*
        the   drink stand ser/estar.PRES.3SING to the bank   of the river
        'The drink stand **is** at the bank of the river.'

One of the main generalizations of copula use with these predicate types is that *ser* describes the location where an *event* takes place, whereas *estar* refers to the location of an *entity*. Consider the following examples:

(2.25)

a. *¿Dónde* **es** *la salida?*
where ser.PRES.3SING the way out
'Where **is** the way out?'

b. *¿Dónde* **está** *la salida?*
where estar.PRES.3SING the exit door
'Where **is** the exit door?'

(2.26)

a. *¿Dónde* **es** *el correo?*
where ser.PRES.3SING the post office
'Where **is** the post office?' (the place where letters can be sent)

b. *¿Dónde* **está** *el correo?*
where estar.PRES.3SING the post office
'Where **is** the post office?' (the building itself)

[Roldán 1974a:73]

The example in (2.25) with *ser* asks for the location where the event of 'going out' may occur, whereas the use of *estar* asks for the location of the door. Similarly, the sentence with *ser* in (2.26a) refers to the function of the building, that is, the place where mail services take place, whereas the use of *estar* in (2.26b) refers to the actual building. Roldán (1974) illustrates the differences in meaning by noting that the answer to the questions in (3.92a) and (3.92b) would be as in (3.93a) and (3.93b) respectively, in which the subject referent is either the event of exiting the building (with *ser*) or the exit door itself (with *estar*):

(2.27)

a. *La   salida **es**   por la   puerta de atrás.*
    the exit   ser.PRES.3SING by   the door   of back
    'The exit **is** by the back door.'

b. *La   salida **está**   en la   parte de atrás del   edificio*
    the exit   estar.PRES.3SING in the door   of back   of the building
    'The exit door **is** at the back of the building.'

[Roldán 1974a:73]

There are cases in which the subject of the predication may preferentially denote an event or an entity. In the case of event-denoting subjects as in (2.28a-b), the predication with *ser* describes the location of the event itself; whereas with *estar*, it refers to the location of the people taking part in the conference/party. With respect to entity-denoting subjects, as in (2.29a-b), the use of *ser* refers to the place where the references should generally be included in a book, whereas the use of *estar* indicates the location of the references at utterance time (e.g., the speaker might want to know where the references are located in a particular book that s/he is holding). In (2.29b), the use of *ser* describes the location where the coffee can usually be found, whereas the use of *estar* denotes the location where the coffee is at utterance time, without implying that the location is usually associated with the coffee.

(2.28)

a. *La   conferencia **era/estaba**   en la   biblioteca.*
    the conferences ser/estar.PAST.3SING in the library
    'The lecture **was** in the library.'

[Roldán 1974a:74]

b. *La   fiesta **era/estaba**   en la   cocina.*
    the party   ser/estar.PAST.3SING in the kitchen
    'The party **was** in the kitchen.'

(2.29)

a. *Las referencias* **son/están** *al final del libro.*
the references ser/estar.PRES.3PL at the end of the book
'The references **are** at the end of the book.'

b. *El café* **es/está** *en el segundo estante.*
the coffee ser/estar.PRES.3SING in the second cupboard
'The coffee **is** on the second cupboard.'

The main generalizations from this overview are that *estar* shows a preference to indicate the location of specific individuals in space. In the case of event-denoting subjects, the predication describes the location of the individuals taking part in the event. By contrast, *ser*-predications are used preferentially to describe the location of events, i.e. where the event is taking place. In combination with entity-denoting subjects, *ser* is used to indicate the usual location of the entity, regardless of its location at utterance time.

2.2.3 Nominal Predicates

The copula *ser* typically appears with nominal predicates and, in many cases, it is the only copula that is allowed, as in the examples in (2.30).

(2.30)

a. *Las escuelas públicas* **son/*están** *una calamidad.*
the schools public ser/estar.PRES.3PL a disaster
'Public schools **are** a disaster.'

[Roldán 1974a:74]

b. *La Paz y Potosí* **son/*están** *departamentos de Bolivia.*
La Paz and Potosi ser.PRES.3PL departments of Bolivia
'La Paz and Potosi **are** departments of Bolivia.'

[Ramsey 1894:307]

In these examples, the predications denote properties that permanently identify the referent (Roldán, 1974). There are some cases, however, in which both copulas are possible in combination with the same predicate:[5]

(2.31)

a. *Luis* **es/ está** *(de) embajador en las U.N.*
Luis ser/estar.PRES.3SING of ambassador in the U.N.
'Luis **is/serves** as an ambassador to the U.N..'

b. *Mi hermano* **es/está** *(de) ventrílocuo en el Circo Latino.*
My brother ser/estar.PRES.3SING of ventriloquist in the Latin Circus
'My brother **is/is acting** as a ventriloquist in the Latin Circus.'

[Roldán 1974a:74]

In the examples above, *ser* still preserves the notion of *permanence*: being an ambassadorship may be a role that is set for life and being a ventriloquist is an ability that one is unlikely to lose. The examples with *estar* describe states that are temporary. The copula indicates that the subject is serving as an ambassador (2.31a) or acting as a ventriloquist (2.31b) for a particular period time. The predication may imply a potential change, but not necessarily (Roldán, 1974a)[6]. These examples illustrate, once again, the generalization that *estar* predications show a tendency to describe properties that hold temporarily.

2.2.4   Past Participles

The copula *ser* is the preferred copula for use in combination with past participles to form the passive voice (2.32). Both copulas, however, can be used contrastively as *estar* may also be used in combination with past participles to emphasize the span of time during which the event takes place, as in (2.33).

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[5]The use of the preposition 'de' in these examples is only required with *estar*.

[6]According to Solé and Solé (1977), *estar*-predications can also convey that the occupation is permanent in these examples and the context will have to clarify the final interpretation.

(2.32)

a. **Fue** *expulsado del club por el Comité.*
ser.PAST.3SING expelPAST.PART.SING of the club by the committee
'(He) **was** expelled from the club by the Committee.'

[Solé and Solé, 1977:257]

(2.33)

La orquesta **fue/estuvo** *dirigida por el maestro Canaro.*
The orchestra ser/estar.PAST.3SING conducted by the conductor Canaro
'The orchestra **was** conducted by (conductor) Canaro.'

[Roldán, 1974b:292]

In (2.33) the *ser*-predication asserts the event of 'conducting the orchestra', whereas *estar* emphasizes the period of time during which the event of conducting the orchestra takes place. Roldán (1974b:293) shows the contrast by using different adverbs:

(2.34)

a. *La orquesta ha* **sido/?estado** *dirigida* **cuatro veces** *por el maestro*
The orchestra has ser.PART.3SING directed four times by the conductor
Canaro.
Canaro
'The orchestra has **been** conducted by Canaro **four times**.'

b. *La orquesta ha* **?sido/estado** *dirigida* **cuatro años** *por el maestro*
The orchestra has estar.PART.3SING directed four years by the conductor
Canaro.
Canaro
'The orchestra has **been** conducted by Canaro for **four years**.'

[Roldán, 1974b:293]

In (2.34a), the frequency adverbial is more acceptable with *ser* because the final predication emphasizes the repetition of the event. In contrast,the duration adverb in (2.34b) makes the use of *estar* more acceptable. Note that the use of *ser* would also be

possible, but only to express that the event of conducting the orchestra took place four times (once a year for four years). If the past participle denotes a non-durative event (e.g., *escrito* 'written', *signed* 'firmado'), *estar* predications emphasize the result of the event (Solé and Solé, 1977). The following examples illustrate this use: :

(2.35)

a. *La carta* **está** *escrita.*
the letter estar.PRES.3SING write.PAST.PART
'The letter **is** written.'

b. *La carta* **ha sido** *escrita.*
the letter have.PRES.3SING ser.PAST.PART write.PAST.PART
'The letter **has been** written.'

(2.36)

a. *Los documentos* **están** *firmados.*
the documents estar.PRES.3PL sign.PAST.PART
'The documents **are** signed.'

b. *Los documentos* **han sido** *firmados.*
the documents have.PRES.3PL ser.PAST.PART write.PAST.PART
'The documents **have been** signed.'

[Solé and Solé, 1977:263]

(2.37)

a. *¿Se va a usted a quedar aquí? Pero no* **está**
IMP go.PRES.2SING to you to stay.INF here? but NEG estar.PRES.2SING
permitido.
allow.PAST.PART
'Are you going to stay here? But it **is** not allowed.'

[Ramsey 1984:315, from *La feria de los discretos* by Pío Baroja]

b. *¿De cuándo acá* **es** *permitido que te burles de mí?*
of when here ser.PRES.3SING allow.PAST.PART that IO make fun.PAST.PART of IO
'Since when it **is** permissible that you make fun of me?'

[Ramsey 1984:315, from *Miau* by Pérez Galdós]

These uses of *estar* with past participles show again the tendency of *estar* to restrict predications to time intervals or specific outcomes. This section ends the overview of the distributional patterns of the copulas. A summary of all the uses is provided in the tables below, organized by predicate type.

2.2.5   Summary Tables of Distributional Patterns

2.2.5.1   Adjectival Predicates

Copula	Readings	Examples
estar	accidental/temporary property	*La mañana* **está** *soleada.* The morning **is** sunny. *La manzana* **está** *verde.* The apple **is** green (it is not ripe yet).
	contrast with prior state of the referent	*Guillermo* **está** *calvo.* Guillermo **is** bald. *¡Tu hermano* **está** *alto!* Your brother **is** tall!
	contrast with an expected state (relational uses)	*Los zapatos me* **están** *pequeños.* The shoes **are/ fit** small (to me).
	subjective readings	*¡La Capilla Sixtina* **está** *hermosa!* The Sistine Chapel **is** beautiful! *¡La paella* **está** *riquísima!* The paella **is** delicious!
ser	assertion of a property	*Las manzanas* **son** *verdes.* The apples **are** green (kind of apple). *Los zapatos* **son** *pequeños.* The shoes **are** small (regardless of who wears them) *La capilla Sixtina* **es** *hermosa.* The Sistine Chapel **is** beautiful. (unquestionable claim)
estar / ser	semantic effects with polysemous adjectives	*Juan* **es** *bueno.* Juan **is** a good person. *Juan* **está** *bueno.* Juan **is** well (in good health). *Juan* **es** *cansado.* Juan **is** a tiresome person. *Juan* **está** *cansado.* Juan **is** tired.

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2.2.5.2   Locative Prepositional Predicates

Copula	Reading	Examples
estar	Physical location, whether permanent or temporary (of a specific individual or individuals taking part in an event)	*Mi hermano* **está** *en el banco.* My brother **is** at the bank. *La conferencia* **es** *en el auditorium* The conference **is** in the auditorium.
ser	location where an event takes place	*La salida* **es** *por la puerta de atrás.* The exit **is** by the back door *La conferencia* **es** *en el auditorium* The conference **is** in the auditorium.
	usual or permanent location of the referent	*Las referencias* **son** *al final del libro.* The references **are** at the end of the book. *San Francisco* **es** *en California.* San Francisco **is** in California.

2.2.5.3   Nominal Predicates

Copula	Reading	Examples
estar	temporary states	*Luis* **está de** *camarero los fines de semana.* Luis **works as** a waiter on weekends. *Luis* **está de** *embajador en las U.N.* Luis **serves as** an ambassador to the U.N. (for a given period of time)
ser	property that permanently identifies the referent	*Luis* **es** *camarero los fines de semana.* Luis **is** a waiter on weekends (it is a main source of income). *Luis* **es** *embajador en las U.N.* Luis **is** an ambassador to the U.N. (it is his profession)

2.2.5.4 Past Participles

Copula	Meaning	Examples
ser	assertion of event (passive voice)	*La orquesta* **fue** *dirigida por el maestro Canaro.* The orchestra **was** conducted by Canaro. *La carta* **es** *enviada por la directora.* The letter **is** sent by the director (regularly, for example, every Monday)
estar	**durative events** emphasis on temporally-bounded events	*La orquesta* **estuvo** *dirigida por el maestro Canaro.* The orchestra **was** conducted by Canaro. (for four years)
	non-durative events: present state is the result of previous event	*La carta* **está** *enviada.* The letter **has been** sent.

2.2.6 Interim Summary

This section began with a characterization of the copulas in terms of the opposition inherent vis-à-vis accidental to describe *ser* and *estar* uses respectively in combination with adjectival predicates. It was shown how this distinction cannot account for common uses of *estar*. A distinction based on the contrastive meaning of *estar* seems to have a wider applicability, but counterexamples can also be found, especially with respect to uses of *estar* that describe evaluative, subjective claims.

The copulas also commonly appear in combination with nominal and locative predicates and with past participles. The temporary- or contrast-based interpretations of *estar* can be applied to a certain extent to their use with nominal predicates and past participles. The preferred use of *estar* with locative predicates is, however, harder to account with these explanations. The main generalization that arises in such cases is that *estar* is more frequently used with predications in which the question under discussion is about the location of the referent, which requires considering alternative geographical locations in which the referent may be located. Overall, a recurrent pattern across predicates is the characterization of *estar* as the marked copula as it seems to always appear in a subset of cases in which *ser* is used.

2.3 Variation in Copula Use across Spanish Dialects

The distributional patterns of the *ser* and *estar* described in the previous section are generally accepted by most native speakers of Spanish. Several authors have noted, however, that copula use varies across Spanish dialects (e.g., Cuban Spanish: Alfaraz, 2012; Mexican Spanish: Gutiérrez, 1992; Cortés-Torres, 2004; Malaver, 2012; Juárez-Cummings, 2012; Puerto Rican Spanish: Ortiz-Ruiz, 2000; Brown and Cortés-Torres, 2012; Venezuelan Spanish: De Jonge, 1992; Díaz-Campos and Geeslin, 2011). This variation has been characterized as 'innovations' in the use of *estar* in certain dialects. The innovations appear primarily in the domain of adjectival predicates (AP) and are of two kinds: 1) extension of *estar* to uses in which only *ser* was acceptable and 2) new interpretations of [*estar*+AP] in cases in which *estar* was already acceptable.

The purpose of this section is to capture the main insights from previous literature about how copula use varies across Spanish varieties. In § 2.3.1, I describe how new uses of *estar* have been characterized as part of the description of [*estar*+APs] construction. In § 2.3.2, I review the literature on variation in copula use in Modern Spanish, which has mostly focused on copula uses in combination with APs.

2.3.1 Characterizing the Variation in *estar* Predications

Uses of *estar* that have been defined as *traditional*, and therefore generally accepted across Spanish dialects, are those in which *estar* describes that the predication holds at a particular temporal interval and/or is susceptible to change (2.38a). Another main use of *estar*, as described earlier in this Chapter, is to establish a contrast. In (2.38b), for example, *estar* describes a contrast between the weight of Elena at a particular point in time and her weight at an earlier point in time.

(2.38)

a. *Juan* **está** *delgado.*
Juan estar.PRES.3PL skinny
'Juan is skinny (now).'

b. *Elena* **está** *alta.*
Elena. estar.PRES.3SING tall
'Elena **estar** tall (in comparison to two years ago).'

A contrast-based reading of *estar*, as in (2.38b), is usually associated with the distinction between two norms or ways of conceiving the world: a class norm and an individual norm (Falk, 1979). The use of *ser* in a sentence such as *Elena es alta* 'Elena **ser** tall' conveys that the height of Elena stands out relative to the height of some average group of women. For example, Elena may be tall relative to her classmates. The use of *ser* requires a deviation with respect to the standard in a category or class (**class norm**). By contrast, *estar* makes the claim relevant to an individual norm or circumstance. The use of *estar* in *Elena está alta* 'Elena **estar** tall' establishes a contrast between the current height of Elena and the height that is normal *for Elena* (**individual norm**). This individual norm may be established, for example, on the basis of several encounters with an individual.

Any deviation from these two main uses of *estar* is considered an 'innovative use'. The example in (2.39a) is an innovative use because the evaluation of the movie cannot be temporary and it cannot be used to establish a contrast with counterparts of the movie. Similarly, in (2.39b), *estar* describes the average height of American people. The temporary/contrastive characterization does not capture this use of *estar* either.

(2.39)

a. *La película* **está** *muy buena.*
the movie estar.PRES.3PL very good
'The movie *is* very good.'

b. *Los estadounidenses* **están** *altos.*
the Americans. estar.PRES.3SING tall
'Americans **estar** tall .'

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The first investigation of innovative uses of *estar* in monolingual speakers was conducted with speakers of Mexican Spanish in the city of Morelia (state of Michoacán).[7] Gutiérrez interviewed 26 monolingual speakers of Mexican Spanish in two sessions of one hour each. The first session consisted of a conversation about a variety of subjects, followed by questions that required comparisons between things or situations and narrations of past events. The second session consisted entirely of discussing tasks carried out by the speaker. The results showed that speakers used innovative uses of *estar* in 16% of cases in which *ser* was the expected copula (134 uses out of 881 total expected uses of *ser*). Examples of these uses are shown in (2.40a-b) below.

(2.40)

a. *...y había dos baños, uno que se construyó después y otro que ya estaba y había una pila grande y un lavadero también grande. / M.: muy grande, ah, sí muy grande, era como una pila como de 2 por 2,* **estaba** *bien bonita, a mí me gustaba mucho...*

    '... it had two bathrooms, one that was built after and one that was already there which had a big sink and a big place for doing laundry too. / M: very big, ah yes, very big, it was like a 2 x 2 sink, it **was** so beautiful, I liked it very much ...'

b. *...otro lugar que podría ser bueno, el dueño de este lugar tiene otro en el centro que* **está** *más pequeñito, más encerradito, podría decirse que tal vez un poquito más íntimo, se llama 'La Tórtola', ahí hacen el mismo tipo de comida... muy sabrosa...*

    '... another place that might be good, the owner of this place has another one in downtown that **is** smaller, cozier, perhaps it could be said that it is a little more

[7]Innovative uses of *estar* were investigated earlier in a bilingual English-Spanish community by Silva-Corvalán (1986). For the purposes of the present study, the remaining of the chapter will be restricted to copula use in monolingual speakers. Note, however, that several authors have conducted work in bilingual communities such as Behrend (1986) on Chicago Spanish, Sanz and González (1995) on Tortosí Catalan, Salazar (2007) on New Mexico Spanish, Geeslin and Guijarro-Fuentes (2008) on bilingual communities in contact with Iberian Spanish (Galician, Basque and Catalan), Larrañaga and Guijarro-Fuentes (2012) on Spanish-Basque bilinguals, Ortíz-Lopez (2000) and Brown and Cortés-Torres (2012) on Puerto Rican Spanish, and Aguilar-Sánchez (2012) on the Spanishes of Limón, Costa Rica.

intimate, it is called 'La Tórtola', they make the same kind of food... very

delicious...'

[Gutiérrez, 1992:121, 124]

These two uses of *estar* are innovative because they cannot be characterized as describing neither a temporary nor a contrastive property. Gutiérrez's results were supported by Cortés-Torres' (2004) study on Mexican Spanish in the city of Cuernavaca (state of Morelos), located in the central Mexican-plateau (36 participants). The results of the study, which followed a similar methodology to that of Gutiérrez's (1992), classified 343 uses of *estar* out of 1130 uses in which *ser* is considered the standard copula as innovative (23%). Altogether, this data show that innovative *estar* uses are common in the speech of monolingual Mexican speakers, particularly in two areas that have been traditionally considered part of two different Mexican dialects: western dialect (Morelia) and central-plateau dialect (Cuernavaca) (see Lope Blanch, 1971, 1990 for a division of Mexican dialects).

Additionally, both studies found that certain adjectives favor the use of innovative uses of *estar* to a greater extent. Overall, adjectives that refer to age, size and physical appearance are more frequently used with *estar* in innovative readings. By contrast, there are adjectives that disfavor these uses and, therefore, the final interpretation may sound less natural to a native speaker. Cortés-Torres (2004) points to two of these uses:

(2.41)

a.   *Todo el mundo piensa que los estadounidenses* **están** *altos.*

'Everyone thinks that Americans **are** tall.'

b.   *Teresa y María tienen miedo de llegar tarde a la clase porque el profesor siempre* **está** *puntual.*

'Teresa and Maria area afraid of arriving late at the classroom because the professor **is** always punctual.'

[Cortés-Torres 2004:792]

In example (2.41a), the native speaker's intuition is that the claim is generally accepted as suggested by the subject *todo el mundo* 'everyone'. Accordingly, *ser* should be the preferred copula. In (2.41b), the adverb *siempre* 'always' indicates that this may be an in inherent feature of the professor, and this interpretation is expected to decrease the acceptability of *estar*.

These studies also investigated the influence of social factors on copula use (gender, age and educational level) and found that speakers with higher educational levels tend to use *estar* less with these innovative interpretations. Furthermore, copula uses differ according to sex: women use innovative *estar* at a higher rate, but only those speakers with an incomplete secondary education.[8]

The use of *estar* in innovative cases have also been reported for other varieties of Spanish, suggesting that innovative uses of of *estar* are not an isolated case in Mexican Spanish. The remainder of the Chapter will focus on investigating how innovative uses of *estar* vary across Spanish dialects.

2.3.2   Innovative Uses of *estar* across Spanish Dialects

De Jonge (1994) is among the first authors to note the differences in copula use across Spanish dialects. He investigates innovative uses of *estar* in combination with adjectival predicates that refer to age (e.g., *viejo* 'old', *pequeño* 'small', *chico* 'little', *niño* 'young') in three dialects: Iberian (i.e., from Spain), Mexican and Venezuelan. The results showed that innovations occur at a higher rate in Mexico and Venezuela and to a lesser extent in Spain. Consider the following example that is acceptable across dialects with both *ser* and *estar*:

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[8]Gutiérrez (1992) reported that women use innovative *estar* more frequently than men (36% vs. 17% out of the total *estar uses*). For Cortés-Torres' (2004) study, the percetanges are 60% for women vs. 40% for men.

(2.42)

> *Juan* **es/está** *viejo/joven.*
> Juan ser.PRES.3SING old/young.
> 'Juan **is** old/young.'

<div align="right">[De Jonge, 1994:100]</div>

The use of *ser* in (2.42) is commonly found in the three dialects. The use of *estar* is also possible to convey that Juan is younger/older than he actually looks (De Jonge, 1994:100). In Venezuelan and Mexican Spanish, this use of *estar* has an additional interpretation, which is better illustrated by the following example:

(2.43)

MC: *Siento que engordo, siento que... todo, me siento mal, pierdo condición y eso que fumo bastante...*

I feel that I put on weight, I feel that.. everything, I feel bad, I am not in good condition and I smoke a lot...

Exp: *¿Entonces no te quieres preparar para las Olimpiadas?*

So, you don't want to prepare for the Olympics?

MC: *No. Y además, yo* **estoy** *muy* **viejo** *para eso.*

No. Besides, I **estar** too **old** for that.

<div align="right">[De Jonge, 1994:104]</div>

According to De Jonge, *estar* in (2.43) indicates that the age of the speaker contrasts with an *expected* age required for him to participate in the Olympics (De Jonge, 1993:105). This innovative use seems to be very limited in Iberian Spanish.

Additional support for the differences across dialects comes from Malaver's (2009) study of innovative *estar* with age expressions, which includes three additional Spanish dialects: Guatemala, Puerto Rico and Uruguay. On the basis of an analysis of several

diachronic and synchronic corpora, the author concludes that, even though *ser* is the preferred copula with expressions of age across Spanish dialects, the use of *ser* in Iberian Spanish (97% of cases) is much higher than in the Latin American varieties (47%).[9] The Latin American varieties of Spanish, however, also differ with respect to the frequency of use of *estar*: *estar* appears in a larger number of cases in the Spanish of Mexico (Mexico City), Venezuela (Caracas)and Guatemala (Guatemala City and Cobán) in comparison to the Spanish of Puerto Rico (San Juan) and Uruguay (Montevideo).

The sociolinguistic variables examined in the study revealed that, similar to the Mexican data in Gutiérrez (1992) and Cortés-Torres (2004), a majority of uses of *estar* are found in speakers with low educational levels and, within that group, particularly in women.

Juárez-Cummings' (2014) study on Mexican Spanish shed further light on the differences between Venezuelan and Mexican Spanish. The author conducted a corpus study on Mexican Spanish (Mexico City) and compared the results with those obtained by Díaz-Campos and Geeslin (2011) on Venezuelan Spanish (Caracas).[10] The two studies focused on investigating different linguistic and social variables that might predict *estar* uses. Traditional *estar* uses were defined as 1) predications that are temporally delimited and 2) predications that use an individual norm as a basis for comparison. The main finding is that these two criteria seem to be good predictors of *estar* uses in general in Venezuelan Spanish, but not in Mexican Spanish. These findings suggest that Mexican Spanish may include a higher use of innovative uses of *estar*, and therefore they are less predictable by traditional criteria. In addition, an analysis of the social variables in these two studies indicated that speakers of lower socioeconomic status used *estar* to a higher rate than upper classes.

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[9]The Spanish corpora include data from several cities in Spain (Alcalá de Henares, Valencia, Málaga, Sevilla and Granada) and no differences in copula use were observed across cities.

[10]The data from Mexico City was obtained from *Corpus Sociolingüístico de la Ciudad de México* 'Sociolinguistic Corpus of Mexico City' (Martín-Butragueño, 2010) and the data from Caracas came from *Estudio sociolingüístico de Caracas* 'Sociolinguistic Study of Caracas (Bentivoglio and Sedano, 1987).

Innovative uses of *estar* have also been found in Cuban American Spanish. Alfaraz (2012) analyzed data from three different groups of Cuban speakers who had recently arrived to the US and had minimal exposure to English. The data were based on conversations and informal interviews. The analysis was restricted to the use of *estar* with APs and only innovative uses were included. The focus was on innovative uses in which the predication involved a comparison on the basis of a class norm.

To study generational differences, the data were recorded at two different points in time, in 1968-1969 and 1996-1998. Table (2.1) shows a breakdown of the data sets by age and year of recording:

Group	Year	Age range
1	1968-1969	30-45
2	1996-1998	30-43
3	1996-1998	62-77

Table 2.1: *Cuban Speakers by Year and Age Range.*

Real-time comparisons were conducted with groups 1 and 2 to investigate whether copula use in Cuban Spanish is undergoing a cross-generational change. The apparent-time study was conducted comparing groups 2 and 3, which allowed an investigation of the effect of age in copula use at one point in time. The results showed a general use of *estar* in predications that were based on a class norm across speakers (19.3% of all uses in which *ser* was expected). Innovative uses of *estar* increased in frequency in the data from the younger generation in the late 1990s (group 2) in comparison to the other two groups. The data for the two generational groups recorded within a thirty-year span (groups 1 and 3) did not reveal any differences in terms of frequency of innovative *estar* uses. The results were interpreted as suggesting a change in progress in the use of *estar* between generations, whereas uses of *estar* remains stable as speakers grow older.

Innovative uses occurred primarily with adjectives that referred to physical properties (e.g., *firme*, 'firm', *fresco* 'fresco',*débil* 'débil') and evaluative adjectives (*asombroso* 'amazing', e.g., *gracioso* 'funny, pretty', *lindo* 'pretty'). Some examples are as follows:

(2.44)

a.   *La   película* **está**   *simpática.*
       The   movie   estar.PRES.3SING amusing
       'The movie is amusing .'   [1960s]

a.   *La   mujer   no* **está**   *fea, tiene*   *facciones bonitas.*
       The   woman NEG estar.PRES.3SING ugly have.PRES.3SING features   pretty
       'The woman is not ugly, she has pretty features .'   [1990s, older speakers]

b.   *El   barco* **estaba**   *fuerte.*
       the   boat   estar.PAST.1SING sturdy
       'The boat **was** sturdy.'   [1990s, younger speakers]

                                                  [Alfaraz, 2012:20]

In (2.44a), the speaker describes a movie s/he has just seen using *estar* and implies a comparison with other movies; in (2.44b), the speaker describes a woman that s/he has never seen before; and finally, in (2.44c), the speaker assesses the sturdiness of the boat in which s/he fled Cuba, which requires a class norm comparison. Although the study was conducted in Miami and participants may have been exposed to a certain amount of influence from English, the innovative uses are similar to that found in other Latin American varieties.

The data presented so far indicate that there is variation in copula use across Spanish dialects and that this variation shows a similar pattern across dialects, particularly with respect to the use of *estar* predications in innovative uses. These innovations are more common in certain Latin American dialects than in Iberian Spanish, but much variation is also found across Latin American dialects. In addition, the new uses of *estar* are more

frequent in speakers of lower socioeconomic status, which are usually the less conservative group in their language use. Sociolinguistic studies also indicate that women play an important role in copula variation as they tend to use *estar* in new contexts at a higher rate than men.

2.4 Conclusion

This Chapter has described copula uses in combination with adjectival, locative and nominal predicates and with past participles. The main focus has been on identifying the main generalizations in the meaning differences found in contrastive uses of the copulas. It has been shown that common characterizations of the distinction, such as the opposition inherent vis-à-vis accidental or change-based explanations, do not account for the range of possible interpretations. For example, *estar* uses with locative predicates and adjectival predicates that describe subjective claims have usually been treated as exceptions under the main observation that *estar* is used to describe temporary or accidental properties. These characterizations, although still at the descriptive level, do serve as a first approximation to the distinction and the intuitions of native speakers.

The second part of the Chapter provided an overview of main sociolinguistic work on copula use. The data support a characterization of copula distinction in which the distributional patterns are not uniform across dialects. Some dialects, such as Iberian Spanish, appear to be more conservative in the use of so-called innovative uses of *estar*, whereas others, such as Venezuelan and Mexican Spanish, show a more frequent and extended use of innovative uses.

These studies also shed light on the social factors that play a role in copula variation indicating that speakers of lower socioeconomic status, and within this group particularly women, show increasing rates of innovative *estar* uses. This finding is in line with the main observation in the literature on language change that women tend to use a higher frequency of new forms whenever the change is happening from below, i.e. below the level of social awareness.

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Chapter 3

A Boundedness-Presupposition Analysis of the *ser*/*estar* Distinction

3.1 Introduction

This Chapter aims to provide an analysis of copula use that can account for the distributional patterns of the copulas in combination with adjectival, locative and nominal predicates. Sections 3.2–3.5 describe relevant insights from previous accounts and the main copula uses that will serve as the basis for our analysis. In contrast to the characterizations presented in Chapter 2, the analyses included in this Chapter aim to find the principled components that can explain the range of copula uses found in Modern Spanish, therefore moving beyond descriptive accounts of copula differences.

The second part of the Chapter, § 3.6, describes the boundedness-presupposition analysis of the differences between *ser* and *estar*. This analysis provides specific lexical entries for the copulas and models the contextual conditions that determine copular choice. The analysis locates the differences between the copulas in the presuppositional content of *estar*: *Estar* presupposes that the prejacent is boundedly true at the considered circumstance of evaluation i. The notion of bounded truth is a constraint imposed on the context, which *ser* predications lacks. The Chapter ends with the application of the

analysis to the copula uses previously identified.

3.2 The Time Restrictions of *estar* Predications

The first analyses of copular distinction that we will consider associate each of the copulas with distinct temporal references. One of the most well-known descriptions of the distinction argues that *estar* predications signal that the property holds temporarily, whereas *ser* indicates that the property holds stably over time. Some authors have proposed that what licenses the use of *estar* is the requirement that the subject of the predication has undergone a change. It is the perception of a change over time that allows the classification of a property as temporary or permanent and what determines the use of *estar* or *ser* respectively. There are, however, clear counterexamples to this claim, as will be seen in the next sections.

A set of approaches have characterized the time restrictions of *estar* predications with relation to its perfective interpretation. Hanssen (1913) and Gili Gaya (1943) were among the first authors to argue that *estar* predications are similar to verbs that express an event of limited duration, such as 'to jump' or 'to kiss' and to the perfective form of the simple past tense *cantó* 'sang'. Luján (1981) builds on this observation and argues that *estar* indicates that the predication is true relative to a delimited time period, whose beginning or end (or both) are known. On this analysis, the identification of a time boundary at which a property does not hold, whether it is the beginning or the end of a time interval, is enough to license the use of *estar*. By contrast, *ser* indicates that the predication is true during a stretch of time for which no beginning or end is assumed and that can extend over a number of delimited time periods.

Other authors have argued that the differences in temporal reference between *ser* and *estar* are better understood if the copulas are analyzed as lexical reflexes of the stage-/individual-level distinction of predicate types (Carlson, 1977). This account of copula

distinction has proven to be limited in scope. Indeed, despite the tendency of *estar* to appear with stage-level predications, it can also co-occur with individual-level predicates if there is contextual support for a stage-level interpretation. Escandell-Vidal and Leonetti (2002) analyze this change in interpretation as a type of 'coercion'.

All the analyses that will be presented in this section share the intuition that *estar* predications pose more time restrictions than *ser*: *estar* requires that the predication be temporary or that there is at least a time boundary that is known by the speaker. Even in combination with individual-level predications, the apparent unacceptability of *estar* is loosened if the context restricts the property to a subset of time intervals. In what follows, I will describe three main proposals on copula distinction that have relied on the temporary restrictions of *estar* predications: 1) the permanent vs. temporary contrast, 2) the comparison between contrasting states and 3) the presuppositional content of *estar*.

3.2.1   The Permanent vs. Temporary Contrast

The association of *estar* with a temporary restriction is first seen in descriptive grammars from the last decades of the 19th century. In combination with adjectival predicates, the distinction that was proposed made reference to the temporary interpretation of *estar* predications vis-à-vis the permanent interpretation of *ser* predications. The following quote from Bello's (1921) *Gramática de la Lengua Castellana*, annotated by Felipe Robles, is illustrative of this distinction:

> *Ser* (de *sedere* 'estar sentado') se aplica a las cualidades esenciales y permanentes; *estar* (de *stare* 'estar de pie'), a las accidentales y transitorias. De aquí la diferencia entre, v. gr. '*ser* pálido' y '*estar* pálido', '*ser* húmeda una casa' y '*estar* húmeda'; diferencia delicada y, sin embargo, de uso

universal y uniforme en todos los países castellanos. [1]

This distinction is found in earlier grammars, such as Ramsey's (1894) 'Textbook of Modern Spanish', and it reappears again in several works by García de Diego (1951) and Roca-Pons (1958) among others. In (3.1) and (3.2) are given examples that illustrate how the choice between two copulas corresponds to the interpretation that a property holds temporarily vs. permanently of the subject denotation.

(3.1)

a.　*Estas manzanas* **son** *agrias.*
　　these apples　ser.PRES.3PL　sour
　　'These apples are of the sour kind.'

b.　*Estas manzanas* **están** *agrias.*
　　these apples　estar.PRES.3PL　sour
　　'These apples are sour (because they have not ripened yet).'

[Ramsey 1894:310]

(3.2)

a.　*Mi hermano* **es** *callado.*
　　my brother　ser.PRES.3PL　close-mouthed
　　'My brother is close-mouthed (or taciturn).'

b.　*Mi hermano* **está** *callado.*
　　my brother　ser.PRES.3PL　silent
　　'My brother is silent (he isn't talking).'

[Ramsey 1894:310]

In the examples in (3.1) above, the *ser* predication refers to the sourness of the apple as a kind, whereas *estar* indicates that the apple is not yet ripened, and thus has a sour taste. In (3.2), the property *callado* describes someone with a taciturn personality when

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[1]*Ser* (from *sedere* 'to be seated') applies to essential and permanent properties, *estar* (from *stare* 'to stay standing'), to accidental and transitory properties. From this comes the difference between '*ser* pale' and '*estar* pale', '*ser* wet' and '*estar* wet,' subtle differences, but universal and uniform across all Spanish-speaking countries.

(Bello, 1921:194)

used with *ser*, whereas it describes an individual who is silent at utterance time when used with *estar*. Despite these intuitively clear examples, a number of uses have been mentioned in the literature to argue against the temporary vis-à-vis permanent dichotomy, such as the following:

(3.3)

a. *Guillermo* **está** *completamente calvo.*
    Guillermo estar.PRES.3SING completely   bald
    'Guillermo **is** completely bald.'

[Bull, 1942:434]

b. *El   cielo de mi tierra* **está**   *siempre azul.*
    The sky   of my land estar.PAST.3SING always blue
    'The sky of my land (**is**) always blue.'

[Crespo, 1946:52]

c. *La   playa* **está**   *buena.*
    This beach estar.PRES.3SING good
    'This beach **is** good.'

[Franco and Steinmetz, 1983:180]

In (3.3a), Guillermo will always be bald (unless he has a hair transplant). The example in (3.3b) includes an adverb of time, *siempre* 'always', which explicitly indicates that the property is permanent. In the example in (3.3c), the use of *estar* signals that the extent to which the property of being good holds of the entity-denoting subject is higher than expected. That is, the property holds permanently, but at a higher degree at the reference interval.

Bull (1942) proposed that what licenses the use of *estar* is not the requirement that the property holds temporarily, but that a change can be perceived. *Estar* indicates that a previous state was unstable, non-permanent and subject to change. The temporariness implication of the predication comes from the potential of *estar* to signal the lack of stability

of the prior state. *Estar*, however, does not imply that a change will necessarily happen in the future. In fact, a *estar* predication can express a permanent property, as seen in examples (3.3a-c). According to Bull, what is crucial is that the predicated property is the result of a change.

The author also notes that, in some cases, the change may not be perceivable *directly* through the senses. This is illustrated by the following example, said by a student after listening to the teacher's explanation about a math problem:

(3.4)

a. *¡El problema* **está** *claro!*
    The problem estar.PAST.3SING clear
    'The problem (**is**) clear!'

[Bull, 1942]

The example in 3.4 above describes a change in how the student understands the problem. With respect to *ser*, Bull says that it is used to indicate a first impression (3.5) or a predication that is considered to be *normal or average* when applied to the referent (3.6).

(3.5) **Context:** In the book 'The Three-Cornered Hat' by Alarcón, the Corregidor shoves a pistol into Frasquita's face and asks her to choose between him and the bullet. Frasquita answers:

La elecció no **es** *dudosa.*
The choice NEG ser.PRES.3SING uncertain
'The choice **is** not uncertain.'

(3.6)

Los hierros y las cárceles no impiden que un hombre **sea**
The irons and the prison NEG stop.SUBJ that a man ser.PRES.3SING
libre.
free
'The irons and prison do not stop a man from **being** free.'

[Bull, 194:442]

Some authors have also noted that *estar* seems to provide certain emphasis to the predication or serves to indicate an emotional reaction. For example, Ramsey (1894) argued that *estar* 'emphasizes that the state is different from normal or expected. Thus it often comes to mean *to have become* and frequently conveys some emotional reaction' (Ramsey, 1894:312). He provides the following examples to illustrate this use:

(3.7)

a. *La   noche* **está**   *muy hermosa... El   mes   de septiembre no*
The night   estar.PRES.3SING very beautiful... the month of september NEG.
le ha   ido   en zaga   al   de agosto.
CL have.PRES.3SING go.PART in behind to the of August
'The night **is** very beautiful [*more so than average*].. The month of September has not been surpassed by August.'

b. *Si esas   botas están*   *estallando. -Pero, mamá, si me* **están**
If those boots estar.PRES.3PL burst.GER   but   mom   if CL estar.PRES.3PL
anchas.
wide
'Why those shoes are bursting! -But mother, they **are** too wide on me [wider than my proper size].

c. *Fermín, prueba ese helado; ¡***está**   *riquísimo!*
Fermin   try   this ice cream estar.PRES.3SING delicious
'Fermín, try this ice cream; it **is** [or tastes] delicious! [more so than I expected]

d. *Entramos   en el cuarto de mi madre que, al   ver   a Machín,*
enter.PAST.1PL in the room   of my mother that to the see.INF to Machin
quedó   sorprendida no sé   por qué: Machín
get.PAST.3SING surprised   NEG know.PREST.1SING why   Machín
estuvo   *con ella muy amable.*
estar.PAST.3SING with her   very kind
'We entered my mother's room who, on seeing Machín, was greatly surprised for some reason: Machín **was** very [unusually] kind to her.

[Ramsey, 1894:311]

Ramsey argues that the commonality among the examples above is that the speaker is not expecting the property to hold to such a degree: the night is more beautiful than

average, the boots wider than the mother had expected, the ice-cream tastes much better than the speaker had thought and Machín behaves unusually kindly with the mother. These examples serve as counterexamples to the claim that the copulas describe properties that hold either temporarily or permanently. They are known more generally in the literature as *evidential* or *subjective* uses (Escandell-Vidal and Leonetti, 2002; Clements, 2006; Roby, 2008; Gumiel-Molina et al., 2015, among others).

3.2.2 The Aspectual Differences Between the Copulas

Hanssen (1913) was among the first authors to associate *ser* predications with a perfective interpretation and *estar* predications with an imperfective interpretation. A perfective state is intuitively understood to be synonymous with a transitory or contingent state (3.8a), whereas an imperfective states is synonymous with a temporary or stable state (3.8b).

(3.8)

a. *Mi hermano **está**   enfermo.*
    My brother   estar.PRES.3SING ill
    'My brother **is** ill.'

a. *Mi hermano **es**   vigoroso.*
    My brother   estar.PRES.3SING strong
    'My brother **is** strong.'

Gili Gaya (1943) tried to make this connection more explicit by pointing to the similarity between *estar* predications and those verbs that express an event of limited duration such as 'to jump', 'to kiss' or 'to shoot'. These verbs require the identification of an endpoint for the event to have taken place. The continuation of the event consists of the repetition of a series of similar events. Gili Gaya argued that similarly, *estar* predications can be considered 'the result of an action or change that we know has happened, is happening or will happen' (Gili Gaya, 1943:62). The change can be real as in the sentence

el jarrón está roto 'the vase is broken' or the speaker may have simply entertained the possibility that there might be a change as in *el jarrón está intacto* 'the vase is intact'. *Ser* predications, on the other hand, pattern more with verbs such as 'to love', 'to know' or 'to respect' that denote events with an unlimited duration.

Luján (1981) further investigated the aspectual properties of the copulas and their similarities to the distinction denoted in Spanish by the imperfective and perfective forms of the simple past tense (*cantaba/cantó* 'sang', respectively). The main difference between her account and that presented by Gili Gaya and other authors such as Bull is that she argues against the notion that modification or change is implied by *estar* predications. Luján refers particularly to locative (3.9a-b) and adjectival (3.9c-d) predicates that appear with *estar* to show that a notion that requires identifying a change, whether it is in the past (as a cause) or the future (as a possibility), fails to account for the distinction between the copulas:

(3.9)

a. *La isla de Cuba **está** en el Atlántico.*
   The island of Cuba estar.PRES.3SING in the Atlantic.
   'The Cuban island **is** in the Atlantic Ocean.'

b. *¿Dónde **está/es** la salida?*
   Where estar.PAST.3SING the exit
   'Where **is** the exit?'

c. *Ana **está** siempre enojada.*
   Ana estar.PRES.3SING always angry
   'Ana **is** always angry.'

d. *Su trabajo **está** mediocre.*
   His work estar.PRES.3SING mediocre
   'His work **is** mediocre.'

[Luján, 1981:170]

According to Luján, a change in the subject denotation is not required to use *estar* in locative predications, and particularly with inanimate objects that are in a fixed position,

such as in (3.12a). The distinction between the two copulas in (3.12b) cannot be explained with an aspectual account of the copulas that requires the identification of a change. For this particular case, there are two distinct interpretations depending on which copula is used: *ser* asks at which point in space the action of 'going out' or 'leaving the building' can be actualized; whereas in the same example with *estar*, the subject denotation refers to a specific door and the claims asks for the location of this door.[2] The difference between these two interpretations is not readily available with an aspectual account that depends on the notion of modification or change to identify the types of predications that appear with *estar*. As for the adjectival predicates, the use in (3.12c) does not imply that there has been a change causing the state of being angry, Ana is 'always' in that state. In (3.12c), the identification of a change or cause is not necessary for the acceptability of the predication with *estar*.

The alternative aspectual analysis proposed by Luján argues that each adjective is specified with the features [+PERFECTIVE] or [-PERFECTIVE]. Adjectives that can appear with both copulas are specified as [+/- PERFECTIVE] and the lexical entries of each of the copulas that bear the specific features will determine the final interpretation. Luján describes the contributions of each of the copulas as follows:

(3.10) **estar+adjective $\rightarrow$ perfective state:**

[+ADJ, +PERFECTIVE, +STATIVE]: $x \in A$ at time t_j

'*Estar+Adjective* of an individual x is to say that x is in the class of individuals bearing the property A at a delimited period of time whose beginning and end are both known or assumed or at least one of them is. A time period here designates a relative space of time with some duration (e.g., a moment, an occasion, etc.) such that any portion of the time axis consists of a succession of such periods which are represented here by $t_j + 1, t_j + 2, t_j + 3... t_j + n$ and

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[2]This distinction was first noted by Roldán (1974).

which are assumed to be linearly ordered'.

(3.11) **ser + adjective → imperfective state:**

[+ADJ, +PERFECTIVE, +STATIVE]: $x \in A$ at time t_j... t_k

'*Ser+Adjective* of an individual x is equivalent to expressing that x is in the class of individuals bearing the property A in a period of time whose beginning or end are not assumed and which stretches over a number of delimited time periods.'

[Luján, 1981:176]

On this analysis, both *ser* and *estar* make temporal reference. The difference between the copulas lies in the nature of this reference: *estar* indicates that the predication is true relative to a delimited time period; *ser* indicates that the predication is true during a stretch of time for which no beginning or end is assumed and that can extend over a number of delimited time periods (Luján, 1981:177).

The analysis also accounts for the partial synonymy between the copulas: *ser* predications always imply *estar* predications, but the inverse relationship does not hold. This is illustrated in the following examples, which show that the implication obtains if the two predicates are true (3.12a). If the *estar* predication is false, the *ser* predication must be false (3.12b).
(3.12)

a.   *Ana* **está**   *hermosa porque* **es**   *hermosa. (True)*
      Ana estar.PRES.3SING beautiful because ser.PRES.3SING beautiful.
      'Ana **is** beautiful because she **is** beautiful.'

b.   *Ana* **es**   *hermosa porque* **está**   *hermosa. (False)*
      Ana ser.PRES.3SING beautiful because estar.PRES.3SING beautiful.
      'Ana **is** beautiful because she **is** beautiful.'

[Luján, 1981:173]

Sentence (3.12a) shows that the implication holds because it requires that whenever the *ser* predicate is true, the consequent predication with *estar* must be true. The inverse relationship in (3.12b) does not hold.

Luján's account, however, falls short in explaining typical uses of *estar*, such as the subjective and contrast-based readings described in Chapter 2, repeated in (3.13a-b) respectively. These uses do not require that the predication is temporally delimited since there is no beginning or the end of the predicated state. With respect to locative prepositional predicates, those with animate individuals as subjects, which are not conceived as being in a fixed position in space and time, are naturally accounted for because they require presupposing a definite period of time. However, for locative predicates with motionless inanimate individuals, such as (3.14a-b) below, the author argues that they do not need to be restricted to a delimited period of time. As a result, they are able to appear with either *ser* or *estar*.

(3.13)

a. *John Goodman* **está** *genial en esa película.*
   John Goodman estar/ser.PRES.3SING great in that movie
   'John Goodman **is** great in that movie.'

b. *¡Qué hermosa* **está** *la Capilla Sixtina!*
   What beautiful estar.PAST.3SING the Chapel Sistine
   'How beaitiful **is** the Sistine Chapel!'

(3.14)

a. *La isla de Cuba* **está/es** *en el Atlántico.*
   The island of Cuba estar/ser.PRES.3SING in the Atlantic.
   'The Cuban island **is** in the Atlantic Ocean.'

b. *¿Dónde* **está/es** *la salida?*
   Where estar/ser.PAST.3SING the exit
   'Where **is** the exit?'

[Luján, 1981:170]

Even if this characterization is correct, it fails to explain the two different interpretations of sentence (3.14b) above. As described by Roldán (1974), the use of *estar* refers to a specific door and the sentence asks for the location of the door, whereas the sentence with *ser* asks where the action of *leaving the building* can be actualized.

3.2.3   The Individual-Level/Stage-Level Distinction

Due to the distinct temporal properties with which each copula is associated, some authors have proposed that the copulas should be analyzed as the lexical reflexes of the basic ontological distinction between predicate types described by Carlson (1977): stage-level and individual-level predicates. Although this proposal has lost support due to its limited explanatory scope, it will serve to introduce a copula pattern that has received much attention in the literature: despite the tendency of *estar* to appear with stage-level predications, *estar* also co-occurs with individual-level predications if the context 'forces' a stage-level interpretation.

3.2.3.1   The Basic Ontological Distinction

A variety of linguistic contrasts have been taken to support a two-way characterization of predicate types: INDIVIDUAL-LEVEL and STAGE-LEVEL predicates. On the original definition by Carlson (1977), he refers to two types of adjectives first identified by Milsark (1974) and Siegel (1976). On the one hand, there are STATES, which are adjectives that are roughly described as temporary, such as *hungry*, *sleeping* or *awake*. The second type of adjectives are PROPERTIES, which are more permanent sort of things, for example, *fat*, *tall* or *clever* (Carlson, 1977:446). As Milsark noted, when these adjectives appear with bare plural subjects, so-called PROPERTIES (3.15) yield a generic interpretation, whereas STATES (3.16) lead to an existential reading. In some cases, as in (3.16a), the sentence can be ambiguous between a generic and an existential interpretation:

(3.15)

a.   Firemen are brave.

b.   Frogs are clever.

(3.16)

a.   Firemen are available.

b.   Frogs are awake.   [Carlson 1977: 447]

Carlson observes that time, albeit an important element, is not the main characterizing factor of the distinction between these two types of adjectives. Instead, he argues that the two adjectives are predications of *different sorts of things*. PROPERTIES predicate something of the individual himself, for example, John. John is composed of distinct realizations or STAGES, which are temporally-bounded portions of John's existence. The thing that ties all these stages together is the INDIVIDUAL. With this ontological distinction in place, Carlson argues that states predicate something about stages of an individual, whereas properties are predications of individuals. Regardless of the temporal nature of the stage, what is crucial is that stages are always parts of a whole. As a result, a state such as 'is in the next room' can be longer or shorter in duration than a property like 'is a butcher' (Carlson, 1977).

Stage-level (SLPs) and individual-level (ILPs) predicates show different behavior when they appear as complements of perception verbs. The predicate 'intelligent' in (3.17a) is considered an ILP because it usually holds of an individual, and it is not acceptable with perception verbs. In contrast, the predicate 'tired' is a SLP in (3.17b); it typically holds of stages of an individual, and it can appear with perception verbs. The SL/IL dichotomy also applies in combination with non-finite verbal predicates: an ILP such as *know Bill* is not acceptable with perception verbs (3.18), whereas SLPs, such as *talk to Bill* can appear as complements.

(3.17)

a.   * John saw Jen intelligent.   [ILP]

b.   John saw Jen tired.   [SLP]

(3.18)

a.   * John saw Jen know Bill.   [ILP]

b.   John saw Jen talk to Bill.   [SLP]

Some authors have proposed that the difference between the two predicate types is that ILPs are associated with the default inference that the property holds of the individual into the past and future, unless there is evidence to the contrary (Condoravdi, 1992; McNally (1994). McNally (1994), following Condoravdi (1992), provides evidence from predicative adjuncts, which describe a state of affairs the subject referent is in at the time when the main predicate holds. Predicative adjuncts require that the state of affairs described by the verb and the adjunct hold simultaneously.

(3.19)

a.   We ate the vegetables raw.

b.   ?? We ate the vegetables organic.

(3.20)

a.   Fisher played the piano injured.

b.   ?? Fisher played the piano talented.

[McNally, 1994:2]

This simultaneity condition, however, cannot be met trivially. In other word, the adjunct property cannot be inferred to hold whenever the main predicate holds, or viceversa. Accordingly, a sentence like *Fisher played the piano talented*, is marginally

acceptable since under normal assumptions, if Fisher is intelligent, it will be so for any arbitrary time interval of his life. The simultaneity condition is, therefore, trivially met because the adjunct does nothing to temporally situate the state of affairs described by the main verb. Unless there is supporting contextual evidence that the property does not hold for the extent of Fisher's life, the sentence will be considered infelicitous.[3]

Other authors have argued that the distinction between SLPs and ILPs is related to the argument structure of the predicate (Kratzer, 1995; Diesing, 1992). The main idea is that SLPs have an eventive argument, which allows the predicate to appear with spatio-temporal modifiers, whereas ILPs lack this eventive argument. This results in a syntactic difference regarding the position of subjects in D-structure. Stage-level predicates project the subject in internal position of the VP, whereas individual-level predicates project the subject in VP external position. The differences in argument structure account for the temporary interpretation of *estar* predications, which select SLPs only, whereas *ser* predications are interpreted as been permanent because they select ILPs.

3.2.3.2 The Felicity of *estar* with Individual-Level Predicates

The observation that *estar* appears with stage-level predications (3.21a) and *ser* with individual-level predications (3.21b) does not always hold. Escandell-Vidal and Leonetti (2002) point to uses in which *estar* appears with individual-level predicates without rendering the sentence unacceptable, as in (3.22a), which are improved if presented with contextual information that supports a stage-level interpretation (3.22b).

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[3]This proposal predicts that contextual information can increase the acceptability of a sentence by defeating the inference that the property holds indefinitely of its bearer. As a result, the simultaneity condition is not trivially met. For example, imagine a context in which an event of playing the saxophone marks the boundary for a player to be *talented*. Such a context would make a sentence like 'Today, Bill is playing the saxophone talented' acceptable. McNally (1994) provides the following context:

> Bill has been playing the saxophone for years on Pacific Avenue. His secrete wish has always been to play the saxophone like John Coltrane, but as everyone knows, he's got no talent whatsoever. Yes miracles do happen: the ghost of John Coltrane appeared before him yesterday night and for a small price offered to endow him with that famous inspiration and skill. *And today, Bill is playing the saxophone talented.*   [McNally, 1994:10]

(3.21)

a. *Pedro* **está** *borracho.*
    estar.INF drunk
    'Pedro **is** drunk.'   [SLP]

b. *?Pedro* **es** *inteligente.*
    Pedro ser.INF intelligent
    'Pedro **is** intelligent.'   [ILP]

(3.22)

a. *?Pedro* **está** *inteligente.*
    Pedro estar.INF intelligent
    'Pedro **is** intelligent.'   [ILP]

b. *Pedro* **está** *inteligente esta noche.*
    Pedro estar.INF intelligent this night
    'Pedro **is** intelligent tonight.'   [ILP]

Sentence (3.23a) shows degraded acceptability in comparison to (3.23b), in which the property of being intelligent can be more easily interpreted as 'to behave in an intelligent way in a certain situation'. Escandell-Vidal and Leonetti argue that this use of *estar* is acceptable through a reinterpretation process that turns individual-level properties into stage-level[4]. The s *estar* predication, with contextual support, gives rise to the interpretation that the referent is being intelligent 'now'. This process is what they call 'coercion', a process of *repair* that serves to solve conflicts between the semantic requirements of a constituent and the requirements of other elements in the sentence. It is therefore a semantic process that is implemented as meaning is construed compositionally. They follow Pustejosky's (1995) definition of the coercion phenomenon and suggest that it 'produces some sort of conceptual adjustment in order to make sense of the utterance and restore its acceptability' (Escandell-Vidal and Leonetti, 2002:6). The coercion mechanism has been widely applied to other aspectual phenomena, such as the mismatch observed

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[4]Fernald (1999) was the first to introduce the coercion phenomenon as a mechanism that applies to individual-level predications in general.

between punctual verbs and durative adverbs or the reinterpretation of mass nouns as count nouns (De Swart, 1998; Jackendoff, 1997; Pustejovsky, 1991, 1995; Smith, 1991).

When an individual-level adjective is coerced into stage-level, the property is conceived as being temporally delimited. The aspectual mismatch between the individual-level adjective and the requirements of the context is solved by adding a spatiotemporal variable to the individual-level adjective. Once the predicate has been coerced into a stage-level interpretation, it cannot denote a classifying property of the referent. Instead, it indicates that the referent is behaving as if s/he had the property denoted by the individual-level adjective. In this way, $estar$ acts a trigger of the coercion mechanism when it appears with an individual-level adjective. $Estar$ requires an aspectually marked stage-level small clause, but the individual-level predication denotes a permanent property. As a result, $estar$, which has scope over the adjective, forces the interpretation of the property into stage level, as in (3.23) above, in which the property 'intelligent' is attributed to the referent only over a delimited period of time.

On a coerced interpretation of *estar*, the addition of a spatio-temporal variable to an individual-level predicate may yield a second reading: one in which the property is interpreted as a result of someone's perception of the situation. The authors argue that because stages are dependent on a spatio-temporal anchoring, it can be easily inferred that the stage is relativized to someone's perception or a particular state-of-affairs. In this way, the authors account for common uses of $estar$ to express judgments of taste and personal opinion, as in the examples in (3.23).

(3.23)

a. **Estar** *rojo.*
    estar.INF red
    'To look red or reddish.'

b. **Estar** *difícil.*
    estar.INF difficult
    'To be difficult.'

c.   *John   Goodman   **está**   genial   en   esa   película.*
     John   Goodman   estar.PRES.3SING   great   in   that   movie
     'John Goodman is great in that movie.'

[Escandell-Vidal and Leonetti, 2002:9-10]

On this analysis, however, the precise contribution of *estar* in the examples in (3.23) is not described. What is the nature of the spatio-temporal modifiers that can fill the eventive argument in SLPs? Are they restricted to space and time modifiers? If so, what is the precise relation between someone's perception of a situation and the temporal restriction?[5] The intuition is that the speaker ascribes the property to a specific time interval, but the inference processes that lead to such a restriction are not clearly described.

Marín (2000, 2009) observes that not all typical ILPs can be coerced to the same extent. He proposes an aspectual analysis in which *estar* appears with 'bounded states' and *ser* with 'unbounded states'. Bounded states are states that make reference to a temporal interval, which usually correspond to stage-level states; whereas unbounded states correspond to individual-level states, which he associates, following Condoravdi (1992) and McNally (1994), with an inference of temporal persistence that also extends backwards to the past. Marín develops a series of criteria to identify bounded adjectival predicates on the basis of their compatibility with pseudo-copular verbs, adjunct predicates and absolute constructions. An adjective like *enfermo* 'ill' that can appear in all of these contexts, as well as with *estar*, is considered to be bounded. Crucially for our purposes, Marín's analysis indicates that individual-level predicates show gradient acceptability in combination with *estar*: typical ILPs, like *discreto* 'discreet' can be 'coerced' to appear with *estar*, but others like *vegetariano* 'vegetarian' are harder to coerce.

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[5]Jaeger (2000) deals with some of these questions by analyzing English 'be' as a shifting device that induces a type coercion from (partial) situations to (total) possible worlds (Jaeger, 2000:11).

3.3 *Estar* **Predictions Require a Comparison Between Contrasting States**

An understanding of the temporal restrictions of the Spanish copulas does not allow for a complete characterization of their distributional patterns. Another influential approach on copula distinction argues that the core of the distinction lies in that *estar* requires a comparison between contrasting states, whereas such a requirement is not present in *ser* predications. In one of the earliest accounts, Crespo (1946) argues that with *estar* the speaker establishes a comparison with the present state and some other state that applies to the subject of the predication. He provides the following examples:

(3.24) **Context:** A tourist travels to Rome, s/he sees the Sistine Chapel, s/he says:

> *La Capilla Sistina* **está** *hermosa.*
> The Sistine Chapel estar.PRES.3SING beautiful
> 'The Sistine Chapel **is** beautiful.'

(3.25)

> *Me gusta la nieve de las montañas porque siempre* **está**
> CL like the snow of the mountains because always estar.PRES.3SING
> *blanca.*
> white
> 'I love the snow in the mountains because always **estar** white.'

(3.26) **Context:** ¿Está enferma María?

*Sí,   y   la   probrecita siempre lo   ha   **estado** porque   nació*
Yes and the poor   cl   always have be.PART because be born.PAST.3SING
con   el   corazón   anormal
with the heart   abnormal
'Yes, and the poor one has always **been** this way because she was born with the abnormal heart.'

(3.27)

*El   espejo **está**   entero.*
The   mirror estar.PRES.3SING intact
'The mirror **is** is intact.'

(3.28) **Context:** We are at a foundry, and one of the workmen says:

*Eleven la   temperatura del   horno porque el   acero **está**   sólido*
Rise up the temperature of the stove because the steel estar.PAST.3SING solid
'Raise the oven's temperature because the steel is solid.'

[Crespo, 1942:49-50]

In (3.24), it is the first time that the tourist sees the Sistine Chapel, so there can be no change in its beauty. Instead, Crespo argues, the tourist uses *estar* because s/he wants to emphasize the beauty of the Sistine Chapel and *estar* expresses the same predication with 'more excitement' than *ser*. The example in (3.25) shows that there is no change in the color of the snow, rather, the color is permanent. The use of *estar* is still felicitous even when an adverb of time is used to explicitly indicate permanency. The use of *estar* in (3.27) requires the speaker to establish a comparison with the state of being broken. Finally, in (3.28), the speaker uses *estar* in comparison to another state in which the steel is not solid. Crespo notes that, in these examples, *estar* has an important expressive value because it does not only assert the existence of a predication or compares two states but, crucially, it establishes a contrast.

Recent analyses have focused on investigating how the contextual standard of comparison is computed in examples such as (3.24)-(3.28). In what follows, I will describe two main influential approaches. Falk (1979) argues that the main difference

between *ser* and *estar* lies in how the standard of comparison of the adjectival predicates is computed: in *ser* predications, the standard is determined through a comparison with counterparts of the referent that share the same property; *estar* predications derive the standard from a comparison between stages of the individual. More recently, Gumiel-Molina and colleagues (2015) proposed a similar account in which the use of *estar* is felicitous whenever the standard degree for evaluation of the adjectival predication is computed on the basis of stages of the referent.

3.3.1 Class and Individual Norms

Falk's (1979) analysis describes two types of 'norms' that underlie the comparisons: *ser* requires a comparison based on a 'class norm', whereas *estar* requires a comparison based on an 'individual norm'. The analysis is only restricted to gradable adjectives, and particularly to a subset of adjectives that denote physical appearance[6]. Compare the following sentences:
(3.29)

a. *María* **es** *guapa.*
 Maria ser.PRES.3SING pretty
 'Maria **is** pretty.'

b. *María* **está** *guapa.*
 Maria estar.PRES.3SING pretty
 'Maria **looks** pretty.'

The use of *ser* in (3.29a) is based on a **class norm**, for which the standard is established with respect to a group of entities that share a property with the referent. Falk argues that the speaker uses *ser* to express a deviation from what s/he considers the norm or average for a group of women. This group can be further restricted, for example, to denote the group of women who are María's age or the group of women that are in a particular place. This explains why *ser* predications do not usually appear with time

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[6]The adjectives that Falk includes in his analysis are as follows: *guapo* 'handsome', *bonito* 'nice', *majo* 'friendly' , *hermoso* 'beautiful', *feo* 'ugly', *gordo* 'fat', *corpulento* 'strong', *delgado* 'slender' and *flaco* 'skinny'.

adverbials, such as *en aquel momento* 'at that time' or *a veces* 'often times'. *Ser* predications need to be atemporal, otherwise, a characterization of the referent with respect to a class norm is not relevant[7].

In contrast, sentence (3.29b) establishes a comparison with respect to a norm that applies *only* to the referent. This is what Falk calls the '**individual norm**', which is created on the basis of what the speaker knows about the referent and is assumed to be the normal state *for* the referent. If there is a change on this norm, the speaker would use *estar* to signal this change. In (3.29b), the speaker takes as a referent the degree of beauty that s/he considers normal for María and the use of *estar* signals a change with respect to this norm.

The individual norm is not necessarily created only through a series of encounters with an individual; it can also be established on the basis of indirect evidence. Franco and Steinmetz (1983), who propose a similar analysis to Falk's (1979), use the following example to illustrate how an individual norm can be formed through indirect evidence:

(3.30)

a.　　*Esta　playa　**es**　　　　buena.*
　　　This　beach　ser.PRES.3SING　nice.
　　　'This beach **is** nice.'

b.　　*Esta　playa　**está**　　　　buena.*
　　　This　beach　estar.PRES.3SING　nice.
　　　'This beach **is** nice.'

[Franco and Steinmetz, 1983:180]

In (3.30a), the predication about the beach is made with respect to what the speaker knows about other beaches. In contrast, the *estar* predication in (3.30b) may have at least two different interpretations. The first interpretation relies on an expectation about the beach on the basis of a prior experience with that particular beach. In such a case, the

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[7]Falk notes that *ser* predications are compatible with adverbs of time, such as *Es guapa ahora* '(She) is (*ser*) pretty now'. In this case, the adverbial is acceptable because the comparison using a class norm is possible: it means that the person has changed such that she can be considered pretty now.

speaker may have noticed a change in the beach, which is described with *estar*. In the second interpretation, *estar* is used to establish a contrast with a prior expectation about the beach. This expectation is built on the basis of *indirect* information regarding that particular beach or other beaches in the area.

3.3.2 Within-Individual vs. Between-Individual Class Comparisons

Gumiel-Molina and colleagues (2015) make use of the notion of comparison classes to characterize the properties of adjectival predicates that appear with the copulas. On this analysis, the copulas are verbalizers (V) of predications (PredP) that express different types of attributions: *estar* takes a PredP that contains stages of the referent, whereas *ser* takes a PredP that does not contain stages of the referent.

The main proposal is that what determines the differences in the acceptability of the adjectives with either *ser* or *estar* is whether the adjective is relative or absolute. This account is to some extent reminiscent of earlier comparison-based analyses (Falk, 1979; Franco and Steinmetz, 1983), in that the main distinction between relative and absolute adjectives is based on the comparison class. Gumiel-Molina et al. assume as the basis for their analysis that some adjectives can combine with both copulas (Group 1), while others are selective and can only appear with either *ser* (Group 2) or *estar* (Group 3):

Group 1 (*ser/estar* **adjectives**): *auténtico*, *alegre*, *alto*, *bajo*, *cauto*, *constante*, *cuidadoso*, *feliz*, *falso*, *feo*, *delgado*, *flaco*, *gordo*, *grande*, *hermoso*, *húmedo*, *inquieto*, *joven*, *libre*, *nervioso*, *pequeño*, *orgulloso*, *fiel*, *imprudente*, *indiscreto*, *incapaza*, *inteligente*, *presumido*, *tranquilo*, *transparente*, *viejo*.

Group 2 (**only** *ser* **adjectives**): *auténtico*, *búlgaro*, *comunista*, *culpable*, *español*, *falso*, *semanal*, *socialista*, *vegetariano*.

Group 3 (**only** *estar* **adjectives**): *absorto*, *asombrado*, *ausente*, *contento*, *desnudo*, *descalzo*, *enfermo*, *enojado*, *harto*, *lleno*, *maltrecho*, *mojado*, *muerto*, *perplejo*, *presente*, *quieto*, *satisfecho*, *solo*.[8]

[Gumiel-Molina et al., 2015:966-967]

Note, however, that as noted by Marín (2000, 2009) and Escandell-Vidal and Leonetti, the acceptability of adjectives in Groups 2-3 is subject to contextual modulation. In order to explain the differences across groups (or at least the preference of certain adjective to appear with *ser* or *estar*), the authors refer to two types of comparison classes, *between-individuals* and *within-individuals* comparisons (Toledo and Sassoon, 2011). This is how these two comparison classes determine the evaluation of relative/absolute adjectives:

Relative adjectives are evaluated with respect to a comparison class comprised of individuals sharing some property (a *between-individuals* comparison class), which defaults to a midpoint standard value. **Absolute adjectives** are evaluated with respect to a comparison class comprised of counterparts of the stages of the adjective's subject manifesting different

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[8]Group 1: authentic, happy, tall, short, cautious, persevering, careful, happy, false, ugly, thin, thin, big, beautiful, wet, restless, young, free, nervous, small, proud, faithful, imprudent, indiscreet, unable, intelligent, arrogant, quiet, transparent, old.
Group 2: authentic, Bulgarian, communist, guilty, Saniard, false, weekly, socialist, vegetarian.
Group 3: absorbed, amazed, absent, content, naked, barefoot, ill, angry, fed up, full, beaten up, wet, dead, perplexed, present, calm, satisfied, alone.

degrees of the property in question (*a within-individual* comparison class); one of these degrees is considered the standard value, which is therefore conceived by default as a class- maximum/minimum standard value.

<div align="right">(Gumiel-Molina et al., 2015:21)</div>

Gumiel-Molina and colleagues argue that the relative/absolute distinction is not lexically encoded in the lexical entries of *ser* and *estar*. In other words, the copulas are not two different lexical items with distinct selectional restrictions. Instead, both copulas are syntactically linked to the degree morpheme *pos* (Kennedy, 1999; Fults, 2006). This morpheme introduces the type of comparison class that categorizes adjectives as absolute or relative (Gumiel-Molina, 2015:22). It is syntactically generated as the head of the degree node Deg that is present in the extended projection of adjectives. This is how the standard is computed: *pos* introduces a function M that sets the standard degree to which the reference degree is compared. M is a function that takes two arguments: gradable properties (g) and comparison class properties (P). The meaning of *pos* is shown in (3.31).

(3.31)

$$[[_{deg} \; pos]] = \lambda g \lambda P \lambda x. g(x) \geq M(g)(P)$$

Adjectives that exhibit variable behavior (Group 1) are accounted for straightforwardly with this analysis. The copulas function as verbalizers (V) of predications (PredP) that express different types of attributions to the referents. The main distinction between the copulas is that *estar* takes a PredP that contains stages of the referent, whereas *ser* takes a PredP that does not contain stages of the referent. The morpheme *pos* can introduce a comparison based on a set of individuals y in which the property P obtains. For example, the comparison class for *alto* 'tall' comprises a set of individuals. The function M applies to this set and to the gradable property and returns a midpoint value to which the reference degree is compared:

(3.32)

a.   Comparison class = $\{y : P(y)\} = \lambda y.P(y)$

b.   Juan **es** alto para ser jugador de fútbol. 'Juan **is** tall for a soccer player.'

[[Juan es alto para ser 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.

[Gumiel-Molina et al., 2015:24]

The morpheme *pos* can be intensionally defined if w' ranges over world pairs. In (3.33), A is an accessibility relation that relates worlds w and w', which are normal or where all things that normally hold, hold:

(3.33) Comparison class = $\lambda s \forall w'$[[w' Aw] x is (R)ealized as s at w' $\&$ P(x) or x is related to P at s in w']

[Gumiel-Molina et al., 2015:24]

Given a world w, function (3.33) returns the set of stages (i.e., counterparts or entities that are instantiated in worlds in which tipicality holds) such that for every typical world w', the entity x is realized as s and x manifests/is/is related to property P. The outcome of this function can be illustrated with the adjective *lleno* 'full', for which the comparison class consists of different stages of the individual that differ in the extent to which the restaurant is full at a contextually salient typical world. The function M applies to this class and to the gradable predicate and returns one of the degrees. Since the degrees are manifested as stages, the function will return a maximal or minimal value within the comparison class, which is interpreted as absolute.[9]

(3.34) *El   restaurante* **está**   *lleno.*
       The   restaurant   estar.PRES.3SING full.
       'The restaurant **estar** full.'

---

[9]The two comparison classes introduced by Gumiel-Molina et al. (2015), which are either intensionally or extensionally defined, are based on the *between-individual* and *within-individual* comparison classes as defined by Toledo and Sassoon (2012).

b.   C= $\lambda s \forall w'$[[w' Aw] x the restaurant is (R)ealized as s at w' & P(x) or x is related to

P at s in w']

c.   [[El restaurante está lleno C_{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 (realized) as a stage s included in every normal world w'.

[Gumiel-Molina et al., 2015:24]

Adjectives that only appear with *estar* (Group 3) behave as absolute adjectives and

are lexically determined to appear only with an intensional comparison class. The intuition

is that these adjectives seem to be derived from verbs (e.g., *cerrado* 'closed', *harto* 'fed

up'). The authors follow Kennedy and McNally (2005) and argue that the scale of deverbal

adjectives is dependent on substages of the event denoted by the respective verbs. Thus the

lexical meaning of these adjectives encodes a natural transition (an initiation or culmination

point of an event), which prevents them from relying on a between-individuals comparison

class.

Adjectives that only combine with *ser* (Group 2) are analyzed as non-gradable

adjectives that express class membership (Fábregas, 2007; Gil and Gutiérrez, 2012; Roy,

2013). Following Fábregas, the authors analyze these adjectives as 'relational adjectives'

that semantically behave like nouns because, syntactically, their structure has a nominal

projection. These adjectives will not appear with *estar* unless they are coerced into

gradable properties, as in the following examples:

(3.35)

a.   **Estás**   *muy monja últimamente.*
estar.PRES.3SING very nun   lately
'You **are acting** like a nun lately.'

b.   *Él* **estuvo**   *muy fiera en la negociación.*
He estar.PAST.3SING very beast in the negotiation
'He **was acting** like a beast in the negotiations'.

[Gumiel-Molina et al., 2015:29]

The authors point to some *estar* uses in which the adjective appears to be evaluated with respect to a between-individuals comparison. This is the case of so-called *evidential* uses (3.36a-b) and predications with eventive subjects (3.36c):

(3.36)

a. *El   pastel **está**   bueno/malo.*
    The   cake   estar.PRES.3SING   good/bad.
    'The cake **tastes** good/bad.'

b. *Él   jamón serrano **estaba**   delicioso.*
    the ham   serrano estar.PAST.3SING delicious
    'The serrano ham **was** delicious'.

c. *La   fiesta **estuvo**   muy divertida.*
    The party   estar.PAST.3SING   very fun
    'The party **was** a lot of fun'.

[Gumiel-Molina et al., 2015:39, 40]

On Gumiel-Molina et al.'s analysis, these uses are formed on the basis of an 'implicit experiencer' and not with respect to the subject of the predication. These uses are possible because the implicit experiencer allows the construal of previous stages of the cake, the serrano ham and the party. The stages are created through a comparison between the expectations of the subject regarding the property and the actual sensory perceptions of the subject at utterance time, thus creating a within-individual comparison. Accordingly, the authors argue that, contra to Toledo and Sassoon's (2011) proposal, the comparison class cannot be lexically derived because the comparison class can only be formed once the subjects and experiencers have been merged in the syntax.

The authors argue, however, that the use in (3.37a) should be unacceptable because the adjective cannot be interpreted with respect to counterparts of the subject (different stages of the individual across typical worlds). The reason is that the referent is not subject to variation in the normal worlds, which is a requirement to build the within-individual

comparison class. This use is accepted by speakers of Mexican and Venezuelan Spanish in the context described below.

(3.37)

Context: I visit my friend over the weekend and I realize that he still has one of this old heavy Mac computers. I say:

¡Esa   computadora **es/está**   *enorme!*
That   computer   ser/estar.PRES.3SING   huge
'That computer **is** huge!'

In order to explain example (3.37a) with *estar*, the authors would have to appeal to the notion of 'implicit experiencer', which allows the construction of a within-individual class comparison. It is not clear, however, how such a class is constructed if the experiences are created on the basis of other similar entities (other computers), but not on the basis of the referent itself. Some of the limitations faced by this analysis could be accounted for by distinguishing different dimensions over which the comparisons can be made. In the next section, I will describe two main analyses that aim to characterize the meaning of the copulas by investigating their contextual requirements and the pragmatic factors that determine the interaction between the two copulas.

3.4 The Presuppositional Content of *estar*

Some analyses of copular distinction have focused on providing a precise characterization of the lexical differences between the copulas by taking into consideration the pragmatic conditions that license the two forms. The analyses presented here share the intuition that *estar* requires additional contextual information in comparison to *ser*, and this requirement can be captured in terms of a presupposition. Clements (1988) argues that *estar* presupposes a connection to a prior state. This connection is

characterized differently depending on the predicate; for example, locative predicates and stage-level predications indicate a contrast with a prior state of the referent. In combination with certain past participles, the use of *estar* emphasizes a result state. Maienborn (2005) builds on Clements' analysis and provides one of the most formally explicit accounts of the differences between Spanish copulas. It is a quite parsimonious account as it relies only on the presuppositional component of *estar* to explain the differences between the copulas. These two analyses will be described in detail in the next two sections.

3.4.1 *Estar* **Presupposes a Connection to a Prior Event**

The basic semantic distinction between the copulas is that *estar* 'presupposes a connection of a present state to an underlying event' (Clements, 1988:791). In combination with locative or stage-level predications, *estar* expresses that the property attributed to the referent has changed with respect to its prior location/state. The knowledge the speaker has about the location/prior state plays an essential role in determining the felicitous use of $estar$. Ser does not have this presupposition, and it describes the property as a classifying characteristic of the referent. Clements provides the examples in (3.38) to illustrate the main uses of $estar$ with locative (3.38a) and stage-level predications (3.38b):

(3.38)

a.   *Las   nubes*   **están**   *altas.*
       The   cloud.PL estar.PRES.3PL high
       'The clouds are high'.

b.   *Sus   ojos* **están**   *rojos.*
       Her/his eyes estar.PRES.3PL red.
       'Her/his eyes are red'.   [Clements 1988:788]
       In (3.38a), the use of $estar$ is felicitous because the location of the clouds is assumed to be a variable property with respect to the sky and thus the link is naturally made. As for (3.38b), the speaker must presuppose a prior state in which a classifying characteristic of

the referent are not his/her red eyes. For example, it could be the case that the referent did not sleep well the night before, and his/her eyes are now red. This information should be part of the common ground between the speaker and the hearer for *estar* to be considered felicitous. It is in these predications (locative and stage-level) where *estar* preserves the meaning that is closer to the original interpretation of *estar* in Old Spanish to indicate 'a connection to an unnamed locus' (Clements 1988:789).

The presuppositional information of *estar* is encoded in the lexical entry of the copulas through the feature [NEXUS], which represents the requirement of establishing a connection to an underlying event. The difference between the two copulas depends on the presence or absence of this feature: *ser* is [-NEXUS] and *estar* is [+NEXUS]. Accordingly, the lexical entries of the copulas only differ in that *estar* encodes the feature [+NEXUS]. However, when taking into consideration the larger discourse, the two copulas require the speaker to establish a comparison. Clements employs notions from comparison-based approaches (Falk, 1979; Franco and Steinmetz, 1984) to account for the different readings of the copulas when they are used with the same adjectival predicates. Specifically, Clements argues that the speaker uses *estar* to establish a *comparison* between the present state of the referent and another state(s) of the referent, as in the following example:

(3.39) *Pepe, ¡qué alto* **estás***!*   *[+Nexus]*
     Pepe that tall.MASC estar.PRES.3SING
     'Pepe, how tall you are!'   [Clements 1988:788]

The use of *estar* in (3.39) describes a comparison based on an individual norm between Pepe and other states of Pepe, which is determined by prior experience or information the speaker has about the referent. For example, the speaker may have met Pepe two years ago, and he is surprised by how tall Pepe is now. This prior knowledge about Pepe's height would license the use of *estar*. The use of *ser* also implies a comparison, but prior beliefs or knowledge of the speaker about the referent are not presupposed, and therefore not relevant. The speaker establishes a comparison according

to a class norm that is based on commonly understood beliefs that are applicable to a community or a society[10]

(3.40)

> *Para su edad, Pepe* **es** *bien alto.* *[-Nexus]*
> For his age Pepe ser.PRES.3SING quite tall.MASC
> 'For his age, Pepe is quite tall'.

In (3.40a), the speaker uses *ser* to express that, on the basis of a a class norm about how tall individuals that are Pepe's age are expected to be, Pepe is tall. Being tall is interpreted as a classifying characteristic of Pepe. Clements' analysis also explains the distinct interpretations of *estar* with two typical readings: evaluative readings and resultative readings with past participles.

3.4.1.1 Additional Interpretations of *estar*

Evaluative readings. *Estar* predications can also denote a contrast with prior *beliefs* or *expectations* about the referent. In (3.41), for example, the use of *estar* indicates that a prior belief about the present state of affairs, namely that the tortured man was going to be dead, is false.

(3.41) *No se nos pasó* *(no se nos ha muerto el torturado)*
NEG REFL IO die.PAST.3SING (NEG REFL IO AUX die.PART the tortured man
está *vivo.*
estar.PAST.3SING alive
'He did not pass on (the tortured man did not die on us), he is alive.'

---

[10]These two types of norms for comparison were first introduced by Falk (1979) and have been described in detail in Chapter 2 and § 3.3.1). In a nutshell, *ser* requires a 'class norm' and thus contrasts the property at utterance time with a general norm that usually applies to counterparts of the referent; *estar* relies on an 'individual norm', i.e. the norm is derived taking into consideration different encounters with the individual itself. These two types of norms are reminiscence of the recent proposal by Toledo and Sasoon (2011), according to which all gradable predicates are interpreted with respect to two types of comparison classes from which the standard is derived. Some adjectives select a class comprised of counterparts of the referent (within-individual class comparison), whereas others rely on a class comprised of an extensional category of the referent (between-individual class comparison).

Subjective readings. The analysis can be applied to *estar* predications in combination with past participles. In these cases, however, Clements notes that the intention of the speaker is not to establish a contrast. Rather, the speaker wants to refer to the result of a prior event[11], as in the following example:

(3.42) *Luisa* **está** *cansada.*
     Luisa estar.PRES.3SING tired.FEM
     'Luisa is tired'.   [Clements 1988:792]

In (3.42), the property of being tired is conceived as the result of an event, for example, Luisa is tired because she just came back from a run.

3.4.2 *Estar* Presupposes a Connection to a Specific Discourse Situation

Maienborn considers her analysis to be an implementation of Clements' notion of the feature [+/-NEXUS]. For Clements, however, [NEXUS] is only one among several features, which interact in different ways to yield the final interpretation. In contrast, Maienborn's analysis derives the range of readings of the copulas only from the presuppositional content of *estar*. The main argument of Maienborn's (2005a-b) analysis is as follows: *estar* presupposes a link to a specific discourse situation, whereas *ser* is neutral or does not present this restriction. Maienborn's proposal can be divided into three main parts: lexical semantics, compositional semantics and pragmatics. In the following sections, I will present each part in detail.

3.4.2.1 Lexical Semantics

Maienborn proposes an analysis within the framework of *Discourse Representation Theory* (DRT; Kamp 1981, Kamp and Reyle 1993), in which the copulas have the following

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[11]The resultative meaning of *estar* predications with past participles had already been described in early grammars. Ramsey (1894), for example, says 'Both *ser* and *estar* can be used before past participles, but the choice of the verb must depend on the nature of the idea to be expressed. *Estar* is oftener so employed, as Spanish prefers to view the state attained rather than the act of producing it' (Ramsey, 1894:314).

lexical entries:

(3.43) *ser*: $\lambda P\, \lambda x\, \lambda z\, [\text{z} \approx [\text{P(x)}]]$

(3.44) *estar*: $\lambda P\, \lambda x\, \lambda z\, [\text{z} \approx [\text{P(x)}]] \,/\, [s_i \mid \mathbf{R\,(z,}s_i)]\text{xs}]$ [Maienborn, 2005:11]

Both copulas introduce a referential argument z of type *Kimian state* (K-state), which is characterized as a property applying to an individual. K-states are defined as 'abstract objects for the exemplification of a property *P* for a holder *x* at a time *t*'[12] (Maienborn, 2005a). Following Asher (1993), Maienborn uses $\approx$ to define a relation between the discourse referent for an abstract object (the K-State) and the DRS (Discourse Representation Structure) that defines the discourse referent[13].

The difference between the two copulas is represented in (3.44) by the information that follows the slash in the lexical representation of *estar*. This part includes a new discourse referent s_i, which Maienborn defines as a 'specific discourse situation' and its DRS conditions, which are separated by a straight line. The notation indicates that the referential argument z (the K-state introduced by the copula) is related via a free variable R to a specific discourse situation s_i. In this way, *estar* relates the property to a specific discourse situation. This association is not present in the lexical entry of ser.

3.4.2.2   Compositional Semantics

A crucial element in Maienborn's analysis to make a distinction between the two copulas is the **specific discourse situation** that the speaker has in mind. This notion will be clarified as we consider how meaning composition takes place. For that, it is necessary

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[12] K-states combine the notion of temporally bounded properties as described by Kim (1969, 1976) with Asher's (1993) conceptualization of abstract objects (facts, propositions, properties) as mentally constructed entities. Abstract objects are required for efficient natural language processing and for certain cognitive operations, but do not exist independently of these processes. As a result, K-states are abstract objects, similarly to facts and propositions, but they also have a temporal dimension, like eventualities.

[13] Within the DRT framework, a *Discourse Representation Structure* or DRS is a mental representation of the discourse that is built by the hearer as discourse unfolds. Each DRS is composed of two main parts: the universe of discourse or **discourse referents**, which are the objects under discussion and the **DRS conditions**, which include the information that has been accumulated about the discourse referents.

to introduce the functional category of aspect.

Maienborn takes the functional head ASPECT to introduce a contextually determined TOPIC SITUATION s^*, which is defined as ' the relevant situation to which the speaker restricts his/her claim' (Maienborn 2005:11, following Klein 1994). This TOPIC SITUATION is the antecedent of the specific discourse situation s_i, presupposed by *estar*. The difference between the two copulas is thus as follows:

> By using **estar**, speakers restrict their claims to a particular topic situation they
>
> have in mind; by using **ser**, speakers remain neutral as to the specificity of the
>
> topic situation.

(Maienborn, 2005:12)

The semantic contribution of the category aspect is to provide the temporal information that relates the specific topic situation s^* and the K-state z introduced by the copula. The DRSs for the aspectual operators are as follows:

(3.45) IMPERF: $\lambda Q \, \lambda s^* \, [z \mid \tau(s^*) \subset \tau(z), Q(z)]$

(3.46) PERF: $\lambda Q \, \lambda s^* \, [z \mid \tau(z) \subset \tau(s^*), Q(z)]$

The DRS for the imperfective operator (3.45) indicates that the topic situation time falls completely within the K-state time. The DRS for the perfective operator indicates an inverse relation, the K-state time falls completely within the topic situation time (τ maps K-states and situations onto their temporal extensions, [Maienborn 2005:12]). With these definitions in place, meaning composition in a *ser* sentence with imperfect aspect will proceed as in (3.47).

(3.47) *Carol era guapa* 'Carol ser.IMP.3SING pretty'

a. **Carol**: $[v \mid carol(v)]$

b. **guapa**: $\lambda[pretty(y)]$

c.   **ser**: $\lambda P \, \lambda x \, \lambda z \, [z \approx [P(x)]]$

d.   IMPERF: $\lambda Q \, \lambda s^* \, [z \mid \tau(x^*) \subset \tau(z), Q(z)]$

e.   **[ser guapa]**: $\lambda P \, \lambda x \, \lambda z \, [z \, approx \, [P(x)]] \, (\lambda y \, [\text{pretty} \, (y)])$

    $\equiv \lambda x \, \lambda z \, [z \approx [\text{pretty} \, (x)]]$

f. $[_{VP}$ **Carol ser guapa]**: $\lambda x \, \lambda z \, [z \approx [\text{pretty} \, (z)]] \, ([v \mid \text{carol} \, (v)]$

    $\equiv \lambda z \, [v \mid z \approx [\text{pretty} \, (v)], \text{carol}(v)]$

g. $[_{AspP}$ **Carol era guapa]:**

    $\lambda Q \, \lambda s^* \, [z \mid \tau(s^*) \subset \tau(z), Q(z)] \, (\lambda z \, [v \mid z \approx [\text{pretty} \, (v)], \text{carol} \, (v)])$

    $\equiv \lambda s^* \, [z, v \mid \tau(s^*) \subset \tau(z), z \approx [\text{pretty} \, (v)], \text{carol} \, (v)]$

<div align="right">(Maienborn, 2005:12)</div>

In the case of $estar$, an imperfective sentence would be solved compositionally in a similar way, with the difference that step (3.47g) would contain the presuppositional information associated with $estar$. This is illustrated in (3.48), which has the presuppositional content underlined.

(3.48) *Carol* **estaba** *guapa* 'Carol estar.IMP.3SING pretty'

g. $\equiv \lambda s^* \, [z, v \mid \tau(s^*) \subset \tau(z), z \approx [\text{pretty} \, (v)], \text{carol} \, (v) \, / \, \underline{[s_i \mid R \, (z, s_i)]}]$

The presupposition is resolved in two ways: (a) the variable R takes the value of the aspectual relation IMPERF and (b) the presupposed specific discourse situation s_i is identified with the topic situation S* already introduced. Resolution of the presupposition yields the DRS in (3.49).

(3.49)

h. $[_{AspP}$ **Carol estaba guapa]:**

    $\equiv \lambda s^* \, [s_i, z, v \mid s_i = s^*, \tau(s^*) \subset \tau(z), z \approx [\text{pretty} \, (v)], \text{carol} \, (v)]$

The composition proceeds now as in the case of *ser*. The final DRSs for each copula in an imperfective sentence are shown in (3.50a) and (3.50b). These representations show the discourse referents before the slash, followed by the DRS conditions, that is the relations between the referents established as discourse unfolds.

(3.50)

a. **DRS for an imperfective *ser* sentence:**

   $[t^0, s^*, z, v \mid \tau(s^*) < t^0, \tau(s^*) \subset \tau(z), z \approx [\text{pretty } (v)], \text{carol } (v)]$

b. **DRS for an imperfective *estar* sentence:**

   $[t^0, s^*, s_i, z, v \mid \tau(s^*) < t^0, s^* = s_i, \tau(s^*) \subset \tau(z), z \approx [\text{pretty } (v)], \text{carol } (v)]$

In this way, through the process of meaning composition, ASPECT introduces the topic situation to which the speaker will restrict his/her claims. The truth conditions for *ser* and *estar* are thus the same, with the only requirement that the topic situation provided by the context in a *estar* predication needs to be restricted to a particular situation the speaker has in mind.

3.4.2.3   Pragmatics

Thus far, Maienborn's analysis have shown that *estar* predications are restricted to a particular topic situation. The role of pragmatics is to explain how this restriction takes place. For a restriction to take place, there need to be **alternatives** to the topic situation in which the predication need not apply. As a result, a restriction will be possible if the context supports a *topic situation contrast*. It is only if there are contextually provided alternatives that the speaker would want to restrict her/his claims to a particular topic setting by using *estar*. The presence of the presupposition has a pragmatic effect: *estar* sentences often give rise to quasi-exhaustive inferences in context – as restricted claims that may not hold in temporally, spatially or epistemically different discourse situations.

Examples for each of the three dimensions are provided below.

Temporal dimension:

Context: Luisa has been to the hairdresser and is wearing an elegant dress.

(3.51) *Luisa* **está** *guapa hoy.*
  Luisa be.PRES.3SING pretty today
 'Luisa is pretty today'. [the current topic situation contrasts with previous situations
 in which the property of being pretty does not apply to Luisa].

Spatial dimension:

Context: A journalist is reporting on the Panamerican Highway and she is now near

Lima.

(3.52) *La carretera* **está** *ancha.*
  The road estar.PRES.3SING wide.
 'The road is wide'. [the current topic situation is contrasted with differently
 localized situations in which the property of being wide does not apply to other
 distinct parts of the Panamericana].

Epistemic dimension:

Context: A botanist in the Amazon jungle has just discovered a tree of a species that

was previously unknown.

(3.53) *Las hojas* **están** *amarillas.*
  The leaves estar.PRES.3PL yellow
 'The leaves are yellow'. [the current situation contrasts with topic situations that do
 not allow the speaker to decide whether the property applies to the leaves across
 time.]

[Maienborn 2005:14]

The pragmatic component is the last requirement in Maienborn's analysis. This

analysis is at present one of the most formally explicit accounts of copular distinction,

with the advantage that it derives the different readings of the copulas only from the

implementation of the presupposition encoded by $estar$. There are some limitations that need to be addressed for the analysis to have a wider application, such as the notion of 'alternative discourse situation' –how the situations are identified and how they relate to the topic situation– and the contribution of the relation R to the arguments of *estar* and the specific discourse situation. I will come back to these limitations in the second part of the chapter

3.5   Interim Summary

The first part of the chapter has reviewed previous analyses on copular distinction that aim to explain common interpretations of copula predicates. The differences across analyses lies in the aspect of the predicate interpretation that they consider has explanatory value and in the scope of the analysis. The first type of accounts placed the focus on the temporal restrictions associated with *estar* predications, which are characterized as describing properties that hold temporarily of the entity-denoting subject. This account explains common uses of the copulas, but a number of counterexamples have been mentioned, among them uses that are interpreted as if the property exceeds the contextual standard (**contrast interpretation**, Table 3.1) and uses that do not necessarily imply that the property will change in the future (**change interpretation**, Table 3.1). Luján (1981) and Roby (2009) further characterized the temporal restrictions of the copulas and argued that *estar* uses are licensed whenever the property occurs over a delimited time period. This analysis explains readings of *estar* that describe a change of state because a main requirement of the analysis is that at least the beginning of the delimited period of time is known. Such criteria is naturally met if a change of state is identified. Predications that rely on a contrast between two states (and no change) are harder to account for since these are usually predications that apply permanently to the referent (**contrast interpretation**, Table 3.1). Locative predicates can only be explained if one assumes that motionless

inanimate individuals do not need to be restricted to a delimited period of time and, consequently, they are able to appear with both copulas (**locative interpretation**, Table 3.1).

The second type of proposals argues that what licenses the use of *estar* is the existence of a contrast between different states. Copula use is determined by the nature of the comparison class: *estar* requires a comparison between counterparts of the referent, whereas *ser* requires a comparison with a class comprised of an extensional category of the individual. These analyses, by moving beyond the temporal restrictions of the copulas, are able to account for a wider range of distributional patterns. A recent analysis by Gumiel-Molina et al. (2015) has a wider applicability that previous accounts, but still faces some limitations. Copula predicates that indicate a contrast with prior expectations, for example, are difficult to explain with this analysis if the *estar* predication assumes prior knowledge from extensional entities (**contrast interpretation**, Table 3.1).[14]

Finally, some analyses have proposed explicit lexical entries for the copulas, thus providing a more precise characterization of their meaning differences. Maienborn's (2005) analysis is one of the most formally explicit accounts in that it provides explicit lexical entries and compositionally derives the different interpretations of the copulas from the presuppositional content of *estar*. The analysis, based on a comparison between contrastive alternative discourse situations, is able to account for both the time restrictions of *estar* predications, but also for their non-temporal contextual restrictions (e.g., spatial and epistemic interpretations). The analysis faces some limitations -to be described more precisely in the second part of the chapter- and some readings of *estar* predications that describe a contrast with prior expectations are difficult to explain (**contrast interpretation**, Table 3.1).[15]

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[14]The authors argue that, in such cases, the comparison class is formed on the basis of the experiencer, not on the basis of the referent subject. The so-called 'implicit experiencer' allows the construction of a within-individuals comparison. It is not clear, however, how such a class is constructed if the experiences are created on the basis of extensional entitties, and not on the basis of the referent itself.

[15]Locative uses are not explicitly dealt with in Maienborn's analysis, so it is left unclear what type of contrasting dimension would allow *estar* to appear with locative predicates.

Main Interpretations of *estar* Predicates		
Interpretation of *estar*	**Subdivision** [16]	**Examples**
Temporary	adjectival predicates	*El niño ***es/está*** hambriento.* The boy **is** hungry. *Las manzanas ***son/están*** agrias.* The apples **are** sour.
	nominal predicate	*Pedro ***es/está*** (de) camarero.* Pedro **is/works as** a waiter.
	coercion effect with ILPs	*¡Luisa ***es/está*** muy inteligente!* Luisa **is (behaving)** intelligent(ly)!
Change	perceived through the senses	*Guillermo ***es/está*** completamente calvo.* Guillermo **is** completely bold.
	conceptual	*¡El problema ***es/está*** claro!* The problem **is** clear!
Contrast-based predications (no change)	exceeded contextual expectations	*La capa del tiramisú ***es/está*** gruesa.* The tiramisu layer **is** thick. *¡La Capilla Sixtina ***es/está*** hermosa!* The Sistine Chapel **is** beautiful!
	relational use	*Los zapatos ***son/(me)están*** anchos.* The shoes **are/fit me** wide.
	spatial restriction	*La carretera ***es/está*** ancha.* The road **is** wide.
Subjective	———	*Las mandarinas ***son/están*** riquísimas.* The mandarins **are** delicious.
Locative	animate	*Pedro ***es/está*** en la cocina.* Pedro **is** in the kitchen.
	inanimate movable	*El café ***es/está*** en el segundo estante.* The coffee **is** on the second shelf.
	inanimate inmovable	*México ***es/está*** en Norteamérica.* Mexico **is** in North America.
	change in interpretation of subject	*La salida ***es/está*** por la izquierda.* The way out/exit door **is** to the left.
Restultative	past participles	*La carta ***es/está*** escrita.* The letter **is** written.

Table 3.1: *Main Interpretations of estar in Contrastive Predicates*

3.6   The Boundedness-Presupposition Analysis

The first part of this chapter described previous analyses on the *ser*/*estar* distinction and how they apply to the main contrastive copular uses that have been taken into consideration. Maienborn's (2005) analysis, which builds on Clements' (2008), is the most formally explicit account so far. It crucially provides explicit lexical entries and a compositional semantics for the two copulas. On the basis of previous work, there are three properties that any viable analysis of copula distribution should be able to account for:

a. **Sensitivity to discourse context:** *estar*'s sensitivity to context needs to be fully characterized; an analysis that relies on lexicalized properties of predicates alone is inadequate.

b. **Presuppositional component:** The discourse sensitivity of *estar* should be modelled as presuppositional, rather than at-issue content.

c. **The neutrality of *ser*:** *ser* is semantically neutral and its discourse sensitivity should be modeled by appealing to the division or pragmatic labor.

The analysis presented in this section builds on Mainborn's proposal, and it particularly aims at circumventing some of its limitations.[17] Maienborn's analysis aims to capture the sensitivity of *estar* to the discourse context with the notion of 'alternative discourse situation'. It is the first analysis to propose specific lexical entries for *ser* and *estar* and to model *estar*'s discourse sensitivity by appealing only to its presuppositional content. It is left unclear, however, how such situations are accessed and how they relate

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[16]The subdivisions correspond to previous categories identified in the literature, not necessarily representing a homogeneous set. Interpretations are found primarily with adjectival predicates, unless otherwise indicated.
[17]The analysis presented in this section represents joint work with Ashwini Deo and María Piñango (Deo et al., *under review*.)

to the topic situation. The analysis also remains vague as to the specification of what the link R is between *estar* arguments and the specific discourse situation. these are some of the aspects that were the basis for our analysis. A more precise definition of these notions is needed to account for common uses of the copulas, such as the contrastive interpretations in (3.54) and locative prepositional predicates in (3.55):

(3.54)

a.   *La   Capilla Sixtina* **es/está**   *hermosa.*
        The Sistine   Chapel ser/estar.PRES.3SING beautiful
        'The Sistine Chapel **is** beautiful'.

b.   *Los   zapatos (me)* **son/están**   *anchos*
        The   shoes   CL   ser/estar.PRES.3SING wide
        'The shoes **are/fit me** wide'.

c.   *¡La   computadora* **es/está**   *grande!*
        The   computer   ser/estar.PRES.3SING big
        'The computer **is** big!'

(3.55)

        Chile **es/está**   *en Sudamérica.*
        Chile   ser/estar.PRES.3SING in   South America
        'Chile **is** in South America'.

Maienborn identifies a series of contrastive dimensions along which a topic situation contrast can be identified, among them are temporal, spatial and epistemic dimensions. These dimensions do not suffice to explain the contrastive patterns in (3.54), but they hint at specific properties fo the contexts to which *estar* predications are sensitive. The intuition behind these uses of *estar* is that they rely on assumed knowledge or beliefs that the speaker has about the referent. Locative predicates as in (3.55) are not explicitly dealt with in Maienborn's analysis, but a comprehensive account of copula use needs to explain the preferred uses of *estar* with locative predicates.

     The formal analysis presented in this section builds on Clements and Maienborn's intuition that there is something 'restricted' about an *estar* claim, a restriction that does

not appear with the use of *ser*. It proposes that the use of *estar* can only be fully characterized by taking into consideration the properties of the discourse context. The discourse sensitivity of *estar* is modeled as a presuppositional component. *Ser*'s contribution is semantically neutral to this presupposition and its distribution is accounted for in terms of the principle of division of pragmatic labor (Horn, 1984). As will be seen, by providing specific lexical entries for each of the copulas and precisely characterizing the discourse properties that *estar* is sensitive to, the analysis can be applied not only to adjectival predicates, but it also to nominal and locative prepositional predicates.

The basic intuition underlying our analysis is that *estar* restricts the truth of the predication to the circumstance of evaluation, thus presupposing that the predication is not true beyond that circumstance.[18] The discourse sensitivity of *estar* is formally captured by making reference to a comparison between truth values of *estar* claims (with invariant content) across possible circumstances of evaluation. The comparison between truth values of *estar* predications is necessary to satisfy the presuppositional component: *estar* presupposes that the prejacent (the content/proposition embedded under *estar*) is **boundedly true** at the considered circumstance of evaluation i. Bounded truth is a constraint imposed on the context which guarantees that 1) i is a minimal verifying circumstance (in a sense that will be explicated) and 2) there are accessible circumstances i' in the context at which the prejacent is false.

These two conditions are the core of *estar*'s presuppositional component and are fully characterized in § 3.6.1. The lexical entries of *ser* and *estar* are presented in § 3.6.2, followed by some of the effects that resulss from the interaction between these two requirements and the context in § 3.6.3. Finally, § 3.6.4 provides a detailed explanation of how the presuppositional requirement of *estar* accounts for the range of distributional patterns.

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[18]A circumstance of evaluation is the set of contextual parameters that are deemed relevant to assess the truth of *estar*'s predications. These parameters will be described in the remainder of the chapter.

3.6.1 Modeling the Discourse-Sensitivity of *estar*

3.6.1.1 The Interaction between Context of Use and Lexical Meaning

The discourse sensitivity of *estar* is modeled by making use of a modified version of the Kaplanian theory of how the content and truth-value of a sentence depends on the context of use. Kaplan's model of context use works as follows: a sentence S expresses some (variable or invariant) content determined by some context of use c. The content of a sentence is a proposition – a function from circumstances of evaluation to truth-values. The context of use determines the circumstance of evaluation at which the truth of the sentence is evaluated. What a circumstance of evaluation is depends on our understanding of the parameters that determine propositional truth. If propositions are true or false relative to possible worlds, times, and locations, then a circumstance of evaluation is taken to be a world-time-location triple, and so on. The changes in such circumstances of evaluation is formally modelled by enriching the set of parameters that constitute the circumstance of evaluation (or evaluation index). Examples of possible circumstances of evaluation are illustrated in (3.56) below.

(3.56)

a. $\langle w \rangle$ (worlds)

b. $\langle w, t \rangle$ (worlds, times)

c. $\langle w, t, l \rangle$ (worlds, times, locations)

d. $\langle w, t, l, a \rangle$ (worlds, times, locations, agents)

e. $\langle w, t, l, a, c \rangle$ (worlds, times, locations, agents, contextual standards)

Truth-value assessment of contents indirectly depends on the discourse context due to its role in constraining relevant circumstances of evaluation. Following MacFarlane (2014), we argue that there are two ways in which an expression can be context sensitive. The extension of an expression can depend on a particular feature of the context because that feature plays a **content-determining** role or because that feature plays a

circumstance-determining role. Accordingly, the discourse context directly **fixes** the value of indexical expressions like I, *now*, and *here*. Similarly, it **constrains** the values of tense-markers, temporal and locative adverbial and gradable predicates because it constrains what circumstances of evaluation are *relevant* for truth assessment. As a concrete example, take a sentence like:

(3.57) Yo **estaba** furioso.

  I estar.PST.3.SG furious

  'I was furious.'

Uttered at a discourse context c, the truth of this sentence will depend on both the content of specific expressions and the circumstances relative to which it is evaluated, both of which are constrained by c. While the value of the first person pronoun is fixed directly to be the speaker in the context, the value of the past tense form *estaba* is not directly fixed to the time of utterance (Partee, 1973). However, the context does provide us with possible values of the time parameter of those circumstances of evaluation relative to which the truth of (3.57) may be assessed. These are the possible reference/topic times that are anaphoric on the prior discourse context. The context of use c also constrains possible values for the contextual standard relevant for interpreting *furioso*.

3.6.1.2 Semantic Setup

In addition to the domain of agents D (type a), the ontology includes a non-null set of temporal intervals $\mathcal{I}$ (type ι), with points as a special case. W (type s) is a non-empty set of worlds. $\mathcal{L}$ (type r) is the domain of spatial regions ordered by the contiguity $\supset\subset_r$, overlap $\circ_r$, and subset relations $\subseteq_r$. $D, \mathcal{I}, \mathcal{L}$ are assumed to be mereological domains structured by

the relation of parthood $\leq$ (and proper parthood $<$).[19]

The ontology further includes degrees, entities that represent quantities assigned by measure functions such as weight, height, or temperature.[20] The context-sensitive interpretation of gradable predicates is captured by defining a "delineation function" d_c relative to a given context of use c which maps gradable predicates P_g to the degree that constitutes the contextual standard for P_g in c. That is, it is a function from contexts to delineations.[21] The set of all possible delineations is notated $\mathcal{D}$.[22]

(3.59) $\forall P_g : \mathbf{d}_c(P_g) = \mathbf{max}(d)[\forall x \in D \ [\llbracket pos(P_g)(x) \rrbracket^c = 1 \rightarrow (P_g)(x) \geq d]]$

3.6.1.3 How Context Constrains Circumstances of Evaluation

The connection between the context of utterance c and relevant circumstances of evaluation i is formally modeled by introducing a function $Circ$ that assigns to each context c a set of circumstances of evaluation $I' \subseteq I$, where each $i \in I'$ is relevant to assessing the truth of S at c.[23] We will require each circumstance to be a tuple of at least five parameters, $\langle t, w, l, a, \mathbf{d}_c \rangle$, with $t \in \mathcal{I}$, $w \in W$, $l \in \mathcal{L}$, $a \in D$, and $\mathbf{d}_c$ determined by the context of use

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[19]To fully explicate our assumptions, each domain is taken to be a join semi-lattice $\langle U, \oplus \rangle$ whose elements satisfy the *part* relation (3.58a), the *proper part* relation (3.58b), the *overlap* relation (3.58c), and the remainder principle (3.58d). Krifka (1998) defines all part structures as tuples of a set of entities, the sum operation, and the relevant relations that constrain the part-structure. So a part structure is a tuple $\langle U_P, \oplus_P, \leq_P, <_P, \otimes_P \rangle$. We assume this derivation of part structures from elements in the basic ontology.

(3.58)
a. $\leq$, the *part* relation, def. as: $\forall x, y \in U[x \leq y \rightarrow x \oplus y = y]$
b. $<$, the *proper part* relation, def. as: $\forall x, y \in U[x < y \leftrightarrow x \leq y \wedge x \oplus y \neq y]$
c. $\otimes$, the *overlap* relation, def. as: $\forall x, y \in U[x \otimes y \leftrightarrow \exists z \in U[z \leq x \wedge z \leq y]]$
d.   Remainder principle: $\forall x, y \in U[x < y \rightarrow \exists!z[\neg[z \otimes x] \wedge x \oplus z = y]]$

[20]Taking degrees to be part of the ontology in formal semantic analyses of gradable predicate meaning, first introduced in Cresswell (1976), has become the more influential treatment of these and related expressions in the recent literature. The other kind of approach to gradability (Klein (1980); Fine 1975; Kamp 1975 etc.), does not introduce the semantic type 'degree' into the semantics, but instead analyzes gradable predicates as context-sensitive, partial functions from individuals to truth values. For our purposes, it does not matter which of the two treatments is adopted, since both approaches allow the extensions of gradable predicates to vary across contexts of use, which is the only feature that our analysis of *estar* requires.

[21]The term delineation function is taken from Barker (2002: 6) where it is defined as a function from worlds to Lewisian delineations. The effect of d_c here is identical.

[22]Although not represented in the current semantic setup, Nouwen and Dotlacil (2018) have recently argued that the domain of degrees should also have a mereological structure.

[23]$I = \mathcal{I} \times W \times \mathcal{L} \times D \times \mathcal{D}$.

defined above in 3.59. The context of utterance c itself is a tuple $\langle t, w, l, a, \mathbf{d}_c \rangle$, i.e. it is a possible circumstance of evaluation and may, in some cases, be an element of $Circ(c)$.[24]

(3.60) $Circ =_{def} f : I \rightarrow \wp(I)$

The function $Circ$ generates a set of contextually relevant alternative circumstances at which the truth of a single proposition can be evaluated. This set is generated on the basis of shared assumptions between the interlocutors in a conversation. At any point in a conversation, interlocutors will have a shared beliefs about what the facts are, which corresponds to a set of possible worlds (the context set) and the topic of the conversation (the current question under discussion). This will determine the possible values of the time, world, location, agent and contextual standard parameters of elements of $Circ(c)$.

The choice between *ser* and *estar* hinges on the speaker's assumptions regarding the scope of the predication. *Estar* is used to signal that the truth of the prejacent is restricted to the current circumstance of evaluation. Specifically, the scope of the prejacent is determined by the assumptions on the strength relations between the parameters in the different circumstances of evaluation. Intuitively, a circumstance of evaluation i is strictly stronger than another circumstance of evaluation i' iff for any proposition p, $[\![p]\!]^i = 1 \rightarrow [\![p]\!]^{i'} = 1$.[25] (3.61) explicates how strength-based comparisons between such minimally different circumstances of evaluation depend on relations between parameters. We can define an entailment-based strength relation ($\succ$) on $Circ(c)$ as follows. Let $i \in Circ(c) = \langle t_i, w_i, l_i, a_i, \mathbf{d}_{c_i} \rangle$ and $i' \in Circ(c) = \langle t_{i'}, w_{i'}, l_{i'}, a_{i'}, \mathbf{d}_{c_{i'}} \rangle$. Then $i \succeq i'$ iff:

(3.61)

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[24]There is no harm done by letting the context be equipped with delineations, since truth-values and extensions of non-indexical expressions will still be calculated relative to $Circ(c)$ and not c directly.

[25]For any stative proposition, asserting its truth at spatio-temporal parameters of a circumstance requires asserting its truth at spatio-temporal subintervals. This results in an entailment relation between alternative circumstances of evaluation: if the truth of a stative proposition is asserted at a specific circumstance (relative to some interval or location), it will be evaluated as true at its subintervals or sub-locations, but not vice versa. Consider the sentence 'This grass is green'. The truth of the proposition will be evaluated with respect to a specific time interval and location. It may be true relative to a small patch of grass near the flower-bed in my yard, but not relative to the whole yard. Similarly, it can be true relative to a time surrounding the utterance time, but not to a larger time interval.

a. $t_i \geq t_{i'}$ OR

b. $l_i \geq l_{i'}$ OR

c. $a_i \geq a_{i'}$ OR

d. $\mathbf{d}_{c_i} \gg \mathbf{d}_{c_{i'}}$ OR

e. $w_i \leq w_{i'}$ AND

f. For all other parameters p, $p_i = p_{i'}$.

With mereological domains (3.61a-c), strength is determined in terms of mereological inclusion. Given to circumstances that differ only with respect to a merological parameter (t, l or a), the value for the particular parameter in the stronger circumstances includes the values of the parameter in the weaker circumstance. In the case of delineations (3.61d), strength is determined by the value of the contextual standards they assign. A delineation $\mathbf{d}_{c_{i'}}$ is stronger ($\succ$) than a delineation $\mathbf{d}_{c_i}$ iff $\mathbf{d}_{c_i}$ assigns to each predicate P_g a higher contextual standard in c than $\mathbf{d}_{c_{i'}}$.

In the case of worlds (3.61e), we will determine strength in terms of a totally realistic ordering source $g_r(\text{w}_0)$, which orders worlds with respect to what is the case in the actual world.[26] What is crucial for the calculation of the strength relation is to consider those worlds at which the prejacent p is/is not instantiated. Accordingly, any factor that bears on the truth or falsity of the prejacent should be eliminated from the calculation. The ordering source that we assume, $g_r(\text{p, w}_0)$, associates with every proposition p and worlds w the subset of those propositions that are both true in the actual world w_0 AND that are casually independent of p at w_0. We will say that a world w_i is at least as strong as a world w'_i with respect to p iff every proposition q in $g_r(p, w_0)$ that is true at wi', is also true at w_i. That is:

(3.62) $\forall w_i, w_{i'} \in W :$

$$w_i \leq_{g_r(w_0)} w_{i'} \Longleftrightarrow \{q \mid q \in g_r(w_0) \wedge w_i \in q\} \supseteq \{p \mid \{q \mid q \in g_r(w_0) \wedge w'_i \in q\}).$$

This modified version of a totally realistic ordering source ranks worlds based on how similar they are to the actual world (once the prejacent p and all its causal ancestors

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[26]This is a modified version of the Kratzerian realistic ordering source, which generates a set of propositions that allow for comparative evaluations of possible worlds based on their stereotypicality, desirability, law-abiding properties, or closeness to the actual world.

are factored out). The result is a preorder on the set of possible worlds determined by the extent to which they verify the propositions in $g_r(p, w_0)$. Worlds that differ from the actual world only with respect to (a) whether p obtains or not and (b) what the precise causal ancestors of p are if it obtains, come out as equivalent in strength to the actual world under this ordering. Worlds that differ from the actual world with respect to any proposition excluding the prejacent p and its causal ancestors would be strictly weaker than worlds that do not.[27]

Given this definition of strength between circumstances of evaluation, we can see that any stative proposition (a) that is true relative to an interval t_i, will be true relative to some subpart $t_{i'}$; (b) that is true relative to a location l_i, will be true relative to some subpart $l_{i'}$; (c) that is true relative to a (possibly plural) agent a, will be true relative to some subpart $a_{i'}$; (d) that is true relative to a contextual standard determined by d_{c_i}, will be true at some lower contextual standard determined by $\mathbf{d}_{c_{i'}}$. Finally, if a proposition q is true at a world $_i$ relative to $g_r(p, w_0)$ that is stronger than w_0, then it is entailed to be true at w_0. Since we will be interested in particular parameters whose value determines the strength ranking between pairs of circumstances, we will be talking about parametrized strength (notated $i \succ_p i'$).[28] The relevant parameter along which circumstances are compared is taken to be determined in context. In both definitions and descriptions, we will notate this contextually determine parameter p_c.

As has been shown, by introducing the function $Circ(c)$ and the entailment-based strength relation ($\succ$), we now have the means to access a set of alternative circumstances of evaluation constrained by the discourse context (context of utterance c) and rank them according to their strength. We are ready to precisely describe the requirements that *estar* poses on the context and to specify the lexical entries for each of the copulas.

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[27]Note that under this version of a totally realistic ordering source, no worlds w can be strictly stronger than the actual world w_0, although there may be several worlds that are equivalent to w_0.

[28]$i \succeq_p i'$ is intended to be read as: The circumstance of evaluation i is at least as strong as i' according to a strength relation construed along the parameter p. $i \succ_p i'$ and $i \not\succ_p i'$ are to be read in the same way.

3.6.2 Lexical Entries for *ser* and *estar*

The difference between the two copulas lies, as Clements and Maienborn have suggested, in the presuppositional component of *estar*. Remember that Clements takes the presuppositional element to be the feature [+Nexus] (a connection of the subject referent with some location or prior state) while Maienborn takes it to convey the presence of a link between the state introduced by *estar* and a specific discourse situation. On our analysis, *estar* conveys that the prejacent (the content/proposition embedded under *estar*) is true in a bounded way, where **bounded truth** is defined in (3.63).

(3.63) A content/proposition of the form $P(x)$ that is true at circumstance $i \in Circ(c)$ is

boundedly true at c with respect to a contextually-determined parameter p_c iff:

a. $\exists i' \in Circ(c) : i' \not\succ_{p_c} i \wedge P(x)(i') = 0$

b. $\forall i'' \in Circ(c) : P(x)(i'') = 1 \to i \succeq_{p_c} i''$

These two conditions allow the construal of a set of alternative circumstances of evaluation $Circ(c)$ that are relevant for assessing the truth of the prejacent. (3.63a) encodes the requirement that $Circ(c)$ contains some falsifying circumstance i' for $P(x)$ that is not weaker than i on the contextually determined parameter.[29](3.63b) encodes the condition that every circumstance in $Circ(c)$ that verifies $P(x)$ is at least as strong as i with respect to the parameter p_c (which is determined in the discourse context). In effect, the speaker converys that i is the *maximal relevant verifying circumstances* for $P(x)$ in c. Note that a main prerequisite for the fulfillment of these two conditions is that the speaker is able to identify the relevant parameter for determining the strength relation.

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[29]The reason for establishing the strength relation as 'no-weaker-than' ($\not\succ$) instead of 'at least as strong as' ($\succeq$) is to allow for the inclusion of pairs of circumstances that cannot be ordered with respect to each other. For instance, consider two circumstances that differ only with respect to the temporal parameter such that the values of these parameters do not overlap. Or take, for example, two circumstances that differ with respect to the agent parameter because their values are two distinct individuals. In such cases, these circumstances would not be weaker than each other.

We will call a context in which (3.63[a-b]) are met a **Bounded Context** with respect to $P(x)$ and i and notate it as **Bound**$(P(x), c, i)$. Both *ser* and *estar* combine with a property-denoting expression P and an individual-denoting argument (x) and assert that $P(x)$ is true at the circumstance of evaluation i. *Estar* presupposes that the context in which it is used, c_0, is bounded with respect to its prejacent, while *ser* remains neutral in this regard. Based on this, we propose the following lexical entries:

(3.64)

a. $[\![estar]\!] = \lambda P_{\langle s,et \rangle} \lambda x_{\langle s,e \rangle} \lambda i_s :$ **Bound**$(P(x), c_0, i).[\![P(x)]\!]^i = 1$

b. $[\![ser]\!] = \lambda P_{\langle s,et \rangle} \lambda x_{\langle s,e \rangle} \lambda i_s.[\![P(x)]\!]^i = 1$

The analysis presented in this section requires *estar* to uses informational resources in the context in a precise way: to construct a set of circumstances of evaluation that are relevant for assessing the truth of the prejacent. In contrast to previous accounts, this characterization of *estar*'s presupposition makes predictions about the contextual conditions that will license the use of *estar*. The lexical meaning of the copulas also interacts with the expectations of speakers regarding the strength relation of relevant parameters in the context of use. This interaction leads to some general effects that can be characterized as scalar inferences associated with presuppositional variants. We now turn to describe these effects.

3.6.3 The Interaction between Lexical Meaning and Contextual Expectations

The boundedness-presupposition analysis characterizes the copulas as being presuppositional variants: both *ser* and *estar* have the same truth- content, but differ in the additional presupposition encoded by *estar*. Thus, *estar* is considered the presuppositionally stronger variant. Given this relation between the copulas, we expect

that the choice of one copula over the other may give rise to certain pragmatic inferences. These effects are expected on the basis of standard Neo-Gricean assumptions about how two lexical items with the same truth-conditional content interact in a linguistic system.

The specific inferences will depend on the expectations of the interlocutors about how strongly a proposition $P(x)$ might hold. Speakers will have expectations about what might be likely values for each parameter in the circumstance of evaluation i at which the proposition is asserted to be true. The expected value for the relevant parameter can be higher than, equal to, or lower than its value in the circumstance i at which the proposition is asserted to be true. For example, compare the two propositions *John is tired* and *John is intelligent*. Uttered in the same context of use, the interlocutors will expect that the temporal interval during which the property 'being tired' holds will be smaller than the temporal interval that corresponds to the property 'is intelligent' which might be indefinitely large. The interaction between the expectations of the interlocutors for p_c and it actual value at the circumstance of evaluation i will generate two kinds of effects. The first kind of effect has to do with the use of *estar*, and the second one concerns the use of *ser*.

3.6.3.1   Pragmatic effects with the use of *estar*

1.   If the expected value for p_c is greater than its value in i, then *estar* will have an **exhaustifying effect**, conveying that the circumstance at which the proposition is asserted to be true is weaker than what is expected in the context. This will be a quantity implicature that arises because the hearer reasons that the speaker could have asserted $P(x)$ at a stronger circumstance (by using *ser*) but they didn't. This implies that they do not believe that $P(x)$ is assertable at a stronger circumstance. On further strengthening, this implies that they believe that $P(x)$ is NOT assertable at a stronger circumstance. This then implies that $P(x)$ does not hold at a stronger circumstance than the circumstance of evaluation. The uses of *estar* that can be

understood to involve such weakening include its use to signal temporariness with individual-level predicates (3.65), to signal spatial restrictions as in (3.66) and to signal lowered contextual standards as in (3.67):

(3.65) **Estás**   *muy monja últimamente.*
      estar.PRES.3SING very nun   lately
     'You **are acting** like a nun lately.'

(3.66) *La carretera* **está**   *ancha* **ahora**.
      The road   ser.PRES.3SING wide now
     'The road is wide now'.

(3.67) **Context:** Juan is from Madrid and used to seeing really tall skyscrapers. He visits Segovia where the buildings are not as tall. His host points to building after building to determine what 'counts" as tall for Juan. For one building that is taller than the others but not as tall as a Madrid skyscraper, Juan agrees:

     Vale, ese edificio **está**   *alto.*
     OK,   this building ser/estar.PRES.3SING tall
     'OK, this building **passes as** tall'.

2.   If the expected value for p_c is lesser than its value in i, then *estar* will have a **scalar-additive** type effect, conveying that *even* the maximal circumstance at which $P(x)$ is asserted to be true is stronger than what is expected in the context. The uses of *estar* that can be understood to involve such strengthening are those to signal exceeded contextual expectations:
(3.68)

a.   **Context:** A baker is critiquing the tiramisu just baked by her assistant, which did not turn out as it was supposed to.

     ¡La capa del tiramisú **es/está**   *muy gruesa!*
     The layer of the tiramisu ser/estar.PRES.3SING very thick
     'The layer of the tiramisu **is** very thick!'

3. If there is no difference between the expected value for the relevant parameter p_c (relative to which strength is determined) and the value in i, then the use of *estar* will have **no additional effect** beyond conveying that the proposition is true in the context c. These are the neutral readings of estar with stage-level adjectives and locative predicates.

(3.69)

    a.   *María* **está**   *cansada.*
          Maria   estar.PRES.3SING   tired
          'Mexico **is** tired'.

    b.   *México* **está**   *en Norteamérica.*
          Mexico   estar.PRES.3SING   in   North America
          'Mexico **is** in North America'.

3.6.3.2   Pragmatic effects with the use of *ser*

The presuppositional content of *estar* has implications for the distributional patterns of ser, which remains neutral with respect to the boundedness of the context. The use of *estar* signals that the circumstance of evaluation i is the minimal verifying circumstance. As a result, the use of *ser* gives rise to the implication that the circumstance of evaluation i at which the prejacent is asserted to be true is **not** the minimal verifying circumstance of evaluation. This results in the negation of the boundedness presupposition associated with *estar*. As a result, $Circ(c)$ must contain other strictly stronger verifying circumstances (4.6a) and *all* no weaker and sttrinctly stronger circumstances in $Circ(c)$ must be verifying circumstances. Formally:

(3.70)

a. $\neg \exists i' \in Circ(c) : i' \nprec_{p_c} i \wedge [\![P(x)]\!]^{i'} = 0$

b. $\neg \forall i'' \in Circ(c) : [\![P(x)]\!]^{i''} = 1 \rightarrow i'' \succeq_{p_c} i$

These inferences arising by hearers reasoning about the speaker choices among possible devices are known in the literature as 'antipresuppositions' (Percus, 2006) or 'implicated presuppositions' (Sauerland, 2007). They are the result of the different ordering of lexical items with respect to their presuppositional strength and are associated with the item that is presuppositionally weaker. Two main readings obtain depending on the prior expectations for the value of the contextually relevant parameter p_c:

1. The use of *ser* has **no additional effect** if the expected value for p_c is greater than its value in i, i.e., *ser* asserts that the property holds at i as well as at weaker and stronger circumstances in $Circ(c)$. These are the neutral readings of *ser* obtained with individual-level predicates (3.71s) and nominals (3.71b).

   (3.71)

   a. *Laura* **es** *inteligente.*
      Laura   ser.PRES.3SING   intelligent
      'Laura **is** intelligent'.

   b. *Laura* **es** *camarera.*
      Laura   ser.PRES.3SING   waitress
      'Laura **is** a waitress'.

2. The use of *ser* has a **generalizing effect** if there is no strong expectation for the value of p_c. Two main interpretations arise from this use. (1) The use of *ser* may affect the interpretation of the subject nominal towards an intensional or kind-referring interpretation (3.72). (2) If the adjectival predicate is ambiguous between a temporally-delimited and non-temporally delimited interpretation, the use of *ser* favors the non-temporally delimited interpretation (3.73b). That is, the proprerty is interpreted as not being bound to a maximal circumstances.

(3.72)

El *verano* **es** *caluroso.*
Summer   ser.PRES.3SING   hot

'Summer **is** hot'.

(3.73)

a.   *Mi   hermano* **está**   *callado.*
         my   brother   estar.PRES.3SING   close-mouthed
         'My brother **is** silent (he is not talking)'.

b.   *Mi   hermano* **es**   *callado.*
         my   brother   ser.PRES.3SING   close-mouthed
         'My brother **is** close-mouthed (or taciturn)'.

In the next sections, I will explicate how the boundedness-presupposition analysis accounts for the specific copular uses described in Table (3.1) above.

3.6.4   Application to *estar*: Adjectival Predicates

3.6.4.1   Alternatives that Vary along the Time Parameter: Temporary Readings

In typical temporary readings, the felicity of *estar* hinges on whether the property obtains during a delimited period of time. The temporary nature of the predication is usually associated with a change in the entity-denoting subject that allows the property to be understood as variable, as in the following examples:[30]

(3.74)

a.   *Las   manzanas* **son/están**   *maduras.*
         The   apples   ser/estar.PRES.3SING   ripe.
         'The apples **are** ripe'.

b.   *Pedro* **es/está**   *delgado.*
         Pedro   ser.estar.PRES.3SING   skinny.
         'Pedro **is** skinny'.

---

[30]Although the focus of this section will be primarily on uses of *estar*, the examples will include both copulas to indicate that these are contrasting copular uses that are acceptable with both *ser* and *estar*.

In these sentences with *estar*, the speaker knows that the individuals (the apples, Pedro) subjects have undergone a change over time (the apples have become sour and Pedro has lost weight). The time parameter is contextually salient because the speaker wishes to communicate this change. The choice of *estar* indicates that $Circ(c)$ contains alternative circumstances of evaluation that differ only with respect to the time parameter. The set includes intervals that precede and also contain the change event, which guarantees that *Circ(c)* is composed of both falsifying and verifying circumstances of evaluation. This satisfies the first contextual condition of *estar*: $Circ(c)$ contains falsifying members that are no weaker than i.

We can assume that the speaker restricts the assertion to the interval of observation without further extrapolating to larger temporal intervals. In (3.74a), for example, the apples are sour at utterance time and it can be safe to conclude that they will stay ripe for the next two hours. What is crucial is that extrapolating to larger temporal intervals is irrelevant. For all the speaker knows, the apples are ripe at utterance time. This restriction imposed by the speaker satisfies the second contextual condition: the circumstance of evaluation i is the minimal verifying circumstance for the asserted predication at c.

Adjectives that show a preferential use for *estar* have been traditionally classified in the literature as stage-level adjectives. These are adjectives that describe properties that are expected to hold of individuals over limited temporal durations, such as *cansado* 'tired', *hambriento* 'hungry' or *enfadado* 'angry':

(3.75)

a. *Lucía ***es/está*** *siempre muy cansada después del gimnasio.*
    Lucia ser/estar.PRES.3SING always very tired after to the gym
    'Lucia **is** always very tired after the gym'.

b. *El niño ***es/está*** *hambriento porque no ha comido.*
    The boy ser/estar.PRES.3SING hungry because NEG have.PRES.3SING eat.PART
    'The boy **is** hungry because he has not eaten'.

Let us see how these predicates satisfy the requirements of the boundedness presupposition analysis. We assume that these adjectives lexically encode such limited temporal duration, which give rise to the native speaker's intuition that the properties hold of individuals over limited temporal durations. The relevant parameter for any copular clause in which such adjectives are used is time. $Circ(c)$ contains both falsifying and verifying circumstances differing only in the time parameter because the context of use may include intervals of both short and much longer duration. The first condition of the boundedness presupposition is satisfied because there are falsifying circumstances i' that are no weaker than i.

The second condition is met if we make the reasonable assumption that the speaker restricts the claim to the interval of evaluation and does not extrapolate to larger temporal intervals. Accordingly, $Circ(c)$ will contain verifying circumstances that are no weaker than i (the circumstance of evaluation) on the time parameter. The context is therefore bounded with respect to the prejacent and the circumstance of evaluation i. There is no difference between the expected value for the parameter in p_c and its value in i. In other words, there is no additional effect that the property holds 'only' temporarily because the lexical content of these adjectives does not lead interlocutors to expect that these properties hold of an entity indefinitely over time. The result is a neutral reading of *estar*.

3.6.4.2 Alternatives that Vary along the Time Parameter: Pragmatic Effects with Individual-Level Predicates

There are some predicates that seem to have a 'coerced' flavor when they appear with *estar*, which 'easily forces the interpretation of a property into a stage' (Escandell-Vidal and Leonetti, 2002:9). A variety of adjectives show this coercion flavor to different extents: *rojo* 'red', *simpático* 'friendly', *inteligente* 'intelligent', *democrático* 'democratic'. The native's speaker intuition is that the acceptability of these predications increases when context that supports a stage-level interpretation is provided:

(3.76)

a.   **Context:** Luisa has been answering all questions correctly in class today, something quite unusual since she is always very quiet:

¡Luisa **es/está**   *muy   inteligente!*
Luisa   ser/estar.PRES.3SING   very   intelligent
'Luisa **is (behaving)** very intelligent(ly)'

b.   **Context:** Pedro is wearing a bowler and walking with a cane in his hand. I say to my friend:

¡Pedro **es/está**   *muy   británico   hoy!*
Pedrol   ser/estar.PRES.3SING   very   British   today
'Pedro **is (behaving)** very British today!'

The requirements of the *estar*'s boundedness presupposition allow us to characterize the key properties of these contexts. A discourse context in which the speaker perceives a change in the subject referent is one in which the relevant parameter is time. In (3.76a), similarly to the typical temporary readings in (**??**), the context is bounded with respect to the time parameter: 1) $Circ(c)$ is heterogeneous as it contains both falsifying and verifying circumstances of evaluation; and 2) i is the maximal verifying circumstance for the proposition in c –the claim is restricted to the time interval of evaluation without making claims about larger temporal intervals.

The 'coercion flavor' of these predications comes from the interaction between the lexical content of the predicates *inteligente* and *británico* and *estar*'s presuppositional requirements. The lexical content of these adjectival predicates is more strongly biased towards a non-temporary reading because we typically take these adjectives to denote properties that obtain in an entity indefinitely over time. *Estar*, however, restricts the property attribution to the interval of observation. As a result, the speaker expects that the value of the time parameter will be greater than its value in i. As described in Section **??**,

the dissonance between the expectations and the actual value of the parameter in i has an exhaustifying effect, i.e., *estar* conveys that the circumstance at which the proposition is asserted to be true is stronger than what is expected in the context. It is this use of *estar* that leads to the *coercion* effect or clash, but that is degraded when the contextual information favors a temporally-delimited interpretation of the predication.

There are other uses of *estar* that neither allow for a temporary reading, nor give rise to a coercion type effect. These are predicates that are interpreted as being the result of a change in the entity-denoting subject:

(3.77)

a. *¡Guillermo* **es/está** *completamente calvo!*
    Guillermo ser/estar.PRES.3SING completely   bold
    'Guillermo **is** completely bold!'

b. **Context:** A teacher explains the solution to a math problem to a student. The student, all of a sudden, says:

    ¡El problema **es/está** *claro!*
    The problem ser/estar.PRES.3SING clear
    'The problem **is** clear!'

The boundedness-presupposition analysis naturally account for these uses. The relevant parameter is still time as the speaker perceives a change in the subject over time. The use of *estar* is felicitous since the context allows for the construal of a set $Circ(c)$ that contains both falsifying (the value of the time parameter includes intervals preceding the change event) and verifying circumstances of evaluation (restricted to the interval of evaluation). The falsifying circumstances of evaluation are not weaker than i on the time parameter because the predication is restricted to the temporal interval of evaluation. This guarantees that i is the maximal verifying circumstance with respect to the time parameter.

3.6.4.3 Alternatives that Vary along the Delineation Parameter: Exceeded Contextual Expectations

The examples in (3.78) are uses of *estar* in which the copula appears with gradable predicates and indicate that the degree of occurrence of some property in the subject denotation is higher than expected given the context.

(3.78)

a. **Context:** A baker is critiquing the tiramisu just baked by her assistant, which did not turn out as it was supposed to.

¡La capa del tiramisú **es/está** *muy gruesa!*
The layer of the tiramisu ser/estar.PRES.3SING very thick
'The layer of the tiramisu **is** very thick!'

b. **Context:** I visit my friend over the weekend and I realize that he still has one of this old heavy Mac computers. I say:

¡Esa computadora **es/está** *enorme!*
That computer ser/estar.PRES.3SING huge
'That computer **is** huge!'

The relevant parameter here is a change in the degree of occurrence of the property, which makes the delineation parameter relevant. On the boundedness-presupposition analysis, any context of use c is associated with a set of delineation functions compatible with c, i.e. it can be used to evaluate the truth of propositions containing gradable predicates at c.

The first condition on boundedness is met because $Circ(c)$ contains falsifying circumstances i' whose delineation function assigns higher contextual standards in comparison to i. These falsifying circumstances will be strictly stronger than i. The second boundedness condition is that i is the maximally relevant verifying circumstance.

The use of *estar* at a circumstance in which the expected value of d_{c_i} is lesser than its actual value in i conveys that the property holds at a higher contextual standard than expected. In other words, the circumstance of evaluation is *even* stronger than what is contextually expected. This results in the scalar additive effect described in (3.6.3.1): *even* the maximal circumstance of evaluation at which $P(x)$ is asserted to hold is stronger than expected.

3.6.4.4 Alternatives that Vary along the Delineation Parameter: Further Computations on the Contextual Standard

These uses differ from exceeded contextual-expectations readings in how the contextual standard of comparison for evaluation of the gradable predicate is computed. We will distinguish between two uses, the first is a **relational use**, in which the adjectival predicate is interpreted as obtaining in the entity to a degree that depends on a relation between the entity denoted by the subject and another entity that is salient in the discourse context:

(3.79) **Context:** Pedro is trying on some new shoes that he just bought in Amazon. He is very disappointed because they seemed to be the right size, they are too big:

Los zapatos (me) **son/están** *anchos*
The shoes CL ser/estar.PRES.3SING wide
'The shoes **are** wide (on me)'.

The example in (3.79) with *estar* requires that $Circ(c)$ contains circumstances of evaluation that minimally differ in the delineation function d_c. The delineation function will assign a contextual standard to *anchos* 'wide' that will depend on the size of Pedro's feet. In exceeded contextual-expectations readings, the contextual standard is determined with respect to a comparison class composed of similar entities. By contrast, in the case of relational uses, the contextual standard depends on the properties of the larger discourse

context. The speaker conveys that the extent to which the property obtains in the subject referent is 'too' big. Let us now see how this use meets the two requirements of a bounded context.

The first condition on boundedness –the existence in $Circ(c)$ of no-weaker falsifying circumstances on the contextually relevant parameter– is met if we assume that there will always be a strictly stronger circumstance $i' \in Circ(c)$ whose delineation function d_{c_i} assigns too high a standard for a proposition built on a gradable predicate to come out true. [31]

The second condition, that there be verifying circumstances that are no weaker than i is also met. Remember that in this condition the contextual standard is computed on the basis of the size of Pedro's feet. The context indicates that the desires of the speaker have not been met because the speaker wanted the shoes to fit. In this situation, the speaker considers the highest possible circumstances (those which contain delineation functions that assign the highest possible contextual standards given the size of Pedro's feet) to be relevant in order to render the prejacent false.[32] Accordingly, by using *estar*, the speaker conveys that the circumstance of evaluation is the maximal circumstance that verifies the prejacent, i.e., it is the highest possible degree at which the prejacent can be asserted to be true.

This is another scalar-additive type effect where the expected value for the delineation parameter is lower than its value at the circumstance of evaluation i. The use of *estar* conveys that the predication is true *despite* being asserted at the delineationally strongest circumstance.

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[31] According to Lewis (1979:352), interlocutors are more likely to accommodate the raising of contextual standards than its lowering. On our analysis, this asymmetrical ease of accommodation means that relevant delineation functions in c will always contain members that assign extremely high contextual standards. In other words, there will always be a circumstance $i' \in Circ(c)$ whose delineation function d_{c_i} assigns too high a standard for a proposition built on a gradable predicate to come out true.

[32] The falsity of the prejacent would mean that the speaker is able to use the shoes for the intended purpose.

The second use of *estar* in which the contextual standard requires a special computation are **standard-lowering uses**.[33]These are uses in which the contextual standard is recomputed to a lower degree on the bases of an alternative comparison class. It is only when the contextual standard is recomputed that the property can be asserted to obtain to a sufficiently high degree in the entity-denoting subject. This use is illustrated in the following example:

(3.80) **Context:** Juan lives in New York and is used to seeing really tall skyscrapers. He visits New Haven, where the buildings are not as tall. His host points to building after building to determine what 'counts" as tall for Juan. For one building that is taller than the others but not as tall as a New York skyscraper, Juan concedes:

Vale,   ese   edificio   **está**   *alto.*
OK,   this   building   ser/estar.PRES.3SING   tall
'OK, this building **passes as** tall'.

In (3.80), the context c is such that the set of delineation functions d_c compatible with c does not allow the extension of the adjective *alto* 'tall' to include the buildings in New Haven. That is, even the delineationally weakest circumstance in $Circ(c)$ fails to make (3.80 true. As a result of the conversation between Juan and his friend, the set of delineation functions is altered to admit functions that assign lowered standards. Once the contextual standard is 'recomputed', $Circ(c)$ contains falsifying circumstances that are not weaker than i and that differ only in the delineation function. *Estar* conveys that i is the maximal verifying circumstance –the prejacent would come out false on all other delineationally stronger circumstances. This is a case in which *estar* has an exhaustifying effect because the expected value of d_c is higher than its value in i. The circumstance of evaluation i is, therefore, weaker than expected.

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[33]This use of *estar* has not been previously reported in the literature and it seems to be more common in varieties of Latin American Spanish (Mexico and Venezuelan) than in Iberian Spanish.

3.6.4.5 Alternatives that Vary along the Agent Parameter: Subjective Readings

The uses of *estar* in (3.81) convey that the extension of the predicate at i is dependent on the speaker's opinion, rather than deriving from objective facts. This class of uses contain predicates of personal taste, such as *delicioso* or 'riquísimas' 'delicious'and *entretenido*:

(3.81)

a. **Context:** I have just come back from the market.

¡*He   comprado   unas mandarinas que* **son/están**   *riquísimas!*
have.PRES.1SING buy.PAST.PAR some mandarins   that ser/estar.PRES.3PL delicious
'I have just bought some mandarins that **are** delicious!'

b. *A nadie   en mi familia le   gustan   las ensaimadas, pero yo creo*
to nobody in my family CL.IO like.PRES.3.PL the ensaimadas, but   I   think
que **son/están**   *deliciosas.*
they ser/estar.PRES.3PL delicious
Nobody in my family likes ensaimadas but I think they are delicious.

c. *Esa película* **es/está**   *entretenida, pero mis amigos no*
That movie   ser/estar.PRES.3.SG entertaining but   my   friend NEG
piensan   lo   mismo.
think.PRES.3.PL CL.DO same
That movie is entertaining (according to me), but my friends do not think so.

The use of *ser* with the predicates in (3.81) conveys that the predication is generally judged to have such a property, whereas the use of *estar* describes the property as dependent on the speaker's opinion irather than deriving from objective facts.

In these cases, the contextually relevant parameter is the agent parameter. The value for the agent parameter at the circumstance of evaluation i is the speaker. The first boundedness condition on $Circ(c)$ is satisfied because there are falsifying circumstances in $Circ(c)$ that vary only in the agent parameter, whose value would be a plural individual containing the speaker or any atomic individual disjoint from the speaker. In the examples in (3.4), the possible values for such agent parameters would be o other people buying

mandarins and the speaker's family members and friends. The prejacent would register false at such stronger circumstances, satisfying the first condition.

The second boundedness condition is met because the speaker restricts the assertion to their own experience and therefore there are not weaker circumstances that can be in $Circ(c)$ (given the structure of individuals). Accordingly, i is the maximal verifying circumstance for the prejacent. This is essentially what 'evaluative subjectivity' amounts to: an experientially *bounded* determination of whether a particular predicate can be appropriately used in some context to describe some object.

3.6.4.6 Alternatives that Vary along the Location Parameter: Spatially-Bounded Readings

These uses of *estar* require the perception of a change over space. The property obtains in a spatially-defined instantiation of the entity giving rise to a **spatially-bounded reading** of *estar*. The following example offered by Maienborn (2005) illustrates this use:

(3.82) **Context:** A journalist is driving through the Panamerican Highway, which goes all the way from Argentina to Canada. She started in Buenos Aires and is now near Lima, where she realizes that the road is noticeably wider. She says:

¡La carretera **es/está** *ancha.*
The road ser/estar.PRES.3SING wide
'The road **is** wide.'

In (3.82), the contextually relevant parameter is the location parameter. The context is bounded because there exists at least one falsifying circumstance at which the prejacent is false and that is not weaker than i on the relevant parameter. These conditions are satisfied because there is some part i' of the Panamerican Highway that is not wide and that does not overlap with the location of i. We assume that the speaker restricts the assertion to the location of observation without extrapolating to larger spatial regions, which ensures that i

is the maximal verifying circumstance relative to the location parameter at c.[34]

3.6.5 Application to *ser*: Adjectival Predicates

Individual-level adjectives: *ser* is always the preferred copula with adjectival predicates that have been traditionally classified in the literature as individual-level. These are adjectives, such as *inteligente* 'intelligent'or *británico* 'British', whose lexical content lead us to expect that they hold of individuals indefinitely over time. There is a strong expectation that the value for the contextual parameter p_c will be greater than its value in i, the circumstance at which the prejacent is evaluated. This use of *ser* has no additional effect, the property holds at i, as well as at weaker and stronger circumstances in $Circ(c)$. It conveys that the truth fo the prejacent is not relativized to any circumstances. This interpretation is consistent (but does not invoke) the implication –an antipresupposition– that all no-weaker or strictly stronger circumstances than i are verifying circumstances (3.83a) and that not all verifying circumstances in $Circ(c)$ (relative to some parameter p_c) are stronger than i (3.83b).

(3.83)

a. $\neg \exists i' \in Circ(c) : i' \not\prec_{p_c} i \wedge [\![P(x)]\!]^{i'} = 0$

b. $\neg \forall i'' \in Circ(c) : [\![P(x)]\!]^{i''} = 1 \rightarrow i'' \succeq_{p_c} i$

Semantic effects with stage-level adjectives: As described in § 3.6.4.1, the lexical content of these adjectives leads to the expectation that the property hods of the individual over limited temporal durations. As a result, the relevant parameter for any context in which a stage-level predicate is used is usually one in which the time parameter is relevant. Our

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[34]It is also possible that the speaker has no contrasting location in mind against which the road in Lima is being compared. In such a case, the sentence conveys that the speaker's expectations about the width of the road have been exceeded, which is similar to the uses described in section (3.6.4.3). The falsifying circumstance in $Circ(c)$ would take the form of a tuple that is identical to the circumstance of evaluation i except for the delineation parameter.

lexical knowledge leads us to expect that the prejacent is false at circumstances that are no-weaker than i. Part of the antipresupposition of *ser* –that all no-weaker and strictly stronger circumstances than i are verifying circumstances– is inconsistent with this expectation. The use of *ser* with such adjectives is thus only possible when it is associated with a different meaning, as in the following examples with the adjective *sucio* 'dirty':

(3.84)

a. *El   reportero* **es**   *sucio.*
    The   reportero   ser.PRES.3SING dirty
    'The reporter **is** dirty-minded (thinks in a perverted way).'

b. *El   reportero* **está**   *sucio.*
    The   reportero   estar.PRES.3SING dirty
    'The reporter **is** dirty (and needs a shower).'

In (3.84a), the predicate describes a property that holds of the reporter indefinitely over time –it is a personality trait. By contrast, the property attribution is understood as temporary with *estar* in (3.84b). These differences in the meanings associated with the same lexical item are consistent with the implications of *ser*'s antipresupposition and the requirements of *estar*'s boundedness presupposition. In cases in which the property attribution cannot be consistent with these lexical implications, the use of *ser* is not acceptable with these types of predicates, as described in § 3.6.4.1.

Semantic effects on the interpretation of the subject nominal: A final effect of *ser*'s antipressuposition is found with predicates that can be interpreted either as holding over limited temporal durations or holding indefinitely over time. This effect usually occurs with definite descriptions, which in Spanish can be sused to refer to ordinary individuals as well as kinds. The use of *ser* yields a kind-referring reading, while the use of *estar* yields a referential interpretation of *el acero* 'the steel' and *el verano* 'the summer' in the following sentences:

(3.85)

a.   *El   acero* **está**   *duro.*
       The   steel   estar.PRES.3SING   hard
       'The steel **is** hard (now).'

b.   *El   acero* **es**   *duro.*
       The   steel   ser.PRES.3SING   hard
       'The steel **is** hard.'   [Roldán, 1974:68]

(3.86)

a.   *El   verano* **está**   *caluroso.*
       The   summer   estar.PRES.3SING   hot
       'The summer **is** hot (now).'

b.   *El   verano* **es**   *caluroso.*
       The   summer   ser.PRES.3SING   hot
       'The summer **is** hot.'   [Roldán, 1974:68]

The referential reading of *estar* in (3.85a) and (3.86a) is consistent with *estar*'s boundedness presupposition because it conveys that i is the maximal circumstance of evaluation for the prejacent (see § 3.6.4.1 for a full description of this interpretation). The hearer reasons that the speaker is not in a position ot make a stronger claim by asserting the truth of the prejacent at stronger circumstances with *ser*. The predication is therefore restricted to a specific quantity of steel or a specific summer time.

The kind-denoting reading in (3.85b) (3.86b) is consistent with *ser*'s antipresupposition. The use of *ser* conveys that the prejacent is true at all no-weaker and strictly stronger circumstances in $Circ(c)$. As a result, the property is attributed to the kind of steels or summers that obtain at all such circumstances.

3.6.6   Application to *estar*: Locative Prepositional Predicates

3.6.6.1   Alternatives that Vary along the World Parameter

As described in Chapter 1, *estar* can appear with prepositional predicates that express location/direction. Here, we make the reasonable assumption that spatial locations

of entities and the configurations between them and other entities are often coincidental in nature. In some cases, such configurations may have a degree of permanence (as in the case of buildings), but in many cases, as in the examples in (3.87), they are temporary and obtain only incidentally. Accordingly, contexts in which locative sentences with *estar* are uttered are assumed to be heterogeneous contexts, i.e., they must contain both verifying and falsifying circumstances of evaluation. The first type of locative predicate that we will consider is that in which the entity-denoting subject is a self-propelled (3.87a) or propellable (3.87b) entity:

(3.87)

a. *Pedro* ***es/está** *en la cocina.*
   Pedro ser/estar.PRES.3SING in the kitchen
   'Pedro **is** in the kitchen'.

b. *El café* **es/está** *en el segundo estante.*
   The coffee ser/estar.PRES.3SING on the second shelf.
   'The coffee **is** on the second self'.

These predicates with *estar* appear in contexts in which the question is about the location of the entity in the actual world w_0.[35] The relevant parameter is, therefore, the world parameter w.[36] The question in the context guarantees that there are falsifying circumstances in $Circ(c)$ that are no weaker than i. These are circumstances i', containing worlds $w_{i'}$ that are exactly like w_0 with respect to all propositions in $g_r(p, w_0)$, i.e. with respect to all propositions except for the prejacent p (=*Pedro be in the kitchen*) and its causal ancestors. Turning to the second condition, the use of *estar* conveys that i is the maximal verifying circumstance at which the prejacent can be asserted to be true. The condition is met because the world parameter w_i of i is the actual world w_0, and given the ordering source $g_r(p, w_0)$, there can be no strictly stronger worlds than the actual world.

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[35]Locative predicates with *ser* will be discussed in the next section.

[36]All elements of $Circ(c)$ are expected to be identical with respect to the time and location parameters. Since neither subjectivity nor gradability is involved, the other two parameters are contextually irrelevant and not expected to vary.

Next, let us consider locative predications in which the entity-denoting subject cannot undergo movement because it is restricted to a specific geographical position. Since the subject is immovable, the interpretation is that the location is not subject to change, as in the following examples:

(3.88)

a. *México* **es/está** *en Norteamérica.*
Mexico   ser/estar.PRES.3SING in North America
'Mexico **is** in North America'.

b. *El índice del libro* **es/está** *al final del libro.*
The index of the book ser/estar.PRES.3SING at the end of the book
'The table of contents **is** at the end of the book'.

On our analysis, these uses are naturally accounted for if we consider that the question in the context pertains to the possible locations of the entity. For (3.88a), the question is 'where is Mexico?' and the correct answer is 'Mexico is in North America'. The interlocutor, when asking the question, could be considering other locations, like Central or South America. For (3.88b), the question in the context is 'where is the table of contents?', which is a natural question in Spain, where the table of contents may appear either at the beginning or at the end of the book. In both cases, the possible circumstances of evaluation that the speaker considers are circumstances that vary only with respect to the world parameter w_i of i, thus fulfilling the heterogeneity condition on the context. The falsifying circumstances cannot be weaker than i by our definition. These are circumstances i' that will be exactly like i except for the world parameter –containing worlds w_i' that are exactly like w_0 with respect to all propositions in $g_r(p, w_0)$, i.e., with respect to all propositions except for p (= *Mexico be in North America / The table of contents be at the end of the book*) and its causal ancestors. As in the examples with movable entities, the second condition is met because the world of i, w_i is the actual world w_0 and there is no strictly stronger world than w_0 on the ordering source $g_r(p, w_0)$.

The final interpretation of *estar* with locative predicates is one in which *estar* conveys that the current location of an entity is determined by a change over time or is subject to a future change. On this reading, the current location is temporally delimited:

(3.89)

> *Es*   *mediodía*   *y*   *el*   *cielo* **es/está**   *en su punto más*
> ser.PRES.3SING noon   and the sky   ser/estar.PRES.3SING in its point more
> *alto.*
> high
> 'It is noon and the sun **is** at its highest point'.

(3.90)   **Context:** Jupiter was in the Leo constellation last month.

> *Ahora, Júpiter está*   *en Virgo.*
> Now   Jupiter   estar.PRES.3.SG   in   Virgo
> 'Now, Jupiter **is** in Virgo'.

The examples in (3.89)-(3.90) illustrate this use. In both cases, the change in location is driven by a change that is temporal in nature and thus obtains in contexts in which the strength relation is based on the time parameter. The speaker can identify indices that differ from i only along the time parameter, which satisfies the heterogeneity condition on the context. Two circumstances whose temporal parameter correspond to two non-overlapping temporal intervals, and which are identical otherwise, are not weaker than each other. These ensures that falsifying circumstances are not weaker than i for the prejacent in $Circ(c)$. For the second boundedness condition, we assume that the speaker restricts his/her assertion to the interval of observation without extrapolating to larger temporal intervals. This means that the value of the temporal parameter of i is the maximal interval over which the truth of the predication obtains.

3.6.7   Application to *ser*: Locative Prepositional Predicates

Locative predicates are also acceptable with *ser* in cases in which the conditions for a bounded context are not met, as in the following example:

Context: Today, we have an exam on Spanish architecture.

Tengo *que recordar* *que la Casa Batlló* **es/está**
Have.PRES.1.SG that remember that the house Batllo ser/estar.PRES.3.SG
en Barcelona.
in Barcelona.
'I need to remember that the Batllo House **is** in Barcelona.'

Here, we follow recent work by Simons et al. (2017) showing that factive verbs do not presuppose the truth of their complements. The use of *ser* or *estar* will depend on whether the content of the complement (*the Batllo House be in Barcelona*) is at-issue or not in the context. If the content is not at-issue, and therefore it is presupposed to be known, every circumstance in $Circ(c)$ will be one that verifies the prejacent. Thus the context cannot be bounded because the heterogeneity condition is not satisfied. By contrast, if the content of the complement is at-issue, this will allow both verifying and falsifying circumstances in $Circ(c)$, which will contain no-weaker falsifying circumstance on the world parameter w. The circumstance of evaluation i is the maximal verifying circumstance because there is no stronger world than the actual world of circumstance i. This satisfies the second condition and the context is therefore bounded, which licenses the use of $estar$.

This use of the copulas can be verified by using a similar context in which the content of the complement is not presupposed to be in the common ground. In the following context, native speakers report higher acceptability for *estar* and degraded status of *ser*.

(3.91) **Context:** I am trying to revise for the exam on Spanish architecture and I don't know all my facts.

No recuerdo si la Casa Batlló **es/está** *en*
NEG remember.PRES.1.SG if the house Batllo ser/estar.PRES.3.SG in
Barcelona o in Madrid.
Barcelona or in Madrid.
I do not remember whether the Batllo House **is** in Barcelona or in Madrid.'

Another effect of the *ser/estar* contrast with locative predicates is one in which there is a difference in the interpretation of the entity-denoting subject. As a result, the following two examples are translated differently:

(3.92)

a.　¿Donde **es** la salida?

　　Where ser.PRES.3.SG the door?

　　Where **is** the way out?

b.　¿Donde **está** la salida?

　　Where estar.PRES.3.SG the door?

　　Where **is** the exit door?　　　　　　　　　　　　　　　　　(Roldán 1974: 68)

The question in (3.92a) with *ser* asks about the way out of the building. The same question with *estar*, instead, asks for the location of the exit door. On the boundedness-presupposition analysis, the meaning of (3.92a) can be represented as in (3.93a); (3.92b) has the representation in (3.93b)

(3.93)

a.　$\{p \mid p = \lambda i. \llbracket \text{the door} \rrbracket^i \text{ is in } x \text{ in } i \mid \text{location}(x)\}$

b.　$\{p \mid p = \lambda i : \textbf{Bound}(c_0, i, \text{the-door-is-in-x}). \llbracket \text{the-door} \rrbracket^i \text{ is in } x \text{ in } i \mid \text{location}(x)\}$

The question with *ser* partitions de set of circumstances in $Circ(c)$ by where the door, to the contextually salient building, is located at those circumstances (3.93a). The question is understood to be about a way to exit the building of which can be several. The use of *estar* restricts the set of circumstances to those that are maximal verifying circumstances for some proposition of the form *the door is in x*. This means that the question is about the possible location of the door in the actual world since the strongest circumstances will be those containing the actual world. The question is thus restricted to the location fo the specific door at i.

3.6.8 Application: Nominal Predicates

Nominal predicates show a strong tendency to appear with *ser*. The use of *estar* is allowed only when the noun phrase is preceded by a preposition, thus turning the nominal predicate into a prepositional phrase (headed by de), as shown in (3.94).

(3.94)

a.   *Pedro* **es/*está**   *camarero.*
Pedro   ser/estar.PRES.3.SG   camarero.
'Pedro **is** a waiter.'

b.   *Pedro* **esta.**PRES.3.SG **de**   *camarero.*
Pedro   estar.PRES.3.SG of   waiter.
'Pedro **works** as a waiter.'

We propose that the nominal and adjectival expressions have different functions in predicative distinction. Nominal predicates *classify* an entity x by attributing a nominal property N to x. Adjectival predicates *describe* an entity x by attributing a property A to x. The use of *estar* in (3.94a) is unacceptable because the criteria for membership required by nominal expressions prohibits that the requirements for a bounded context are met.[37] In most contexts, individuals are assigned to some class denoted by a nominal predicate because there is an expectation that they retain the classification over long stretches of time and certainly over arbitrarily large locations. After all, in order to determine whether an individual belongs to some class, they just need to exhibit supporting evidence for this at several times and locations. Crucially, the nominal criteria for membership cannot be supported if the speaker restricts his/her assertion to the circumstance of observation. As a

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[37]Two types of meanings can be encoded by nominal and adjectival expressions when they occur in predicative position. Nominal predicates assign a nominal property to an entity, which is an instance of a classification, i.e. a sentence like *x is an N* assigns an entity x to a pre-existing class of entities. Adjectival predicates assign an adjectival property, which is an instance of a description, i.e., a sentence like *x is A* is used to describe x using property A, whose membership criteria are often contextually determined. This stronger dependence of adjectival expressions on the context allows the membership criteria to vary from context to context. By contrast, any entity x that has nominal property N will retain N across circumstances (unless x undergoes a change).

result, the circumstance of evaluation i cannot be the maximal verifying circumstance for the prejacent, which is a requirement for a felicitous use of *estar*.

The second condition on bounded contexts is therefore not satisfied in nominal predicates. Here is how the interaction with *estar*'s presupposition works: If, as *estar* conveys, i is a maximal verifying circumstance, this entails that there is no stronger circumstance than $i \in Circ(c)$ at which the prejacent is true. Moreover, if all verifying circumstances are no weaker than i, at least some (possibly stronger) circumstances $i' \in Circ(c)$ besides i must be verifying circumstances.[38] Then, if it is necessary that there are stronger (or no-weaker) verifying circumstances than i in $Circ(c)$, then the copula of choice should be *ser* and not *estar*. This is because the use of *estar* has an exhaustifying effect. It gives rise to the quantity implicature that the prejacent is true only at i and not at stronger circumstances.[39]

The only case in which *estar* is acceptable with nominal predicates is when the predicate is realized as a prepositional phrase. The use of *estar* gives rise to the interpretation that the property applies temporarily or in an non-intrinsic way to the subject referent. We take the preposition to be a *type-shifter* that shifts a kind to a property, thus changing the nature of the relation between the subject and the NP. The subject is not considered anymore to be an instance of a kind, but instead is understood as bearing the properties that characterize the kind described by the NP. In such cases, prepositional phrases do not serve to classify entities, but rather to describe entities. A predicate such as *de camarero* has a context-sensitive extension because what 'counts' as having the property of being a waiter is determined by the circumstance of evaluation. The speaker is not assuming that the prejacent is true at multiple distinct circumstances of

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[38]This follows from the assumption that classification (unlike evidence-based description) requires the prejacent to be true at multiple distinct circumstances of evaluation.

[39]The hearer reasons that the speaker could have conveyed that the prejacent is true at a stronger circumstance in $Circ(c)$ (by using *ser*) but they didn't. This implies that they do not believe that the prejacent is assertable at a stronger circumstance. On further strengthening, this implies that that they believe that the prejacent is NOT assertable at a stronger circumstance. This then implies that the prejacent does not hold at a stronger circumstance.

evaluation, but rather s/he is restricting the assertion to the interval of observation, which makes the use of *estar* felicitous.

3.6.9 Application: Past Participles

As has been observed extensively in the literature, there are certain past participles that are compatible with both copulas (3.95a), whereas others are more selective and co-occur with either *ser* (3.95b) or *estar* (3.95c):

(3.95)

a. *Los bucaneros* **son/*están** *odiados/temidos por todos.*
The buccaneers ser/estar.PRES.3PL hate/fear.PAST.PART by everyone
'The buccaneers **are** detested/hated/feared by everyone.'

b. *Los bucaneros* **son/están** *aburridos/distraídos.*
The buccaneers ser/estar.PRES.3PL bore/distract.PAST.PART
'The buccaneers **are** bored/excited/worried.'

c. *Patapalo* ***es/está** *cabreado/indignado/mosqueado.*
Patapalo ser/estar.PRES.3SING piss off/outrage/annoy.PAST.PART
'Patapalo **is** pissed off/adored/outraged/annoyed.'

[Adapted from Marín, 2004:30]

The unacceptability of *estar* with the predicates in (3.95a) is explained because such past participles lead to the expectation that the property obtains indefinitely over time. This creates a dissonance with the presuppositional demands of *estar*, which require that i be the minimal circumstance of evaluation for the prejacent. However, the expectation is that the prejacent holds at i, as well as at weaker and stronger circumstances, which is inconsistent with *estar*'s presuppositional requirements.

The past participles in (3.95b), however, are acceptable with *estar* because the property holds of the entity-denoting subject during delimited temporal durations. This is shown by their compatibility with adverbs such as *cuando* 'when' and *siempre que* 'every time that', which can only appear in contexts that are temporally delimited, or with adverbial expressions such as *tan pronto como* 'as soon as' that emphasize the start of a

situation.

The same reasoning explicates the uses in (3.95c), which naturally lead to the expectation that the property obtains only temporarily. The unacceptability of *ser* with these predicates is similar to the semantic effects with stage-level adjectives described in section 3.6.5. The lexical content of these past participles leads to the expectation that the property obtains only temporally. The relevant parameter is time and our lexical knowledge lead us to expect that the prejacent is false at circumstances that are not weaker than i. Such an entailment is inconsistent with *ser*'s antipresupposition.

3.6.10   Summary

The second part of the Chapter has described the boundedness-presupposition analysis of copular distinction. The analysis builds on previous insights by Clements (1988) and Maienborn (2005) by deriving the differences between the copulas from the presuppositional requirement of *estar*. Specifically, *estar* presupposes that the prejacent is boundedly true at the considered circumstance of evaluation i. Bounded truth is a constraint imposed on the context, which guarantees that 1) i is a maximal verifying circumstance and 2) there are accessible circumstances i' in the context at which the prejacent is false.

The analysis models the contextual requirements of *estar* by making use of a modified version of the Kaplanian theory of context sensitivity. On this analysis, the connection between the context of utterance c and the relevant circumstances of evaluation i is formally modeled by introducing a function $Circ$ that assigns to each context c a set of circumstances of evaluation. The elements of $Circ$ are determined by the shared assumptions between the interlocutors in a conversation. A crucial requirement of *estar*'s presupposition is that it relies on a comparison between truth values of $estar$ propositions across possible circumstances of evaluation. The comparison is established with respect to an entailment-based strength relation on $Circ(c)$.

Through the identification of the relevant parameters and the contextual conditions that satisfy the boundedness presupposition, the analysis is able to account for a wider range of contrastive distributional patterns of the copulas in combination with adjectival locative and nominal predicates than previous accounts.

3.7 Conclusion

Previous analyses of the differences between *ser* and *estar* have identified properties of the distinction that are relevant for the boundedness-presupposition analysis described in this Chapter: the temporary restrictions of *estar* predications, the comparisons between contrastive states, the presuppositional content of *estar* and the different dimensions over which the contrasts can be established.

The boundedness-presupposition analysis builds on these insights to provide an account that has a wide applicability beyond typical adjectival predicates. The analysis has two main advantages that distinguish itself from previous accounts: 1)it provides explicit lexical entries for the copulas and 2) it models the contextual requirements of *estar*. In this way, the analysis can make precise predictions about the contextual conditions that license the use of *estar*. The analysis proposes that *estar* requires the use of the informational resources in the context to construct a set of alternative circumstances of evaluation that are relevant to assessing the truth of the prejacent. The properties of this set of alternatives determine whether the use of *estar* is licensed.

Chapter 4

Testing the Presuppositional Content of *estar*: Acceptability Ratings and Fill-in-the-blank Tasks

4.1   Introduction

The boundedness-presupposition analysis makes precise processing predictions regarding the contextual conditions that license the use of *estar*. This Chapter tests these predictions by relying on the contextual requirements of *estar*, as well as on previous experimental data indicating that presupposition accommodation is potentially measurable during online processing.

The first part of the Chapter presents the processing predictions of the analysis. First, the contextual properties of the context are described on the basis of the boundedness conditions introduced in Chapter 3. As will be shown, the presuppositional component of *estar* can be tested by systematically varying the available contextual information.   The analysis also makes processing predictions for *ser*, the presuppositionally weaker variant, which gives rise to the anti-presupposition that the circumstance at which the prejacent is asserted to be true cannot be a maximal verifying circumstance. Next, the predicate types under consideration will be described: adjectival,

locative prepositional and nominal predicates.

The second part of the Chapter will describe the two experimental tasks: an acceptability-rating and a fill-in-the-blank task. The results will be presented for four varieties of Spanish: Argentinian, Iberian, Mexican and Venezuelan Spanish. The experimental data will provide evidence for the boundedness-presupposition analysis by showing contextual modulation in acceptability ratings and copula choice across varieties. In addition, the data will show that there is *constrained* variability across Spanish dialects: despite contextual modulation, certain dialects show a stronger context dependence (Iberian and Argentinian) than others (Mexican and Venezuelan). The Chapter will conclude with the implications that the data have for our understanding of the notion of presuppositions.

4.2 Processing Predictions of the Boundedness Presupposition Analysis

4.2.1 Informational Resources from the Immediate Context

The boundedness-presupposition analysis locates the differences between the copulas in the presuppositional component of *estar*: *estar* signals that the prejacent is boundedly true at the circumstance of evaluation i. This presupposition imposes a series of constraints on the context, and thus it makes precise predictions about the contextual conditions that license the use of *estar*. In this section, I will describe how these constraints are applied to the specific contexts in which the copulas appear, and which will be the basis of the experimental investigation. As a reminder, the two boundedness conditions on the context are as follows:

(4.1) A content/proposition of the form $P(x)$ that is true at circumstance $i \in Circ(c)$ is **boundedly true** at c iff:

a. $\exists i' \in Circ(c) : i' \not\prec_{p_c} i \wedge [\![P(x)]\!]^{i'} = 0$

b. $\forall i'' \in Circ(c) : [\![P(x)]\!]^{i''} = 1 \rightarrow i'' \succeq_{p_c} i$

(4.1a) encodes the requirement that $Circ(c)$ contains some falsifying circumstance i' for $P(x)$ that is not weaker than i on the contextually determined parameter. (4.1b) encodes the condition that every circumstance in $Circ(c)$ that verifies $P(x)$ is at least as strong as i with respect to the parameter p_c (which is determined in the discourse context). By using *estar*, the speaker conveys that i is the *maximal verifying circumstance* for $P(x)$ in c.

The use of *estar* thus assumes that both the speaker and the interlocutor will be able to make use of shared informational resources from the context to construct a set of alternative circumstances of evaluation that are relevant to assessing the truth of the prejacent. Specifically, these conditions serve to identify those contexts of use in which (a) it is commonly known what parameter is relevant for determining the strength relation, (b) it is commonly shared that $Circ(c)$ is heterogeneous (it contains falsifying and verifying member circumstances), and (c) it is commonly known that alternatives can be compared based on their strength relation.

We are now ready to manipulate the context and test the presuppositional content of *estar*. To meet the requirements of the boundedness presupposition as described in (3.63), the context, first of all, should make available a set of alternative circumstances of evaluation that are relevant for comparison, i.e. that differ only with respect to the relevant parameter. Crucially, the set alternatives should meet the requirements specified in (3.63) above. These bounded contexts will be called **supporting-contexts** (**SC**) because they satisfy *estar*'s presupposition[1]. These contexts contrast with those that neither satisfy nor falsify the presupposition, which will be called **neutral contexts** (**NC**). Examples of each context are illustrated in (4.2).

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[1]Note that 'supporting-contexts' will always refer to contexts that support a *estar*-predication and neutral contexts those that do not support *estar*'s presuppositional requirements.

(4.2)

a. **Supporting Context** (**SC**): *Durante el invierno, la arena blanca de la Playa de Nogales, en Canarias, se vuelve de color gris.*

'During the winter, the white sand in Nogales beach, in the Canary Islands, turns gray'

b. **Neutral Context** (**NC**): *La Playa de Nogales en Canarias, con su arena gris, se ha convertido en una atracción turística en cualquier época del año.*

'Nogales Beach, in the Canary Islands, with its gray sand, has become a tourist attraction throughout the year.'

Tienes que verla, la arena **es/está** *gris por*
have.PRES.2SING that see.PRES.2SING.CL the sand ser/estar.PRES.2SING gray because of
la acción volcánica de la isla.
the activity volcanic of the island
'You have to see it, the sand **is** gray because of the volcanic activity in the island.'

The supporting context in (4.2a) provides the licensing conditions for the use of *estar*. The context is describing a change in the color of the entity over time, which makes the temporal parameter of the circumstance relevant. This is achieved by the use of the expressions 'during the winter' or 'turns gray', which restrict the predication to a specific time interval and explicitly indicate a change over time. This context makes relevant the existence of other circumstances at which the property of being gray does not hold of the Nogales beach, for example, in the spring. The presupposition-supporting context thus explicitly allows for a set of circumstances of evaluation that either falsify or verify the prejacent and that are relevant for assessing the truth of the prejacent with respect to the temporal parameter.

The boundedness-presupposition analysis predicts an additional computation: a comparison between circumstances of evaluation on the basis of their strength. The notion of strength is defined as an entailment-based relation on the set of contextually relevant circumstances. This relation is realized differently depending on the relevant parameter for comparison, thus it will be determined in terms of mereological inclusion (location,

time and agent parameters), a ranked order in terms of totally realistic ordering source (world parameter) or it will be determined by the value of the contextual standards that are assigned at a particular context c (delineation function parameter). In the supporting context in (4.2a), the available set will contain circumstances at which the predication of being gray does not hold of the sand, for example, in the spring or the summer. This guarantees that the set of circumstances is heterogeneous and contains both falsifiable and verifiable circumstances. In addition, there cannot be falsifying circumstances in which the property of being gray is false at a temporal interval that contains the winter time as a subset. That is, the falsifying circumstances i' should be equally strong or stronger than the circumstance of evaluation i. Finally, , the hearer reasons that the speaker is being as informative as possible, and thus that *P(x)* does not hold at a weaker circumstance (i.e, it is not asserted to be true in the fall and the winter). This guarantees that the verifying circumstances are as strong as i with respect to the temporal parameter and that i is the maximal verifying circumstance for the prejacent in the discourse context.

The neutral context in (4.2b) does not explicitly allow the construal of a set of alternative circumstances of evaluation that are relevant to assessing the truth of the prejacent. It asserts that the property obtains in the entity, but it does not describe a change over time. The context, however, does not necessarily prevent the existence of relevant falsifying circumstances of evaluation. There is nothing that prevents, for example, that the property of being gray obtains throughout most of the year, but not in the summer. For the use of *estar* to be felicitous, the set of relevant alternative circumstances of evaluation would have to be created by the hearer upon encountering *estar*.

In addition to the informational resources provided by the context, copula choice is also determined by the type of predicate with which it appears. § 4.2.2 considers these differences in acceptability and how they relate to the requirements of the boundedness presupposition encoded by *estar*.

4.2.2 Adjectival Predicates: Gradient Acceptability with *estar*

In combination with adjectival predicates, often times both copulas can appear with the same predicate, giving rise to differing interpretations. This group of adjectival predicates that can appear contrastively with both copulas will be the focus of our investigation since they will allow us to test the meaning differences between the copulas by providing minimal pairs for comparison.

Adjectival predicates that co-occur with both copulas have been usually categorized into two groups in descriptive works of Spanish. As described in Chapter 3, Marín identifies the group of adjectives in (4.3a) as typically co-occurring with *ser* and *estar* and those in (4.3b) as those that appear only with *ser*[2], but that can appear with *estar* only under specific contexts. This section will show that classifying adjectives into two groups based on their overall acceptability with each of the copulas does not capture their range of distributional patterns. Within each group, adjectives may appear with *estar* to different extents and their acceptability is highly dependent on the available contextual information. Here, we will rely on Marín's (2004, 2010) analysis of these lists, which crucially shows that the division into two different groups is not as categorical as it may seem.

(4.3)

a.   *alegre*, *alto*, *amplio*, *normal*, *bajo*, *estrecho*, *feliz*, *feo*, *flaco*, *gordo*, *grande*, *hermoso*, *inquieto*, *joven libre*, *nervioso*, *pequeño*, *orgulloso*, *tranquilo*, *viejo*, *vivo*.[3]

b.   *catalán* , *cauto*, *constante*, *cuidadoso*, *cortés*, *leal*, *imprudente*, *discreto*, *capaz*, *justo*, *moral*, *inteligente*, *listo*, *llevadero*, *sabio*, *socialista*, *temerario*, *vegetariano*.[4]

[Marín, 2010:3]

The adjectives in (4.3a) can appear with both *ser* and *estar* and are usually classified as ambivalent adjectives. They show a preference to appear with *ser* when presented

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[2]This classification is based on earlier work by Luján (1981) and Fernández-Leborans (1999).

[3]Happy, tall, wide, normal, short, narrow, happy, ugly, thin, fat, big, beautiful, restless, young, free, nervous, small, proud, tranquil, old, alive.

[4]Catalan, cautious, constant, careful, polite, loyal, prudent, discreet, capable, just, inmoral, moral, intelligent, clever, bearable, wise, socialist, reckless, vegetarian.

without additional contextual information. Marín (2010), however, notes that these adjectives behave differently when they appear in grammatical domains that are sensitive to the individual-level (IL)/stage-level (SL) distinction. These adjectives show different behavior when they appear in grammatical domains that have been traditionally considered to reflect the IL/SL distinction.[5] Some of these adjectives such as *nervioso* 'nervous' are allowed in all of these contexts, whereas other adjectives like *viejo* 'old' are only allowed in a subset of these domains. Marín concludes that these adjectives can have both IL and SL interpretations, i.e. they can refer to either unbounded or bounded states. *estar* shows a preference to appear with bounded states, which are states that are temporally delimited; whereas *ser* shows a preference to appear with unbounded states, which are associated with an inference of temporal persistence that also extends backwards into the past (following Condoravdi, 1992 and McNallly, 1994).

Similarly, the adjectives in (4.3b) have been traditionally classified as IL predicates, but they also show variable behavior on SL/IL tests. Despite their seeming incompatibility with *estar*, Escandell-Vidal and Leonetti note that a majority of these adjectives are compatible with *estar* on specific contexts. The authors follow the distinction between SLPs/ILPs given by Kratzer (1989) and Diesing (1992) and argue that SLPs have an eventive argument that allows the predicate to appear with spatio-temporal modifiers, whereas ILPs lack this extra argument. These adjectives can be coerced into a stage-level interpretation if contextual information is provided, as in (4.4).

(4.4) Context: Juan approaches wearing a bowler and with a walking cane in his hand.

a. *¡Vaya,* **estás**   *muy británico!*
    wow   estar.PRES.2SING very British.
    'Wow! You **look/are acting** British!'

[Escandell-Vidal and Leonetti, 2002:11]

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[5]The grammatical domains Marín considers are: restrictive pseudo-copular verbs, predicative adjuncts, complements of *tener* 'have' and *hay* '(there) be'; modification with *una vez* 'once' and *ya* 'already'; absolute constructions introduced with *con* 'with' and co-occurrence with *ser* and *estar*.

This second list, however, also consists of adjectives that show variable compatibility with *estar*. For example, the presence of temporal adverbials does not always make the *estar* predication acceptable, as the following examples show:

(4.5)

a. ***Estás**   *mortal   hoy.*
   estar.PRES.2SING mortal   today.
   'You **are** mortal today.'

b. ***Estás**   *socialista   últimamente.*
   estar.PRES.2SING socialist   lately.
   'You **are** a socialist lately.[6]'

[Marín, 2010:16]

At least two subgroups can be made with the adjectives in (4.3) above. Marín distinguishes between relational adjectives of the kind *discreto* 'discreet', which can be 'coerced' into a stage-level predication under certain circumstances, and those like *vegetariano* 'vegetarian' that are harder to coerce (*vegetariano* type adjectives seem to pattern with adjectives like (4.4) and (4.5), which require more context support to be felicitous with *estar*). This dichotomy is also supported by the different behavior that these two types of adjectives show with tests of dynamicity and agentivity. Adjectival predicates like 'discreet', but not those like *vegetarian*, can appear with certain constructions to denote dynamic (i.e., non-stative) situations, for instance in combination with the progressive form, *estar*+gerund of *ser*, *dejar* or 'to stop' as a matrix verb. 'Discreet'-type adjectives are also compatible with tests of agentivity that presuppose the interpretation of the subject as an agent.

These observations on the gradient compatibility of adjectival predicates with *estar* are compatible with the predictions of the boundedness-presupposition analysis. Those

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[6]The native speaker's intuition is that the inclusion of the adverb *muy* 'very', as in (4.4) above improves the acceptability.

predicates that rely more strongly on the existence of a specific time interval and the existence of a change over time. Thus the truth of the prejacent can be restricted to the circumstance of evaluation. Marín's investigation also shows that there are different ways in which the predication can satisfy *estar*'s requirements. For some adjectival predicates, asserting the property at a specific time interval using a temporal adverbial will be enough; other predicates, such as *mortal* 'mortal', will require more informational resources from the immediate context to satisfy *estar*'s presuppositional requirements.

This chapter has so far described the properties of the context that are relevant to meet *estar*'s presuppositional requirements and has provided support for the gradient acceptability that adjectival predicates show with *estar* (and against the existence of categorical lists). I now turn to describe the processing predictions that the boundedness-presupposition analysis makes for each of the copulas.

4.2.3   Processing Predictions

The boundedness-presupposition analysis establishes a clear-cut distinction between the two copulas: *estar* presupposes that the prejacent is boundedly true at the considered circumstance of evaluation, *ser* does not. Accordingly, the use of *estar* requires that the common ground entails a heterogeneous set of circumstances of evaluation that can be compared based on their strength relation. If the common ground does not make this set readily available, this new information would need to be accommodated by the hearer.

Independently, it has been shown that presupposition accommodation is potentially measurable in behavioral studies, such as acceptability ratings, as well as in online processing, e.g., reading times and eye-tracking (see Schwarz 2016 for an overview). Acceptability ratings allow testing whether speakers are taking for granted the presupposed information. In an early study by Carlson and Tanenhaus (1988), the authors compared participant's judgments for sentences like *The suitcases were heavy* when preceded by two types of sentences, *Bill hurried to catch his plane* and *Bill hurried to*

unload his car. Participants judged the sentence as making more sense when preceded by the former context, presumably because the presence of suitcases is more expected in such contexts.

Particularly relevant for the present study are the set of experiments presented by Tiemann and colleagues (2011), who investigated the role of context in modulating acceptability ratings for a range of presuppositional triggers.[7]   For all triggers, acceptability ratings were higher when preceded by contexts that supported the presupposition in comparison to neutral contexts that did not explicitly support the presupposition. Neutral contexts, however, showed higher acceptability than contexts that were inconsistent with the presupposition (Schwarz and Tiemann, 2016). These results indicate that presupposition accommodation is costly in neutral contexts, but this cost is different than that of presupposition failure.

Presupposition triggers differ in their easiness of accommodation. Presupposition triggers such as *too*, for example, seem to be resistant to accommodation (e.g., Fintel, 2008; Kripke, 2009; Tiemann et al., 2011; Chemla and Schlenker, 2012; Singh et al., 2005). This variation is likely a reflection of the variety of expressions and contextual requirements encompassed within the notion of 'presupposition' and the triggers with which presuppositions are usually associated. The diversity of presupposition triggers and behaviors have led authors associate presuppositions to conventional implicatures. Conventional implicatures were first defined by Grice (1975) as one of the major classes of meaning, along with conversational implicatures, that are considered to be outside of 'what is said'. The main intuition is that conventional implicatures are distinct from the at-issue meaning of the sentence.   One of the clearest examples is the conventional implicature conveyed by *therefore* in *He is an Englishman; he is, therefore, brave*. The at-issue meaning of this sentence is simply a conjunction, whereas the conventional implicature is an inference realtion: being brave is a consequence of being an Englishman.

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[7]The presuppositional triggers that the authors investigate includes possessives, factives, iteratives and aspectual verbs.

Some authors have equated conventional implicatures with presuppositions, but others still see the value of distinguishing between the two (see Potts, 2014 for an overview). The differences between the two, however, are not completely clear. Tonhauser et al. (2013), for example, propose a unifying theory for presupposition triggers and conventional implicatures based on their projection behavior. In addition, several proposals have distinguished between different types of presupposition triggers, such as soft versus hard triggers or triggers that entail the presupposition versus those that do not (e.g., Zeevat, 1992; Abusch, 2010; Glanzberg, 2005; Sudo, 2012). For our purposes, what is crucial is that lexical entries associated with a presuppositional component appear to pose specific requirements from the context. It is the characterization of these contextual requirements and the computations associated with them that will ultimately determine the extent of their accommodation, and consequently of the acceptability ratings. Thus the different behavior of so-called presupposition triggers with respect to their acceptability will be taking as a reflection of the interaction between their lexical meaning, the context and the pragmatic factors constraining the final interpretation.

Let us now turn to the processing predictions specific to *ser/estar*. *estar*'s boundedness presupposition requires that the prejacent is boundedly true at the considered circumstance of evaluation. If such a requirement is not met, some processing cost is expected since the hearer will need to accommodate such information in the common ground. Therefore, the prediction is that *estar* predications should engender some cost when preceded by neutral contexts in comparison to supporting contexts. I test this hypothesis in cases in which *estar* appears with adjectival predicates that, when presented in isolation, show a tendency to appear with *ser*. These are predicates that are also acceptable with *estar* on certain contexts. Two more types of predicates that differ in their acceptability with *estar* will be added: locative prepositional predicates, which typically appear with *estar*, but that are also acceptable with *ser* under certain contexts; and nominal predicates, which usually appear with *ser*, but that are also acceptable with *estar*

under certain contexts.[8]

For the acceptability-rating task, the prediction is higher ratings for *estar* predications when the sentence is preceded by a context that **supports** the boundedness presupposition. Such a context makes available a heterogeneous set of circumstances of evaluation that are relevant for comparison, thus explicitly updating the common ground to satisfy *estar*'s presupposition. By contrast, **neutral** contexts that remain neutral with respect to the boundedness of *estar*'s prejacent should yield lower ratings. Similar results are predicted for the fill-in-the-blank task: a higher number of *estar* choices for supporting contexts and a higher number of *ser* choices for neutral contexts.

The two tasks, however, differ in their purpose and potentially in the underlying processing mechanisms. In the acceptability-rating task, the participant is presented with the sentence and is expected to reflect on the specific stimulus. In the fill-in-the-blank task, the participant does not necessarily need to engage with the stimuli to the same extent. The reasoning is as follows. Given that *ser* is the preferred option for all the predicates that will be tested, participants may provide this option when they are unsure of the choice or in cases in which they have not spent enough time reflecting on the contextual information and the possibility that *estar* may be acceptable. Thus, the expectation is that the same predicate may yield different answers in each task. In other words, not all *estar* predications that are considered acceptable in the rating task are expected to prompt a *estar* choice in the fill-in-the-blank task.

The processing predictions for *ser* should take into consideration that *ser* is the presuppositionally weaker variant, which gives rise to the implication that the circumstance at which *P(x)* is asserted to be true *cannot* be a maximal verifying

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[8]As described in Chapter 3, *estar* tends to appear with predicates that ascribe a property to an entity. In the case of NPs, which usually denote kinds, *estar* is acceptable if the noun is headed by the preposition 'de'. I take the preposition to be a *type-shifter* that shifts a kind to a property, thus changing the nature of the relation between the subject and the NP. As a result of this type shift, a nominal expression in predicative position acquires an adjectival function: it attributes an adjectival property to an entity. The subject is not considered anymore to be an instance of a kind, but instead is understood as bearing the properties that characterize the kind described by the NP.

circumstance. This implication arises because of the ordering of the lexical items in a scale with regard to their presuppositional strength. The specific implicated presupposition would be as follows: it has to be the case that all non-weaker and strictly stronger circumstances than i are verifying circumstances; and that not all verifying circumstances in $Circ(c)$ (relative to some parameter p_c) are stronger than i. Formally: (4.6)

a. $\quad \neg \exists i' \in Circ(c) : i' \nprec_{p_c} i \wedge [\![P(x)]\!]^{i'} = 0$

b. $\quad \neg \forall i'' \in Circ(c) : [\![P(x)]\!]^{i''} = 1 \rightarrow i'' \succeq_{p_c} i$

According to (4.6a), $Circ(c)$ must *not* contain some falsifying circumstance i' for $P(x)$ that is not weaker than i on the contextually relevant parameter. (4.6b) encodes the requirement that it is not the case that every circumstance in $Circ(c)$ that verifies the prejacent is at least as strong as i with respect to the parameter p_c. On the basis of this implicated presupposition, the prediction is that *ser* predications may also show contextual modulation. Specifically, *estar*-supporting contexts may lead to the expectation that, given the availability of a bounded context with a set of circumstances of evaluation that are relevant to assessing the truth of the prejacent, *estar* would be the most appropriate copula to indicate that *P(x)* is asserted to be true at a minimal verifying circumstance. As a result of this expectation, the prediction is that *ser* predications preceded by *estar*-supporting contexts will yield lower ratings than *ser*-predications preceded by neutral contexts. Similarly, for the fill-in-the-blank task, it is expected that participants will show a stronger preference to choose *ser* when presented with neutral contexts in comparison to supporting contexts.

4.3 Acceptability-Rating Questionnaire and Fill-in-the-blank

4.3.1 Materials and Design

Sentence pairs, a context sentence followed by a sentence with either *ser* or *estar* were created in Iberian Spanish (I will call each sentence *context* and *test sentence*, respectively). Sentences were normed for acceptability with four native speakers of Iberian Spanish naive to the purposes of the experiment. The same sentences were adapted to three additional varieties of Spanish: Argentinian, Mexican and Venezuelan; each of them normed by native speakers of the corresponding variety.

The test sentences consisted of predicates with either *ser* or *estar* and were all in the present tense. Context sentences were of two kinds: they either made accessible a set of alternative circumstances of evaluation that are relevant for assessing the truth of the prejacent (**supporting context** [5.5a]) or they did not imply the existence of a bounded context, thus being neutral with respect to *estar*'s presupposition (**neutral context** [5.5b]). The supporting contexts explicitly manipulated the existence of alternatives with respect to a particular parameter. They did not make any explicit claim, however, with respect to the maximality condition described by the boundedness-presupposition analysis. Neither *ser* nor *estar* appeared in the context sentences to avoid biasing the participant towards a specific copula use.

(4.7)

a.   **Supporting context:** *Durante el invierno, la arena blanca de la playa de Nogales, en Canarias, se vuelve de color gris.*

'During the winter, the white sand at Nogales beach, in the Canary Islands, turns grey.'

b.   **Neutral context:** *La playa de Nogales en Canarias, con su arena gris, se ha*

convertido en una gran atracción turística en cualquier época del año.

'Nogales Beach, in the Canary Islands, with its grey sand, has become a tourist attraction throughout the year.'

Test sentence: *Tienes que verla, la arena es/está gris por la acción volcánica de la isla.*

You've got to see it, the sand **ser/estar** grey because of the volcanic activity on the island.'

Three types of predicates were included: adjectival, nominal and locative prepositional predicates. The description for each predicate type is as follows:

- The **adjectival condition** consisted of an adjective following the copula *ser* or *estar*. The referent, located in subject position, could be either animate or inanimate. Inanimate referents could denote an event or an individual.

- The **nominal condition** consisted of an inanimate referent in the subject position and the copula was followed by a noun phrase.

- The **locative condition** consisted of inanimate referents in subject position and the copula was followed by a prepositional phrase that denoted a location.

Fifty test sentences were constructed with *ser* and 50 with *estar*. Each test sentence was presented twice: once with a a supporting context and once with a neutral context. This set-up resulted in a 2x2 design (2 copula types x 2 context types), for a total of 200 sentence pairs. Examples of the stimuli in English are shown in Table 4.1.

Predicate Type	Context	Test Sentence
Adjectival	**Supporting Context:** During the winter, the white sand at Nogales Beach becomes grey **Neutral Context:** Nogales beach, with its grey sand, has become a tourist attraction throughout the year.	The sand **es/está** grey because of the volcanic activity in the island.
Locative Prepositional	**Supporting Context:** You do not have to walk far to get to the nearest coffee shop. **Neutral Context:** We shoud get a coffee before going to class.	The nearest coffee shop **es/está** on Ronda Avenue.
Nominal	**Supporting Context:** Miguel just found a job for the weekends. **Neutral Context:** Miguel finally fulfilled his dream of finding a stable job in the culinary industry.	He **es/está** (de) a cook at a restaurant on Gran Via.

Table 4.1: *Examples of Contexts and Test Sentences for each Predicate Type included in the Rating Questionnaire (originals in Spanish can be found in the Appendix.)*

As shown in Table 4.1, supporting contexts for locative predicates make accessible a set of alternative circumstances that are relevant with respect to the world parameter. The question in the context is always about the location of a particular entity at a given reference time within a pre-established spatial region. In the example in Table 4.1, the question is about a particular coffee shop 'the nearest coffee shop'. In this case, all circumstances in the context set are expected to be identical with respect to the time and location parameters.[9]

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[9]Remember that the location parameter includes spatial regions ordered by the contiguity, overlap and subset relations. The location parameter is not relevant in this case because *estar* does not require a comparison between spatial regions that are compared in terms of mereological inclusion.

The only parameter that can be taken to vary across circumstances is the world parameter. The question in the context pertains to where the nearest coffee shop is in the actual world w_0. Therefore, the hearer will consider falsifying circumstances i' that are no weaker than i. These are circumstances containing worlds w_i' that are exactly like w_0 with respect to all propositions in $g_r(p, wd_0)$, i.e. with respect to all propositions except for the prejacent p (=*the nearest coffee shop be on Ronda Avenue*) and its causal ancestors. The world of evaluation w_i is the maximal verifying circumstances because it corresponds to the actual world w_0 and, given the ordering source $g_r(p, wd_0)$, there can be no strictly stronger worlds than the actual world.

A neutral context preceding locative predicates does not restrict the predication to a specific coffee shop. Thus the question in the context is about a place where to get some coffee, which may take different forms (a coffee shop, a vending machine, someone's house, etc.). These are similar to the effects with locative predicates described in Chapter 2. $Circ(c)$ would contain circumstances that differ in where a place to get coffee is located at these circumstances. Compare with a supporting context that, as described above, $Circ(c)$ contains circumstances that differ in the possible location of the nearest coffee shop in the actual world w_0.

With respect to nominal predicates, a supporting context, as shown in Table 4.1), describes a weekend job, which makes the temporal parameter relevant. The predication is thus restricted to a specific time interval. This makes relevant the existence of other circumstances at which the property of being a cook may not hold of Pedro, for example during weekdays. The context thus makes available a set of circumstances of evaluation that 1) either falsify or verify the prejacent and 2) are relevant for assessing the truth of the prejacent with respect to the temporal parameter. The neutral context does not explicitly allow the construal of such a context as it describes the new job as Miguel's main occupation. The existence of relevant alternative circumstances at which Miguel is not a cook is not readily available.

The Iberian and Venezuelan questionnaires were presented in a single session without filler items. The Mexican and Argentinian versions included, additionally, 240 fillers from an unrelated experiment. This resulted in a final script of 440 items for these two varieties (200 experimental sentences + 240 fillers). The difference in the number of filler items was due to the available unrelated materials at the time when the studies were conducted. No differences, however, were expected due to the increase in length. To confirm that this was indeed the case, fillers were assigned such that dialects that were expected to show similar copular use did not receive the same questionnaire (i.e., Venezuelan and Mexican speakers received different questionnaires, and Iberian and Argentinian speakers were grouped separately). To ensure that participants were paying attention, a subset of the sentences was followed by a comprehension question in all four questionnaires. The Iberian and Venezuelan versions of the questionnaire had 50 comprehension questions, 25% of the total number of items; the Mexican and Argentinian versions had 220 questions, which constituted 50% of all items in the study.

4.3.2 Participants

Iberian Spanish: Forty monolingual speakers of Iberian Spanish (24 women) participated in the experiment. The participants were between 19-36 years old (average age: 29) and had at least a secondary education. They were born in Spain and had lived in Spain most of their lives. Particular attention was paid to ensure that participants were not bilingual native speakers of any of the other official languages in Spain (Basque, Catalan and Galician) to minimize influences from a second language.

Argentinian Spanish: Thirty-eight monolingual speakers of Argentinian Spanish (21 women) participated in the experiment. The participants were between 19-35 years old (average age: 27) and had at least a secondary education. They were born and lived in Buenos Aires. Participants had not lived for more than four months outside the province of Buenos Aires. The variety thus can be restricted to Rioplatense Spanish.

Mexican Spanish: Forty monolingual speakers of Mexican Spanish (22 women) participated in the experiment. The participants were between 19-37 years old (average age: 28) and had at least a secondary education. They were born and lived in Mexico City or surrounding states (Morelos or Puebla) and had lived in Mexico most of their lives. Participants had not lived for more than one year in states that did not belong to the variety of high-altiplano Mexican Spanish, which includes the following states: Mexico, Morelos, Tlaxcala, Puebla, Hidalgo and Mexico City. The restriction to this particular variety of Spanish were made on the basis of dialectal studies indicating that the variety in this area constitutes a homogeneous variety of Mexican Spanish (Lope Blanch, 1996).

Venezuelan Spanish: Forty-four monolingual speakers of Venezuelan Spanish (22 women) participated in the experiment. The participants were between 18-37 years old (average age: 24) and had at least a secondary education. The variety of Spanish was restricted to that spoken in Caracas and surrounding states, specifically in Distrito Capital, Miranda, Vargas, Carabobo and Aragua. Participants had not lived for more than two years in a different state.

A restriction that was imposed to all all four varieties is that participants could not have lived in another Spanish-speaking country for more than one year and could not have lived abroad, in a Romance-speaking country, for more than seven years. The average number of years participants had lived abroad was as follows: Iberian, 2 years; Argentinian 1 month, Mexican, 5 months; and Venezuelan, 1 month. These restrictions ensured minimal influence from second languages and other varieties of Spanish.

4.3.3 Procedure

Participants read all sentences described in section 4.3.1 and performed one of the following tasks for each sentence: an acceptability-rating task or a fill-in-the-blank task. Participants saw each sentence *only* once, half in the acceptability-rating task and the other half in the fill-in-the-blank task. The order of presentation of the sentences was randomized

across participants. Each of the tasks is described in the following sections.

4.3.3.1 Acceptability-Rating Task

Participants read pairs of sentences (a context sentence followed by a test sentence with either *ser* or *estar*) and had to assign a number from 1 (non-native like) to 5 (native-like) according to whether or not they thought the sentence could be said by a native speaker of their own Spanish variety. They were asked to answer a series of comprehension questions after some of the sentences. Participants only read sentences from their own Spanish variety.

Score	Meaning
1	A native speaker of Spanish would definitely not say these sentences. The sentences sound weird, and I do not understand the meaning.
2	A native speaker of Spanish would not say these sentences. The sentences sound weird, although I understand the meaning.
3	I am not sure. The sentences sound good, but a native speaker would not say them.
4	A native speaker of Spanish would say these sentences. I understand the meaning, but I could or could not say it in this way.
5	A native speaker of Spanish would definitely say these sentences. I understand the meaning and I myself would say it in this way.

4.3.3.2 Fill-in-the-Blank Task

Participants read pairs of sentences (context followed by a test sentence). In this case, the test sentence appeared without the copula and the participant's task was to choose one of the copulas, either *ser* or *estar*, the one that they thought sounded more natural in Spanish.

4.3.4   Results

4.3.4.1   Acceptability-Rating Task

I used R (R Core Team, 2012) and lme4 (Bates, Maechler & Bolker, 2012) to perform a multilevel analysis of the relationship between copula and context acceptability. As fixed effects, I entered copula, context and the interaction between context and copula into the model. As random effects, I had intercepts for subjects and items, as well as by-subject and by-item random slopes for the effect of copula and context. P-values were obtained by likelihood ratio tests of the full model with the effect in question against the model without the effect. The data will be presented by predicate type, which includes both within and across varieties comparisons.

Adjectival predicates. The context by copula interaction significantly predicted acceptability scores across the four varieties of Spanish (Iberian: $\chi^2(1)$=274.12, p=<.001; Argentinian: $\chi^2(1)$=112.76, p=<.001; Mexican: $\chi^2(1)$=34.81, p=<.001; Venezuelan: $\chi^2(1)$=36.78, p=<.001). This interaction was broken down by conducting separate multilevel models on *ser* and *estar*. The models specified were the same as the main model, but excluded the main effect and interaction term involving copula type. The analyses showed that context type significantly predicted acceptability scores for each copula: acceptability scores were higher for *estar* when the sentence was preceded by a supporting context, (Iberian: $\chi^2(1)$=25.32, p=<.001; Argentinian: $\chi^2(1)$=15.41, p=<.001; Mexican: $\chi^2(1)$=4.8, p=.02842; Venezuelan: $\chi^2(1)$=10.04, p=.001); acceptability scores were higher for *ser* when the sentence was preceded by a neutral context, (Iberian: $\chi^2(1)$=14.42, p=.0001432; Argentinian: $\chi^2(1)$=5.15, p=.023; Mexican: $\chi^2(1)$=5.5, p=.01894; Venezuelan:$\chi^2(1)$=5.45, p=.019). Mean scores for each variety are shown in Table 4.2 and illustrated in Figures 4.1 and 4.2 for *estar* and *ser* respectively.

	Iberian	**Argentinian**	**Mexican**	**Venezuelan**
Supporting+Estar	3.74 (1.28)	3.29 (1.12)	4.19 (.97)	3.85 (1.06)
Neutral+Estar	3.04 (1.27)	2.73 (1.03)	3.92 (1.11)	3.6 (1.16)
Neutral+Ser	4.35 (.92)	4.4 (.75)	4.44 (.77)	4.17 (.96)
Supporting+Ser	3.7 (1.22)	4.06 (1.02)	4.24 (.93)	3.99 (1.08)

Table 4.2: *Mean Acceptability Scores (SD) for each Spanish Variety by Sentence Type (Adjectival Condition).*
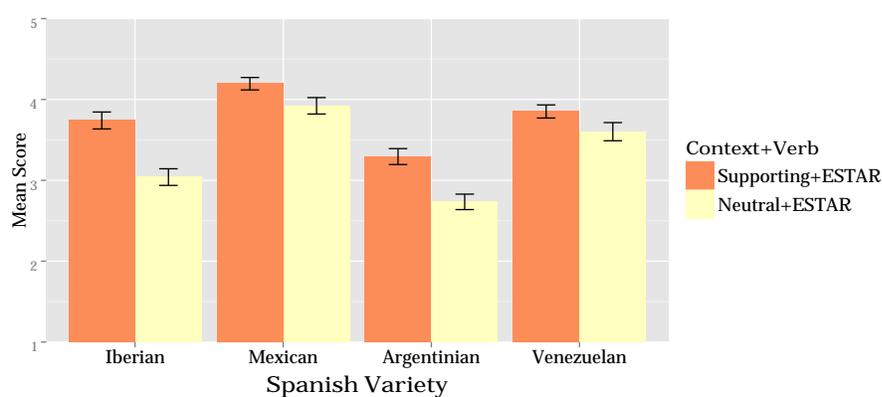
Figure 4.1: *Mean Acceptability Ratings for the Adjectival condition for <u>estar</u> Sentences*
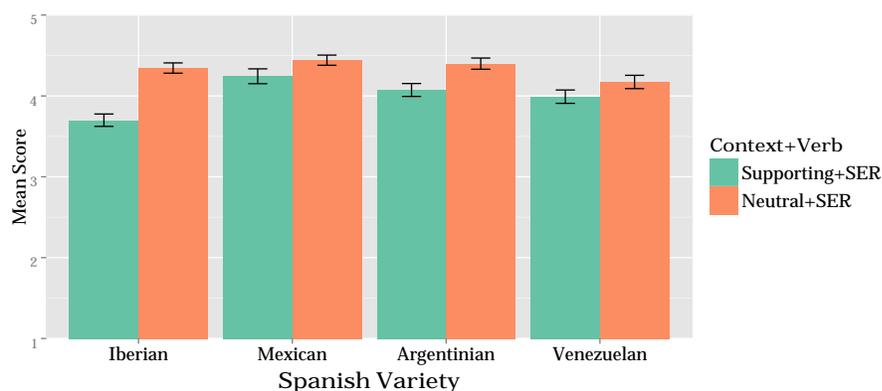
Figure 4.2: *Mean Acceptability Ratings for the Adjectival condition for <u>ser</u> Sentences*

Adding Spanish variety as a fixed effect to the main model resulted in significantly different mean scores for *estar* sentences across the four varieties for both context types. Only Iberian and Venezuelan Spanish did not differ from each other in the condition [Supporting+ESTAR]: **[Supporting+ESTAR]**, Mexican > Venezuelan = Iberian >

Argentinian ($\chi^2(1)$= 146.53, p=<.001) and **[Neutral+ESTAR]**, Mexican > Venezuelan > Iberian > Argentinian ($\chi^2(1)$= 146.53, p=<.001).   With respect to *ser* sentences, significant differences were found for sentences preceded by supporting contexts: **[Supporting+SER]**, Mexican = Argentinian > Venezuelan > Iberian ($\chi^2(1)$= 74.67, p=<.001). When the sentences were preceded by neutral contexts, all varieties behaved similarly, except for Venezuelan Spanish, which behaved significantly different than any of the other three varieties: **[Neutral+SER]**, Mexican = Argentinian = Iberian > Venezuelan ($\chi^2(1)$= 30.2, p=<.001).

Locative prepositional predicates. No interaction of context by copula was found for this condition. As expected, in all four varieties there was a main effect of copula type, indicating that *estar* is the preferred copula (Iberian: $\chi^2(1)$=72.9, p=<.001; Argentinian: $\chi^2(1)$=87.54, p=<.001; Mexican: $\chi^2(1)$=72.9, p=<.001; Venezuelan: $\chi^2(1)$=22.7, p=<.001). There were, however, uses of *ser* that were considered acceptable: those cases in which the predication was clearly not restricted to the actual world.[10] In addition, context type significantly predicted acceptability scores for this condition in Argentinian and Mexican Spanish: acceptability scores were higher for this condition when the copula was preceded by a neutral context (Argentinian: $\chi^2(1)$=7.55, p=.005; Mexican: $\chi^2(1)$=7.04, p=.008). Mean scores are shown in Table 4.3 and illustrated in Figures 4.3 and 4.4.

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[10]The following are uses of *ser* in which the location of the referent is not restricted to the actual world. The question in the context pertains to any reference of the picture that can be considered the first one (1) and to any restaurant by Astrid and Gastón that can be considered new (2). The circumstances in $Circ(c)$ would differ in the location of references that are the first reference to 'Las Meninas' and the location of restaurants by Astrid and Gastón that are new.
1. **Context:** The *Diario de Madrid* played a very important role in the cultural developments of the time.
Test sentence: The first reference to the picture 'Las Meninas' **es** in the *Diario de Madrid*.
2. **Context:** The newspaper says there is a new restaurant owned by Astrid and Gastón.
Test sentence:'I have just read that the restaurant **es** in an old wine cellar'.

	Iberian	**Argentinian**	**Mexican**	**Venezuelan**
Supporting+Estar	4.55 (.75)	4.39 (.86)	4.22 (1.15)	4.22 (.98)
Neutral+Estar	4.45 (.98)	4.47 (.73)	4.5 (.85)	4.15 (1.05)
Neutral+Ser	2.84 (1.24)	3.98 (.99)	3.77 (1.3)	3.92 (1.18)
Supporting+Ser	2.73 (1.16)	3.7 (1.09)	3.63 (1.32)	3.87 (1.22)

Table 4.3: *Mean Acceptability Scores (SD) for each Spanish Variety by Sentence Type (Locative Condition).*
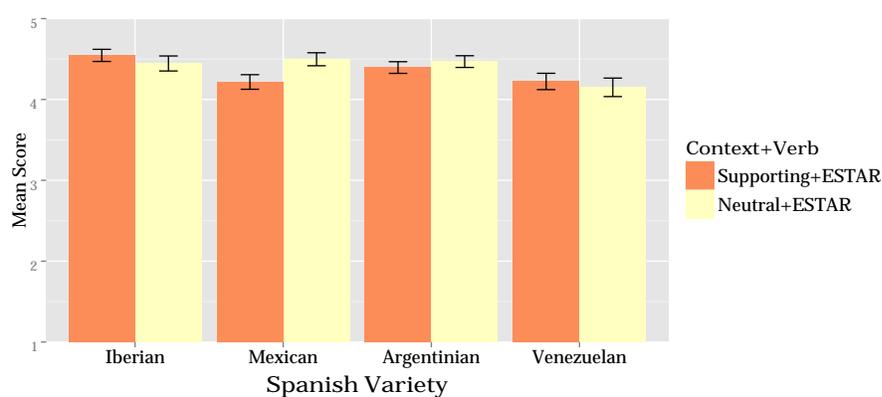
Figure 4.3: *Mean Acceptability Ratings for the Locative condition for <u>estar</u> Sentences*
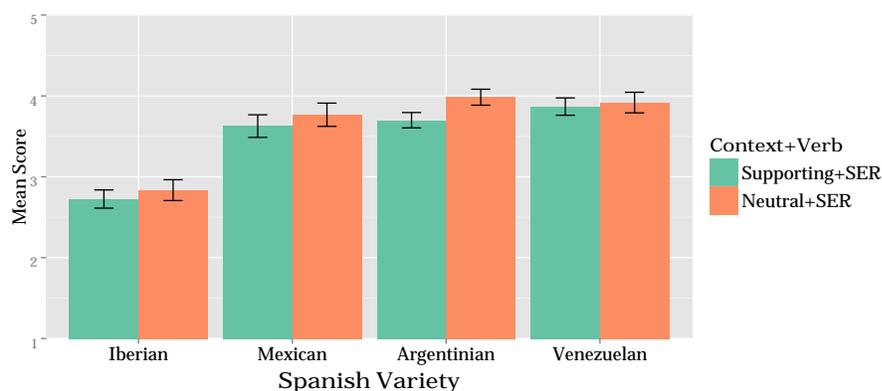
Figure 4.4: *Mean Acceptability Ratings for the Locative condition for <u>ser</u> Sentences*

The addition of Spanish variety as a fixed effect to the main model resulted in significantly different mean scores for copula type. For *estar*, all four varieties behaved similarly, except for Venezuelan speakers, who provided significantly lower ratings: **ESTAR**, Iberian = Argentinian = Mexican > Venezuelan ($\chi^2(1)$= 11.44, p=.009). As for

ser sentences, there was a main effect of context, indicating that across varieties, *ser* predications were given significantly higher scores when preceded by neutral contexts. Across varieties, speakers of Iberian Spanish gave significantly lower ratings to *ser* sentences than any of the three varieties: **SER**, Argentinian = Venezuelan = Mexican > Iberian. No significantly different mean scores were observed for context type across varieties, indicating that all varieties showed an overall preference for supporting contexts with locative predicates.

Nominal predicates. There was a significant effect of context by copula interaction that predicted acceptability scores across the four Spanish varieties (Iberian: $\chi^2(1)=274.12$, p=<.001; Argentinian: $\chi^2(1)=112.76$, p=<.001; Mexican: $\chi^2(1)=34.81$, p=<.001; Venezuelan: $\chi^2(1)=36.78$, p=<.001) This interaction was broken down by conducting separate multilevel models on *ser* and *estar*. The analyses showed that context type significantly predicted acceptability scores for *estar* across varieties: acceptability scores were higher for *estar* when the sentence was preceded by a supporting context, (Iberian: $\chi^2(1)=25.32$, p=<.001; Argentinian: $\chi^2(1)=15.41$, p=<.001; Mexican: $\chi^2(1)=4.8$, p=.02842; Venezuelan: $\chi^2(1)=10.04$, p=.001). As for *ser* there was a main effect of context for all varieties except for Mexican Spanish, indicating that acceptability scores were higher for *ser* when the sentence was preceded by a neutral context in these three varieties (Iberian: $\chi^2(1)=14.42$, p=.0001432; Argentinian: $\chi^2(1)=5.15$, p=.023; Venezuelan:$\chi^2(1)=5.45$, p=.019). Mean scores for each variety are shown in Table 4.4.

	Iberian	**Argentinian**	**Mexican**	**Venezuelan**
Supporting+Estar	4.15 (1.1)	3.76 (.96)	4.04 (1.12)	3.89 (1.16)
Neutral+Estar	3.54 (1.26)	3.55 (1.1)	3.8 (1.18)	3.71 (1.15)
Neutral+Ser	4.37 (.86)	4.43 (.74)	4.59 (.66)	4.3 (.87)
Supporting+Ser	3.41 (1.09)	4.13 (.83)	4.49 (.85)	4.1 (1.02)

Table 4.4: *Mean Acceptability Scores (SD) for each Spanish Variety by Sentence Type (Nominal Condition).*
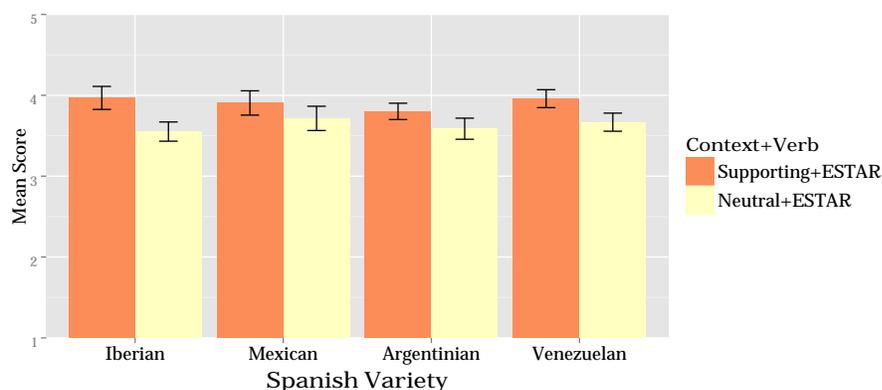
Figure 4.5: *Mean Acceptability Ratings for the Nominal condition for estar Sentences*
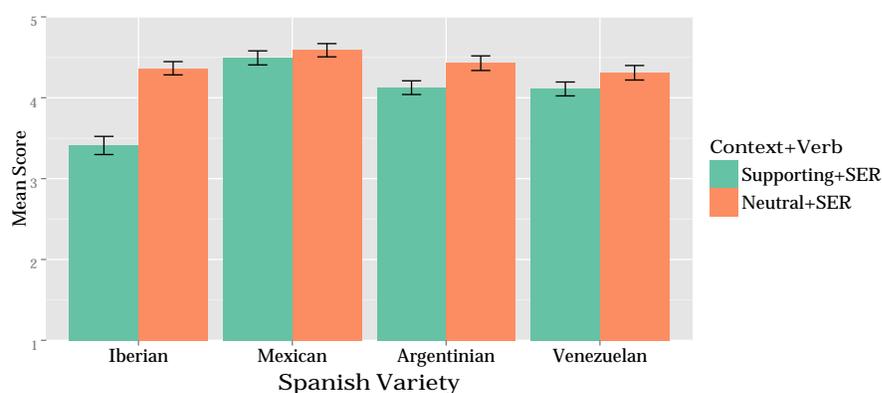
Figure 4.6: *Mean Acceptability Ratings for the Nominal condition for ser Sentences*

Adding variety of Spanish as a fixed effect to the main model resulted in significantly different mean scores for *estar* sentences only when preceded by supporting contexts ($\chi^2(1)$= 11.94, p=<.004). A posthoc pairwise comparison with Bonferroni correction, however, showed differences only between Iberian > Argentinian (p=.007) for this condition. As for *ser* sentences, the main significant differences were found when preceded by supporting contexts: **[Supporting+SER]**, Mexican > Argentinian = Venezuelan > Iberian ($\chi^2(1)$= 115.25, p=<.001). With respect to the [Neutral+SER] condition, the only significant difference was between the Mexican and Venezuelan varieties (Mexican > Venezuelan, p = .007).

4.3.4.2 Fill-in-the-Blank Task

I analyzed the effects of context with generalized linear mixed models with binary copula choice (*ser* or *estar*) as a dependent variable. I used the lme4 package (Bates, Maechler & Bolker, 2012) in the R environment (R Core Team, 2012) with subjects and items specified as random intercepts.The data will be presented by predicate type with within- and across-varieties comparisons.

Adjectival predicates. The type of context had a significant effect on copula choice across the four varieties of Spanish (Iberian: $\chi^2(1)$= 299.99, p=<.001, Mexican: $\chi^2(1)$= 158.81, p=<.001, Argentinian: $\chi^2(1)$= 103.06, p=<.001, and Venezuelan: $\chi^2(1)$= 158.24, p=<.001). This result indicates that supporting contexts lead to a significantly higher number of *estar* choices and neutral contexts lead to a significantly higher number of *ser* choices. An item analysis on the Argentinian data revealed that the low scores in this variety were driven by relational uses of *estar*, which are generally not considered acceptable in this variety.[11]

Adding variety of Spanish into the model led to a main interaction of context and variety ($\chi^2(1)$= 53.4, p=<.001). The data was in turn broken down by context type. A post hoc Tukey test showed that Mexican and Iberian choices with supporting-contexts did not differ significantly from each other. They both chose *estar* in half of the sentences in this condition. Speakers from these two varieties chose *estar* significantly more often than Venezuelan and Argentinian speakers. As for neutral contexts, across varieties, Mexican choice of *estar* was significantly greater and Venezuelan choice was significantly lower. Iberian and Venezuelan copula choices were not significantly different from each other (they both chose *ser* about 85% of the times) (for all significant comparisons: p<05).

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[11]Examples of this condition are the following: *La falda le está corta* 'The skirt is short (fits short to her)' or *Los pantalones le están ajustados* 'The pants are tight (fit tight to him)'.

Context Type	Iberian		Mexican		Argentinian		Venezuelan	
	estar	ser	estar	ser	estar	ser	estar	ser
Supporting %	54	46	55	45	27	73	42	58
Neutral %	15	85	39	61	6	94	14	86

Table 4.5: *Mean Percentages of Copula Choice for each Variety by Sentence Type (Adjectival Condition).*
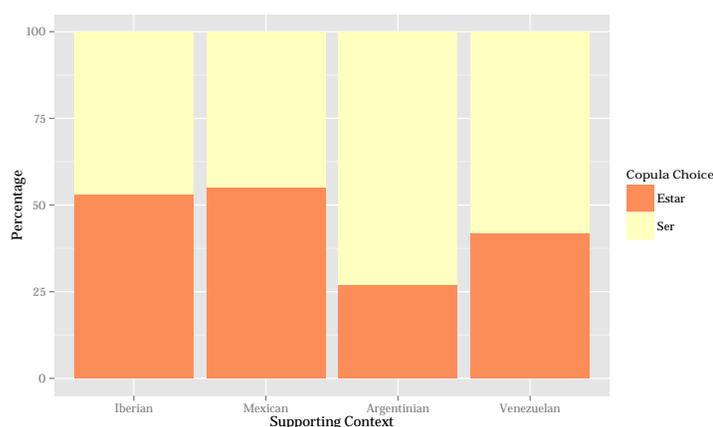
Figure 4.7: *Mean Percentages of Copula Choice for Supporting Contexts (Adjectival Condition)*
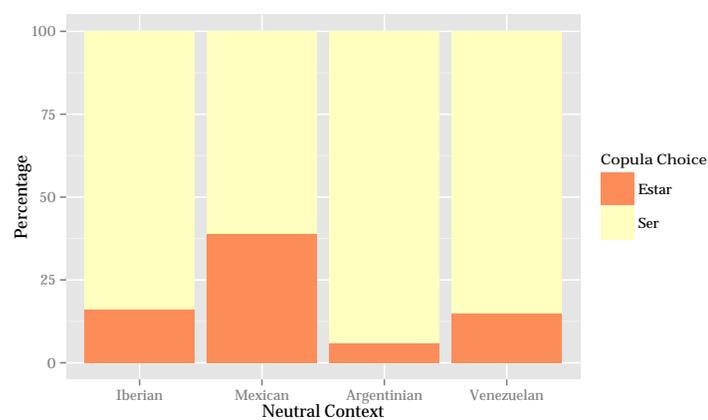
Figure 4.8: *Mean Percentages of Copula Choice for Neutral Contexts (Adjectival Condition)*

Locative predicates. The type of context only had a significant effect in the variety of Iberian Spanish ($\chi^2(1)$= 15.49, p=<.001): *estar* was chosen significantly more when the sentence was preceded by a supporting context. For all other varieties, no significant

differences were found in copula choice between the two types of context (Mexican: $\chi^2(1)=$ 1.68, p=1.19; Argentinian: $\chi^2(1)=$ 3.63, p=<.06; Venezuelan: $\chi^2(1)=$ .49, p=<.36); speakers chose *estar* across the board, regardless of the context.

The inclusion of variety into the context showed a main effect of variety ($\chi^2(1)=$ 30.09, p=<.001). A post hoc Tukey test revealed that Venezuelan speakers tended to choose *estar* to a lesser extent than speakers from the other three varieties, regardless of the context (p<05).

Context Type	Iberian		Mexican		Argentinian		Venezuelan	
	estar	ser	estar	ser	estar	ser	estar	ser
Supporting %	91.5	8.5	90.8	9.19	90	10	80	20
Neutral %	85.5	14.5	90.19	12.97	84	16	77	23

Table 4.6: *Mean Percentages of Copula Choice for each Variety by Sentence Type (Locative Condition).*
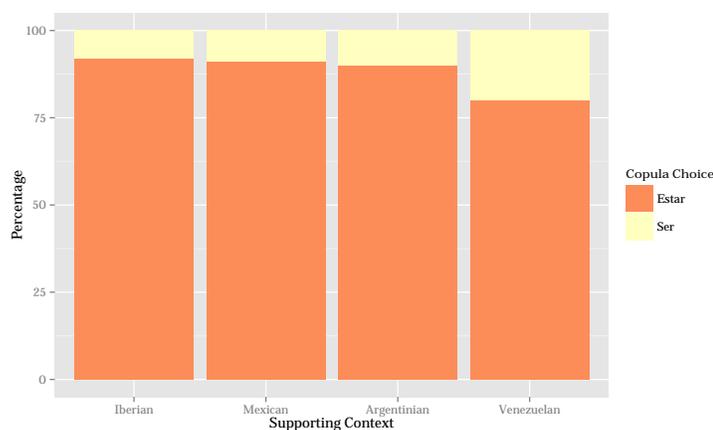
Figure 4.9: *Mean Percentages of Copula Choice for Supporting Contexts (Locative Condition)*
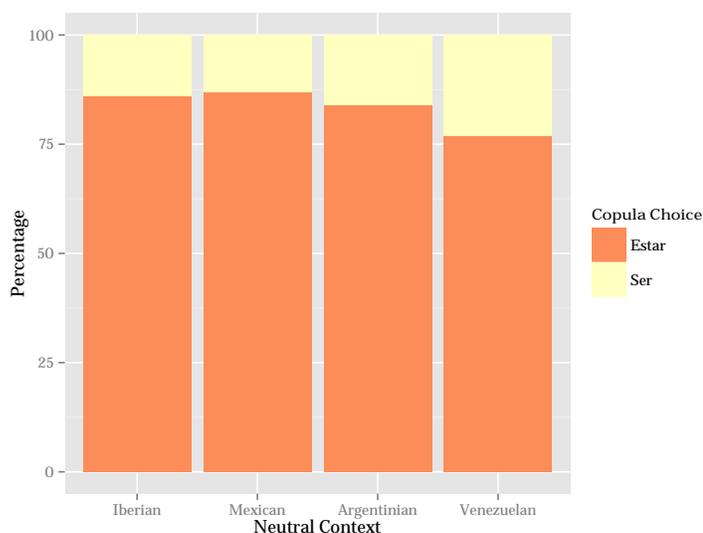
Figure 4.10: *Mean Percentages of Copula Choice*
for Neutral Contexts (Locative Condition)

Nominal predicates. Context type had a significant effect on copula choice across all four varieties (Iberian: $\chi^2(1)$= 11.45, p=<.001; Mexican: $\chi^2(1)$= 11.17, p=<.001; Argentinian: $\chi^2(1)$= 82.34, p=<.001; Venezuelan: $\chi^2(1)$= 28.09, p=<.001). All varieties chose *estar* significantly more when preceded by a supporting context and *ser* when the same sentence was preceded by a neutral context.

The inclusion of variety of Spanish into the model showed an interaction between context and variety ($\chi^2(1)$= 22.95, p=<.001). A post hoc Tukey test on the dataset divided by context type revealed that all varieties significantly differed from each other in copula choice when the predicate was preceded by a supporting context. Iberian and Argentinian speakers chose *estar* more frequently overall than Mexican and Venezuelan speakers. As for neutral contexts, Iberian speakers chose *estar* significantly more than Mexican and Venezuelan speakers. No other differences were observed (for all significant comparisons: p<05).

Context Type	Iberian		Mexican		Argentinian		Venezuelan	
	estar	ser	estar	ser	estar	ser	estar	ser
Supporting %	67.5	32.5	24.3	75.7	52	48	37	63
Neutral %	22	78	11.9	88.1	11	89	18	82

Table 4.7: *Mean Percentages of Copula Choice for each Variety by Sentence Type (Nominal Condition).*
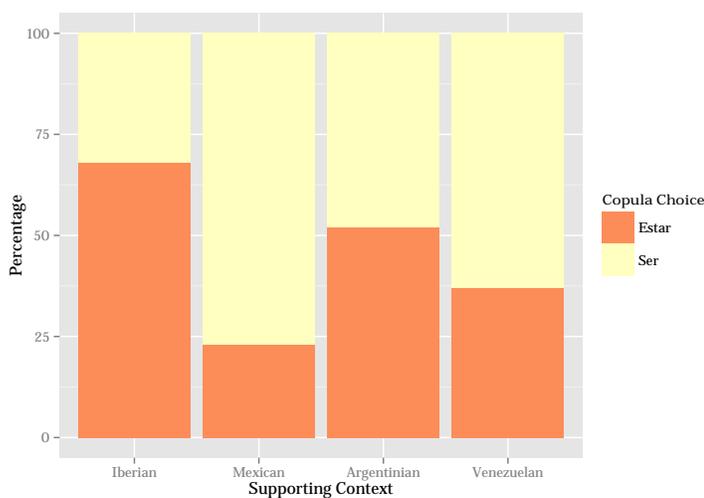
Figure 4.11: *Mean Percentages of Copula Choice for Supporting Contexts (Nominal Condition)*
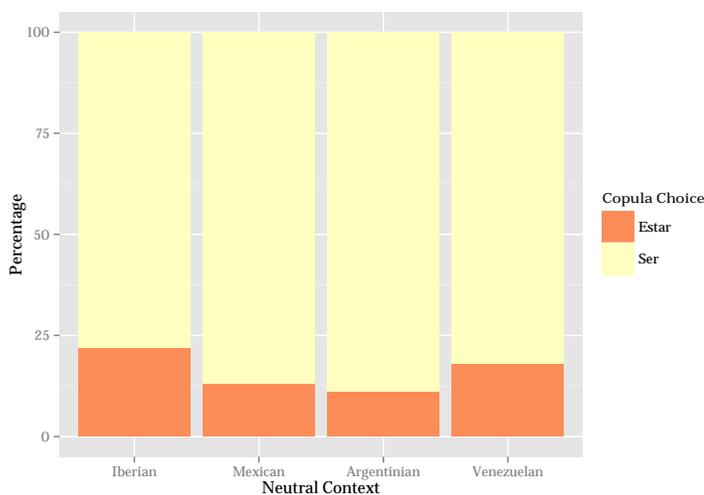
Figure 4.12: *Mean Percentages of Copula Choice for Neutral Contexts (Nominal Condition)*

4.3.5   Discussion

4.3.5.1   Acceptability-Rating Task

The results showed contextual modulation of acceptability ratings for both *ser* and *estar* sentences across the four Spanish varieties (Argentinian, Iberian, Mexican and Venezuelan). As predicted by the boundedness-presupposition analysis, *estar* sentences were given higher acceptability ratings when preceded by contexts that support *estar*'s presupposition, whereas *ser* sentences were given higher ratings when preceded by neutral contexts. This contextual modulation was found with adjectival predicates that show a preference to appear with *ser* when presented in isolation, as well as with nominal predicates, which typically occur with *ser*. Although locative predicates overall showed a preference for *estar* predications, a closer analysis of the data indicates that a subset of sentences in this condition do show contextual modulation and are acceptable with *ser*.

In addition to the contextual modulation for both copulas, the results support constrained variation across Spanish dialects, particularly with adjectival predicates. In this condition, Iberian speakers provided the lowest ratings for *estar* sentences preceded by neutral contexts and for *ser* sentences preceded by supporting contexts. A similar result was observed for Argentinian speakers, who provided the lowest ratings for the [neutral+estar] condition among all four dialects. These two varieties appear to be more conservative in their use of *estar*, only accepting *estar* when the context explicitly fulfills the requirements for presupposition satisfaction. The variety that showed the least contextual modulation was Mexican Spanish. In this variety, despite significant contextual modulation, speakers seem to be more willing to use *estar* when the context does not explicitly satisfy the presuppositional content of *estar*. We can conclude that speakers of this variety are less dependent on explicit contextual cues and are able to add to the common ground the new information that the predication is bounded, even when the requirements are not explicitly met in the context.

Cross-dialectal variation was also present, but to a lesser extent, in the acceptability

ratings of nominal and locative predicates. Regarding nominal predicates, in addition to the overall significant modulation across varieties, Mexican speakers showed less contextual modulation for *ser* sentences than speakers of any other variety. As for locative predicates, in spite of the overall preference for *estar*, the variation observed across dialects indicates that *ser* is also acceptable with locative predicates. This is the case for predications in which the location of the referent is not under discussion, i.e. when the intensional denotation of the predication is taken to apply to any circumstance of evaluation. In this condition, Venezuelan speakers showed the least preference for *estar* in comparison to other varieties. Iberian speakers, by contrast, exhibit the reverse pattern: a preference for *estar* and significantly lower acceptability ratings for *ser* in comparison to speakers of the other three varieties.

4.3.5.2 Fill-in-the-Blank Task

The results of the fill-in-the-blank task showed contextual modulation in copula choice across the four varieties for both adjectival and nominal predicates. In these two conditions, *estar* was chosen more frequently when the test sentence was preceded by a presupposition-supporting context than when the same sentence was preceded by a neutral context. Copula choice in locative predicates only showed contextual modulation in Iberian Spanish (91% of *estar* choices with supporting-context vs. 67.5% with neutral contexts). This is in line with the predictions made by the boundedness-presupposition, according to which contexts that satisfy *estar*'s presupposition should lead to a preference for *estar*.

The comparisons across varieties of Spanish revealed that Mexican speakers chose *estar* to a greater extent than any other varieties in the adjectival condition, regardless of context type. Iberian speakers also chose *estar* more frequently than speakers from other varieties with adjectival and nominal predicates when these were preceded by supporting contexts. A closer look at the choice of *ser* across predicate types reveals that Venezuelan

speakers tended to choose *ser* more often than speakers from other varieties when adjectival and locative prepositional predicates were preceded by neutral contexts.

4.4 Conclusion

The higher acceptability ratings and greater frequency in copula choice for *estar* sentences when preceded by supporting contexts, in comparison to neutral contexts, provide evidence for the presuppositional component of *estar* as described by the boundedness-presupposition analysis. According to this analysis, *estar* signals that the prejacent is boundedly true at the considered circumstance of evaluation i. This presupposition imposes a series of requirements on the context; the use of *estar* is licensed when these requirements are met. A 'bounded context' has been defined as the obtaining of two conditions: 1) that there be equally strong or stronger alternative circumstances, accessible in the discourse context, at which the prejacent is false; 2) that the considered circumstance of evaluation i be the minimal verifying circumstance for the prejacent in the discourse context. The supporting contexts included in the rating questionnaire systematically varied the first condition to create a preference towards *estar*. This preference would be manifested either in acceptability rating or copula choice. By contrast, neutral contexts do not make any claim with respect to the existence of a bounded context.

Contextual modulation has been observed to a greater extent for adjectival predicates. The adjectives included in the study were selected because they show a preference for *ser* when they appear in isolation. They have been previously described as either ambivalent adjectives that can appear with both copulas or as adjectives that show a preference to co-occur with *ser*. As noted by Marín (2010), the acceptability of these adjectives with *estar* is more gradient than has been previously described and depends on the properties of the context. Categorizing them into two groups does not capture their

contextual dependence. As has been shown, the boundedness presupposition analysis provides a precise characterization of the licensing conditions of *estar* and can account for the gradient acceptability of these predicates.

Two additional types of predicates were included in the study: nominal predicates, which are typically described in prescriptive uses as appearing with *ser*; and locative prepositional predicates, which typically co-occur with *estar*. Nominal predicates showed similar contextual modulation than adjectival predicates in both the acceptability and fill-in-the-blank tasks. As for locative predicates, the data indicated that despite showing a strong preference for *estar* regardless of the context, these predicates can also appear with *ser*, especially when the location of the referent is not at issue.

The boundedness-presupposition analysis predicted that *ser*, being the presuppositionally weaker variant, will give rise to the implication that the circumstance at which $P(x)$ is asserted to be true cannot be a minimal verifying circumstance. Such an implication arises because of the ordering of lexical items in a scale with regard to their presuppositional strength. As expected, *ser* sentences also showed contextual modulation and were assigned higher ratings when preceded by neutral supporting contexts in comparison to *estar*-supporting contexts. This may be taken as a reflection of the division of labor between the two copulas: the specialization of *estar* for certain contents contrains the domain of use of the more general variant *ser*. If the speaker chooses *ser*, the hearer may infer on the basis of pragmatic principles (Atlas and Levinson, 1981; Horn, 1984; Levinson, 2000), that the considered circumstance of evaluation is not the minimal verifying circumstance for the prejacent – otherwise, the speaker would have used *estar*.

The experimental data also indicate that there is *constrained* variation across Spanish dialects. Specifically, Iberian and Argentinian dialects appear to be more conservative in their acceptability ratings for *estar* as they tend to consider the copula as native-like only when the context explicitly supports a bounded context. By contrast, speakers of Mexican Spanish, despite showing contextual modulation, are more permissive in their use

of the copulas and seem to rely less on explicit contextual information to fulfill *estar*'s presupposition. As a result, they accept more *estar* sentences with *estar* and choose *estar* as the preferred copula more often with neutral contexts than speakers of other varieties. I interpret these dialectal differences as a reflection of different stages in the development of *estar*'s diachronic expansion. The Mexican data can be interpreted as being further ahead in the diachronic developmental path of the copulas, thus reflecting a larger encroachment of *estar* into the domain of use of *ser* in this variety. These differences across dialects are, however, constrained in that the same pattern of contextual modulation is observed, but to different extents.

The present experimental data add to previous work on presupposition accommodation, which had shown that neutral contexts can be accommodated, albeit with a cost. In addition, the *ser/estar* data suggest that the different behavior of presupposition triggers may be a reflection of their different demands on the discourse context. The results underscore the need for a precise characterization of the meaning of presupposition triggers, their contextual requirements and the pragmatic factors governing their interaction. This may in turn lead to a better understanding of the notion of 'presupposition', their similarities with conventional implicatures and the diversity of presupposition triggers and behaviors that have been identified.

Chapter 5

Testing the Presuppositional Content of *estar*: a Self-Paced Reading Study

5.1 Introduction

The last Chapter described two offline methodologies -a rating questionnaire and a fill-in-the-blank task- to investigate the processing predictions of the boundedness-presupposition analysis. The results showed that acceptability ratings to both *ser* and *estar* sentences are modulated by the contextual information across four different varieties of Spanish. *Estar* sentences received higher ratings when preceded by contexts that explicitly support the presuppositional component of *estar* in comparison to neutral contexts that do not address the presuppositional content. The reverse pattern was found for *ser*: neutral contexts led to higher acceptability ratings. I interpreted this as a result of the implicated presupposition of *ser* that the circumstance at which $P(x)$ is asserted to be true *cannot* be a maximal verifying circumstance.

These offline methodologies measure the 'output' of processing copular sentences. The acceptability ratings are responses collected after sentence processing is complete, and the fill-in-the-blank task relies on a conscious choice between the two copulas. The rating itself provides a composite measure of processing cost over the entire sentence, but

it does not measure the processing of the sentence over time. Similarly, copula choice indicates a preference for one of the copulas, but it does not provide a measure of plausibility or processing cost. In this Chapter, I investigate the real-time processing of copular sentences by capitalizing on an 'online' methodology –a self-paced reading task. Self-paced reading measures the time it takes for the participant to move on to the next word in the sentence and this time is used as an indication of processing difficulty. This methodology provides a finer-grained measure of the potential processing differences between the copulas as the responses are timed to the stimulus presentation. The online patterns of the copulas, their underlying processing mechanisms and their correspondence to the offline patterns observed in Chapter 4 are the focus of this Chapter. As will be shown, the experimental data will shed light on the extent to which speakers of different Spanish varieties rely on the immediate conversational context to satisfy *estar*'s presupposition.

The following sections present first a characterization of presupposed content, followed by an overview of the available experimental data, with a focus on studies that use a similar paradigm of contextual modulation. This will lay the groundwork to describe the processing predictions of the boundedness presupposition analysis. These predictions will be tested using a self-paced reading paradigm across three varieties of Spanish: Argentinian, Iberian and Mexican. The results will shed light on the mechanisms that underlie the processing of presupposed information, and specifically on the theoretical notion of accommodation or context update.

5.2 The Online Processing of Presuppositional Content

5.2.1 The Notion of Presupposition

Much of the modern work on pragmatic presupposition comes from early work by Stalnaker (1973, 1974, 1978, 1999, 2002) who characterizes presuppositions as

constraints that an utterance imposes on the contexts in which it may be appropriately uttered. A presupposition describes the information that speakers would expect to hold in the common ground or context set, which is modeled as the 'set of possible worlds where all the propositions that are the background assumptions of speakers are true' (Stalnaker 1973:450). As such, presuppositions have become one of the most explored linguistic sources to understand the interaction between expressions and their contexts of use.

Certain kinds of presuppositions have been characterized as being the result of conversational inferences and are known as 'conversational' or 'pragmatic' presuppositions (see Stalnaker, 1998; Simons 2003 for an overview). These are presuppositions that arise as a result of the interaction between the context and the expectations of the interlocutors. Pragmatic presuppositions depend on larger properties of the context, such as norms of turn-tanking, plans and goals. As a result, they are not strongly associated with specific worlds or constructions. This is the case of semifactive verbs, such as *know*, which only trigger a presupposition in some person and tense forms. For example, The verb *know* triggers a presupposition in sentence (5.2.1a), with third person and past tense of *know*. The presupposition is absent in (5.2.1b), which involves a first person and present tense use of the verb.

a. Vader didn't know that Luke was alive, so he had no intentions of converting Luke to the Sith. (Web example)

b. I don't know that Mullah Omar is alive. I don't know if he's dead either. General Dan McNeill, Reuters, 19 May 2008) [Beaver and Geurts, 2014]

These examples show that *know* does not always presuppose the truth of its complement. The example in (5.2.1) is consistent with assuming that Luke is alive, and therefore the hearer will assume such presupposition, which typically appears with *know*. However, in (5.2.1b), the hearer would realize that if Mulla Omar were alive, the speaker's claim would be false. As a result, the hearer reasons that *know* cannot presuppose the truth

of its complement.

Other presuppositions have been described as 'conventional' or 'semantic' because they are part of the encoded meaning of specific words or constructions, so-called 'presupposition triggers'. Presupposed information is ubiquitous in everyday speech and several triggers have been traditionally identified: factives (Kiparsky and Kiparsky, 1970), aspectual verbs (Lorenz, 1992; Simons 2001), temporal clauses (Heinamaki, 1974; Beaver and Condoravdi, 2003), manner adverbs (Abbott, 2000), cleft sentences (Prince, 1986; Delin, 1995) or quantifiers (Cooper, 1983; Roberts, 1995). Although this division seems to suggest a clear split between semantics and pragmatics, even semantic presuppositions require using informational resources from the context since they need to be evaluated in the context in which they appear.[1]

Due to the strong association between specific words/constructions and the presence of presupposed content, the speaker should only utter a presupposing sentence S if s/he believes that the presuppositions of S are entailed by the common ground at the time of utterance. There are, however, cases in which a speaker may utter a presupposing sentence knowing that the presupposition is not part of the common ground. Stalnaker uses the term 'informative presupposition' to refer to such a situation:

> The speaker need not really be assuming that his audience recognizes in advance that he is taking something for granted. In some cases, the central purpose of such a statement may be to communicate a presupposition which is required by that statement.

> (Stalnaker, 1973:449)

For example, a sentence like 'I have to pick up my sister at the airport' is considered

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[1]Some authors have tried to bring closer the notions of semantic presupposition (conventionally encoded constraints on the context) and pragmatic presupposition (constraints on the context inferable from the speaker) (Beaver 1999, 2001; Geurts, 1996; Asher and Lascarides, 1998; Beaver and Zeevat, 2007; von Fintel, 2008). For these authors, a presuppositional trigger is only a partial cue to the constraint on the context intended by the speaker. If the hearer can make this inference, s/he will be in a position to accommodate the context. This dependence on the hearer allows for both pragmatic and semantic presuppositions to be explained by appealing to the same basic communicative facts.

appropriate even if the speaker, Alice, knows that the interlocutor, Bob, has no idea that she has a sister. Alice and Bob are both competent speakers of English and each expects the other to speak appropriately. Stalnaker argues that this sentence is appropriate as long as Alice can reasonably believe that Bob considers her an authority with respect to whether or not she has a sister. Upon uttering the sentence, Bob will believe her and will thus presuppose himself that Alice has a sister. There are different ways in which the presupposed content can diverge from what is mutually believed. For example, speakers can make assumptions and the assumed information may become part of the common ground, or speakers can presume information that is shared with the interlocutor(s) without knowing whether this is really the case.

Informative presuppositions are explained by appealing to the notion of 'accommodation', which was first discussed by Stalnaker (1974) and Karttunen (1974), but coined as such by Lewis (1979). Karttunen defined it as a situation in which the presupposition is not satisfied in the conversational context. He thought of informative presuppositions as being 'the rule rather than the exception':

> Ordinary conversation does not always proceed in the ideal orderly fashion described earlier. People do make leaps and shortcuts by using sentences whose presuppositions are not satisfied in the conversational context. This is the rule rather than the exception [...] I think we can mantain that a sentence is always taken to be an increment to a context that satisfies its presuppositions. If the current conversational context does not suffice, the listener is entitled and expected to extend it as required.
>
> (Karttunen, 1974:191)

This view describes accommodation as a cooperative effort among the participants in the conversation to ensure that their presuppositions match the presuppositions of the others. Accordingly, presupposition failure does not necessarily cause a sentence to be

infelicitous because the hearer, who assumes that the speaker is cooperative and competent, is able to draw the necessary inferences to update the conversational context.

In contrast to this view, Lewis (1979) characterized accommodation as a process of context repairing to guarantee the appropriateness of the utterance. He proposed a dynamic model of pragmatics in which the commitments of the speakers evolve as new assertions are added and ultimately they become part of the linguistic context. Other approaches have been proposed that treat presuppositions as implicatures derived from general principles of communication and therefore consider common ground update as a natural process of communication (e.g., Kemspon, 1975; Wilson, 1975; Karttunen and Peters, 1979; Atlas and Levinson, 1981; Kadmon, 2001; Simons, 2004, 2009).[2]

This notion of accommodation as context repairing does not seems to apply to some presupposition triggers. There are some presupposition triggers that have been characterized as 'hard' because the falsity of the presupposed content yields the sentence meaningless. A traditional example of a hard trigger are *it*-clefts, which encode an existential presupposition. For example, the use of the *it*-cleft in following sentence is felicitous because the presupposition cannot be accommodated: *I have no idea whether Jane ever rented 'Manhattan', # but perhaps she is renting it again*. There are other triggers that are easier to accommodate and are accordingly called 'soft' triggers. For instance, implicative verbs like *manage* show a relatively weak dependency between their at-issue and presupposed contents. A sentence like *Kim managed to pass* conveys the at-issue meaning that Kim passed, but it also potentially presupposes that she was expected not to pass. These two propositions are independent from each other because if the speaker is wrong about the presupposition, the at-issue content still holds.

Having provided a description of the notion of presupposition, I now move on to describe the experimental findings related to contextual modulation effects in sentences

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[2]Common ground updates during accommodation have been modeled by Heim (1983, 1992) in the framework of context change semantics by analyzing contexts as information states. A context is the set of worlds at which the propositions in the information state are true. Presuppositions are viewed as part of the conventional lexical content of their triggers.

with presuppositional triggers.

5.2.2 Contextual Modulation of Presuppositional Content: Experimental Findings

The processing of presuppositional content has been investigated with online methodologies. Experimental work has consistently showed that the time-course of processing presuppositional information varies according to the type of trigger. The tendency, however, has been to focus on the general properties of processing presuppositional content without paying much attention to the specific constraints that a lexically-encoded presupposition poses on the context. The main question that these studies have addressed is whether presuppositional content *per se* engenders a cost or whether processing cost is observed only in the presence of information that contradicts the presupposition. Of relevance for the purposes of this chapter is the use of the self-paced reading paradigm, a methodology that measures processing cost in terms of the time (in milliseconds) that it takes the participant to read the crucial segments (words, phrases or larger chunks) of the stimuli.

I will focus on two studies that have followed a similar paradigm and design of contextual modulation to that used in the questionnaire and fill-in-the-blank tasks described in Chapter 4. In these studies, a context sentence is followed by a test sentence with either a presuppositional trigger or a non-trigger item. The first study was conducted by Tiemann and colleagues (2011) using a range of triggers in German.[3] Two main contrasts are relevant for our purposes, which differ in whether the authors varied the context (neutral, supporting or falsifying) or the test sentence (trigger vs. non-trigger).

The first contrast, illustrated in (5.1), varied whether or not the test sentence

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[3]Additional studies have made use of a self-paced reading paradigm to investigate presupposed content, such as Schwarz (2007) and Clifton (2013). These studies rely on a different experimental design, which makes the results harder to compare and are therefore excluded from this section. For a review of experimental studies on presupposition, see Schwarz 2015.

included a presuppositional trigger (trigger 5.1a vs. non-trigger conditions 5.1b) or presented semantically unacceptable information 5.1c). Note that although this example includes only the trigger *wieder*, the authors used a total of six different presupposition triggers.[4]

(5.1) **Neutral Context:**

> *Tina is mit einer guten Freudin shoppen.*
> Tina is with a good friend shopping.
> 'Tina is shopping with a good friend.'

a. *Sie kauft **wieder** rote handsuche.*
   She buys again red gloves
   'She buys red gloves **again**.'   [trigger]

b. *Sie kauft **heute** rote handsuche.*
   She buys today red gloves
   'She buys red gloves **today**.'   [non-trigger]

c. **Sie kauft **freundlich** rote handsuche.*
   She buys friendly red gloves
   'She buys red gloves **friendly**.'   [semantically-unacceptable]

The authors used both a rating questionnaire (on a four-point scale ranging from very bad (1), to very good (4)) and a self-paced reading task. Acceptability scores showed that sentences without a presupposition trigger (*heute*) received significantly higher ratings than sentences with a trigger (*wieder*). There was also a main effect of trigger, indicating that acceptability ratings were significantly different across triggers. The authors do not explore further the differences among triggers and interpret them as the result of the presuppositional requirements on the context by appealing to the distinction between soft and hard triggers and their differences in accommodation. For the self-paced reading data, the authors followed a word-by-word paradigm and observed higher reading

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[4]The complete list of trigger/non-trigger pairs for the two studies is as follows: again-today, know-believe, his-a/an, too-there, stop-decide (German: wieder-heute, wissen-glauben, sein-ein, auch-dort, aufhören-beschließen).

costs for sentences with a presuppositional trigger at the point when the trigger is encountered. Lower acceptability ratings were interpreted as the result of a higher processing cost for this contrast. With respect to the semantically unacceptable condition, unacceptability scores were the lowest within the three conditions and reading times were the longest in the self-paced reading task. This indicates that presuppositional content is processed differently from semantically unacceptable sentences.

The second contrast of relevance is that presented in (5.2), which varied the type of context: presupposition-supporting, falsifying and neutral contexts. The context was then followed by a sentence with a presuppositional trigger:

(5.2) **Supporting (a) / Falsifying (b) / Neutral (c) Context + Trigger Sentence**

a. *Susanne hat* **bereits** *heute Handsuche gekauft.*
    Susanne had already today gloves   bought
    'Susanne had bought red gloves **before**.'   [supporting]

b. *Susanne hat* **bisher** *nie   heute Handsuche gekauft.*
    Susanne had already until now never gloves   bought
    'Susanne had **never** bought red gloves **until now**.'   [falsifying]

c. **Inge** *hat* **bisher**   *nie   heute Handsuche gekauft.*
    Inge had until now never gloves bought
    '**Inge** had **never** bought red gloves **until now**.'   [neutral]

    Heute hat Susanne **wieder** *rote Handsuche gekauft und sie gleich*
    Today has Susanne again   red gloves   bought and she immediately
    angezogen
    put on
    'Today, Susanne bought red gloves **again** and put them on right away.'

The results for this contrast are particularly interesting because the offline and online data do not follow a straightforward correspondence. The acceptability rating task showed the lowest ratings for the falsifying condition, followed by the neutral-context condition, and then the supporting condition with the highest acceptability ratings. By contrast, the online data revealed a processing cost only for the neutral condition in comparison to the falsifying condition (reading times for the supporting context did not differ significantly from the other two conditions) at the trigger and at sentence level. The

authors also observed a trend (p<.08) at two segments after the trigger (*Handsuche* 'gloves'), which is when the content of the presupposition can be verified, with higher reading times for the neutral condition compared to the other two conditions.[5] The authors argue that the longer reading times in the neutral condition are due to the context search for the relevant information, thus assuming that no context search is needed for the falsifying condition. Such an assumption is questionable since it would mean that participants are not even attempting to find meaning out of the sentence. An alternative explanation is that a main difference between the neutral context and the supporting/falsifying contexts is that the neutral context makes a claim about a different individual, Inge, instead of Susanne. The change in subject referent and making a contrastive claim about a different individual may be the source of the observed cost.

Indeed, these results contrast with those found by Singh et al. (2016), who investigate common ground update when the contextual information leads to an implausible accommodation. In contrast to Tiemann et al. (2011), the authors restricted their stimuli to the English adverb 'too' as a trigger. They were specifically interested in whether there is any cost associated with presupposition-supporting contexts vis-à-vis falsifying contexts (neutral contexts were not included).

(5.3) **Supporting Context**

John will go to the **pool** this morning.

a.   Peter will go swimming **too** after he gets back from school.   [trigger]

b.   Peter will go swimming **tomorrow** after he gets back from school.   [non-trigger]

(5.4) **Falsifying Context**

John will go to the **mall** this morning.

a.   Peter will go swimming **too** after he gets back from school.   [trigger]

b.   Peter will go swimming **tomorrow** after he gets back from school.   [non-trigger]

[5]The authors only included one more word after the critical noun, so they could have missed any carry-over effects to later segments.

The authors varied the context and test sentences following a 2 x 2 design. The first factor that they manipulated was the locative prepositional phrase that appeared in the context sentence ('to the pool' in 5.3 above) such that it would either have a strong semantic relation with the action in the second sentence ('swimming') or not ('mall'). The context makes available a set of events typically associated with that particular location. For example, in the case of 'pool', words such as 'swimming' or 'tanning' would be more readily available than others like 'shopping'. The second factor that was manipulated was the presence or absence of a presuppositional trigger in the post verbal position of the test sentence. The trigger was always 'too', but the non-trigger varied to include different temporal modifiers. The authors used a self-paced reading task with an online stops-making-sense (SMS) judgment. This paradigm consists of a region-by-region moving-window display in which participants move from region to region by pressing a key in the keyboard. The main difference with the traditional self-paced reading design is that participants are also instructed to press another key when an incoming word does not make sense for them. Once that key is pressed, the trial is terminated and the next trial is presented. As a result of this design, reading times are only analyzed for those participants who continue reading during the critical windows.

The results showed that participants dropped out significantly more often for sentences preceded by a falsifying context and, within that condition, significantly more for sentences that contained a presuppositional trigger (60% in the falsifying condition with 'too' compared to 21% of participants in the falsifying adverbial condition). With respect to reading times, a significant increase was observed in the falsifying condition for sentences that included a trigger in comparison to any of the other three sentence types. This result was interpreted as a reading-time cost when processing falsifying information that makes accommodation implausible.

From this overview of self-paced reading studies, we can conclude that processing a trigger sentence preceded by a neutral context is more costly than processing the same

sentence with a non-trigger expression. If the trigger sentence is preceded by a supporting context, the online cost is attenuated in comparison to neutral contexts. The online cost of neutral contexts, however, is less than processing a semantically unacceptable sentence. Presumably, this cost of processing a trigger is the result of a context search to satisfy the presuppositional content, which is not explicitly provided by the context. Indeed, if a trigger sentence is preceded by a supporting context, no online processing differences are observed in comparison to non-trigger sentences preceded by the same context, which suggests that once the presupposed information is part of the common ground, processing a trigger sentence is not costly.

5.3   Processing Predictions

This section aims to bring together previous theoretical and experimental insights on presuppositions along with the specific requirements of the boundedness-presupposition analysis in order to make predictions regarding the expected online patterns of copula processing. As described in Chapter 4, *estar*'s presuppositional component poses specific demands on the context as it requires that the prejacent be boundedly true at the considered circumstance of evaluation. Specifically, the context should make accessible a set of alternative circumstances of evaluation that differ only with respect to the relevant parameter that is salient in the discourse context. The embedded predication or prejacent is contextually bounded if the following relations between circumstances hold: 1) falsifying circumstances are no weaker than the circumstance of evaluation on the contextually relevant parameter and 2) verifying circumstances are at least as strong as the circumstance of evaluation.[6] The boundedness presupposition analysis, in turn, predicts that *ser* remains neutral with respect to these boundedness conditions.

The additional requirements imposed by *estar* may at first sight lead to predict a cost

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[6] Remember that the strength relation is defined in terms of the 'scope' restrictions of the truth of predication (see Chapter 3 for a full description.)

in the processing of *estar* predications in comparison to *ser*. However, as observed in the offline ratings and copula choice in the fill-in-the-blank task (Chapter 4), the acceptability and choice of the copulas can be modulated when preceded by information that supports the presuppositional content of *estar*. Indeed, contextual modulation was observed for both *ser* and *estar*. The modulation was explained by the contextual requirements of *estar*, which require the boundedness conditions to be satisfied by the context; and by the implicated presupposition of *ser*, which comes about because of the division of labor between the two copulas.

The experimental data reviewed in section 5.2.2 indicates that the offline patterns in the acceptability rating task may not have a direct correspondence with the online patterns observed in a self-paced reading study. There are important differences between the two methodologies that should be taken into consideration. Acceptability ratings provide a behavioral measure that is offline, which means that they provide the output of a conscious response (a rating) that is not timed to the stimulus (the participant can take as long as needed to provide an answer). In addition, the level of engagement of the participant may influence the results since all sentences are acceptable with *ser*, and *estar* sentences are expected to increase in acceptability only with supporting contexts. Thus the design of the study requires the participant to engage with the context in order to consider the felicity of *estar* predications. By contrast, the self-paced reading paradigm is a behavioral method because it provides a conscious response as the participant can decide when to move on to the next word or segment. However, the measure of cost -the time it takes for the participant to move to the next word- is a measure of online cost as it is timed to the stimulus. This methodology serves as an entry point to investigate the online processing of the copulas.

The materials that will be used in the self-paced reading study are those used in the questionnaire and fill-in-the-blank tasks (Chapter 4). Thus it will be a 2x2 design in which the context (neutral or supporting) will be followed by a sentence with one of the copulas (*ser* or *estar*). The only difference is that the materials will include only adjectival phrases

because it is in this condition where the main differences in contextual modulation were observed. A complete description of the materials will follow in Section 5.4. Table (5.1) serves as a reminder of the main design:

Context	Test Sentence
Supporting Context: During the winter, the white sand at Nogales Beach becomes grey **Neutral Context:** Nogales beach, with its grey sand, has become a tourist attraction throughout the year.	The sand **ser/estar** grey because of the volcanic activity in the island.

Table 5.1: *Example of Contexts and Test Sentences for each Predicate Type.*

On the basis of previous experimental data and the contextual requirements of the copulas, as specified by the boundedness presupposition analysis, two types of contrast can be made, depending on whether we vary the copula (1) or the context (2):

1. **Copula type:** *ser* **vs.** *estar* **sentences:**

   Prediction 1: A main processing cost is expected for *estar* sentences via-à-vis *ser* when preceded by a **neutral context** because *estar* requires building an alternative set of circumstances of evaluation from the context such that it fulfills the requirements of the boundedness presupposition. A neutral context does not explicitly fulfill this requirement and it is expected that the extra work that is needed on behalf of the hearer will engender some additional cost. This cost is predicted to appear upon retrieval of the adjective because this is the point at which the participant knows the content of the presupposition.

   Prediction 2: If *ser* and *estar* are preceded by a context that **supports** *estar*'s presupposition, no processing costs are expected. On the basis of previous experimental data, processing presuppositional information *per se* does not

engender a cost when the presupposed information is part of the common ground between the speaker and the hearer. Table (5.1) shows examples of the materials and Table (5.2) summarizes these predictions.

Copula Type	Neutral Context	Supporting Context
estar/ser	estar > ser	no difference

Table 5.2: *Predictions with Copula Type as a Variable Factor (ser vs. estar comparison)*

2. **Context type: supporting vs. neutral context:**

Prediction 1: No processing differences are expected for *ser* regardless of context type since the analysis predicts that *ser* is neutral with respect to the boundedness presupposition.

Prediction 2: Regarding *estar*, a processing cost with neutral contexts because the hearer needs to construe a bounded context without contextual support. Table (5.3) summarizes the predictions by context type.

Context Type	Estar	Ser
neutral/supporting	neutral > supporting	no difference

Table 5.3: *Predictions with Context Type as a Variable Factor (neutral vs. supporting comparison)*

5.4 Self-Paced Reading Study

5.4.1 Materials and Design

The materials were the same as in the acceptability questionnaire and fill-in-the-blank tasks, but only adjectival predicates were included in the study because this condition was the most sensitive to contextual modulation. The sentence pairs for this condition (*context* followed by a *test sentence*) were increased to 180 and normed for acceptability with four native speakers of Iberian Spanish naive to the purposes of the experiments. The sentences were in turn adapted to two additional varieties of Spanish: Argentinian and Mexican; each of them normed by native speakers of the corresponding variety.

The new sentence pairs followed the same design as in the acceptability questionnaire and fill-in-the-blank tasks. The test sentences consisted of predicates with either *ser* or *estar* and were all in the present tense. Every context sentence was followed by a test sentence. Context sentences were of two kinds: they either made accessible a set of alternative circumstances of evaluation that are relevant for assessing the truth of the prejacent (**supporting context** [5.5a]) or they did not imply the existence of a bounded context, thus being neutral with respect to *estar*'s presupposition (**neutral context** [5.5b]). Neither *ser* nor *estar* appeared in the context sentences to avoid biasing the participant towards a particular copula use.

(5.5)

a. **Supporting context:** *Durante el invierno, la arena blanca de la playa de Nogales, en Canarias, se vuelve de color gris.*

'During the winter, the white sand at Nogales beach, in the Canary Islands, turns grey.'

b. **Neutral context:** *La playa de Nogales en Canarias, con su arena gris, se ha convertido en una gran atracción turística en cualquier época del año.*

'Nogales Beach, in the Canary Islands, with its grey sand, has become a tourist attraction throughout the year.'

Test sentence: *Tienes que verla, la arena es/está gris por la acción volcánica de la isla.*

You've got to see it, the sand **ser/estar** grey because of the volcanic activity on the island.'

In total, 45 sentences were constructed with *ser* and 45 with *estar* (each set of sentences only differed in copula type). Each test sentence was presented twice to every participant: once with a a supporting context and once with a neutral context. This set-up resulted in a 2x2 design with copula type as first factor and context type as second factor, for a total of 180 sentence pairs.

The Iberian study included, additionally, 90 filler sentences from an unrelated experiment. This resulted in a final script of 270 items (180 experimental sentences + 90 fillers). The Argentinian and Mexican studies included 144 fillers, which resulted in a final script of 374 items for these two varieties (180 experiments sentences + 144 fillers). To ensure that participants were paying attention, all sentences were followed by a comprehension question.

5.4.2 Participants

Iberian Spanish: Sixty-one speakers of Iberian Spanish (24 women) participated in the experiment. The participants were between 17-36 years old (average age: 29) and had at least a secondary education. They were born in Spain and had lived in Spain most of their lives. Particular attention was paid to ensure that participants were not bilingual native speakers of any of the other official languages in Spain (Basque, Catalan and Galician) to minimize influences from a second language.

Argentinian Spanish: Thirty-three monolingual speakers of Argentinian Spanish

(21 women) participated in the experiment. The participants were between 19-35 years old (average age: 27) and had at least a secondary education. They were all born and still lived in Buenos Aires. Participants had not lived for more than four months outside the province of Buenos Aires. The variety thus can be restricted to Rioplatense Spanish.

Mexican Spanish: Forty-seven monolingual speakers of Mexican Spanish (34 women) participated in the experiment. The participants were between 18-37 years old (average age: 28) and had at least a secondary education. The participants were either born and had lived in Mexico City or were born in and had lived in one of the surrounding states: (Hidalgo, Mexico, Morelos, Puebla or Tlaxcala. Participants had not lived for more than one year in states that did not belong to the variety of high-altiplano Mexican Spanish.[7] The restriction to this particular variety of Spanish was made on the basis of dialectal studies indicating that the variety in this area constitutes a homogeneous variety of Mexican Spanish (Lope Blanch, 1996).

5.4.3 Procedure

The experiment was programmed using E-Prime software and the presentation order of the sentence pairs was randomized for each participant. Sentences were presented word by word using the moving-window technique. In this technique, the participants first see all letters replaced by underscores. They have to press the space bar to see the first word. On the second press, the second word is displayed and the first word replaced by underscores. This process is repeated until the end of the sentence. Reading times were recorded for each displayed segment. The regions of interest were the copula, the adjective immediately following the copula, and the two following regions.

After each sentence, a yes-no comprehension question or statement about the sentence was presented to ensure that participants paid attention to the sentences and

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[7]The variety of high-altiplano Mexican Spanish includes the following states: Mexico, Morelos, Tlaxcala, Puebla, Hidalgo and Mexico City (Lope Blanch, 1996).

processed them fully. Participants had to press the right 'shift' key to answer 'yes' or the left 'shift' key to answer 'no'. Half of the questions/statements referred to the context sentence and the other half to the test sentence. In 25% of the sentences, participants did not see a question/statement, but instead were required to press 'yes' or 'no'. Overall, half of the responses had 'yes' as a correct answer and half of them 'no'. Both the responses and the response times were recorded.

Before the experiment, participants were presented with several practice items. Participants were instructed that they were going to read sentences on the screen and they had to either answer a short question about the sentence or say whether a statement about the sentence was true or false. They were also told that sometimes the only action required from them after the sentence was to press the 'yes' or 'no' keys. The experiment consisted of four sessions separated by three short breaks.

5.4.4 Results

I used R (R Core Team, 2012) and lme4 (Bates, Maechler & Bolker, 2012) to perform a multilevel analysis of the relationship between copula and context acceptability. The model included as fixed effects copula, context and the interaction between context and copula. Random effects included intercepts for subjects and items, as well as by-subject and by-item random slopes for the effect of copula and context. P-values were obtained by likelihood ratio tests of the full model with the effect in question against the model without the effect. Reading times greater than two standard deviations below or above the mean for each condition and for the four critical segments were excluded from the analysis (17% of the data). The mean percentage of response accuracy among participants was 90%.

For the Iberian data, a multilevel analysis on context and copula type showed an interaction of the two predictors two words after participants encountered the adjective ($\chi^2(1)$=10.39, p<.001). The interaction was broken down by conducting separate multilevel analyses on *ser* and *estar*, which showed that *estar* sentences were read slower

when preceded by a neutral context ($\chi^2(1)$=15.02, p=<.001), whereas no differences were observed between *ser* sentences ($\chi^2(1)$=.5, p=.47). Multilevel analyses were also ran by context type (supporting vs. neutral) in order to conduct between-copula comparisons by keeping context type constant. The data showed no differences between the copulas when preceded by supporting contexts ($\chi^2(1)$=.4, p=.52). In contrast, *estar* sentences were read slower than *ser* sentences when preceded by neutral contexts ($\chi^2(1)$=4.58, p=<.05). No other significant interactions were found at any of the other sentence segments (**COP:**$\chi^2(1)$=.66, p=.42, **ADJ:**$\chi^2(1)$=.7, p=.4, **ADJ+1:**$\chi^2(1)$=.77, p=.38).[8]
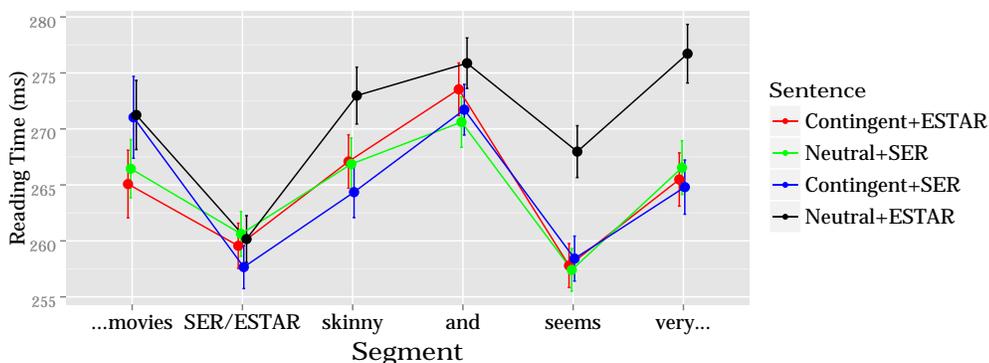
Figure 5.1: *Mean Reading Times for each Context-Copula Pair by Segment (Iberian Spanish).*

A similar pattern was found for the Argentinian dataset with the main difference being that the interaction of context and copula type appeared earlier, one word after the adjective ($\chi^2(1)$=6.95, p< .01). Separate multilevel analyses by copula type showed a trend for a slower reading of *estar* sentences when preceded by a neutral context in comparison to a supporting context ($\chi^2(1)$=3.44, p=.06). In comparison to *ser*, however, *estar* sentences were read significantly slower regardless of the context (**SUPP**: $\chi^2(1)$=3.99, p<.05; **NEUTRAL**: $\chi^2(1)$=7.39, p<.01). An interaction between context and copula type was also found at the adjective ($\chi^2(1)$=4.2, p<.05). However, this interaction disappeared when multilevel analyses were ran by copula type. No other significant interactions were found at any of the other sentence segments (**COP**: $\chi^2(1)$=2.18, p=.14; **ADJ+2**: $\chi^2(1)$=.81, p=.37).

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[8]COP=copula, ADJ=adjective, ADJ+1= one word after the adjective.
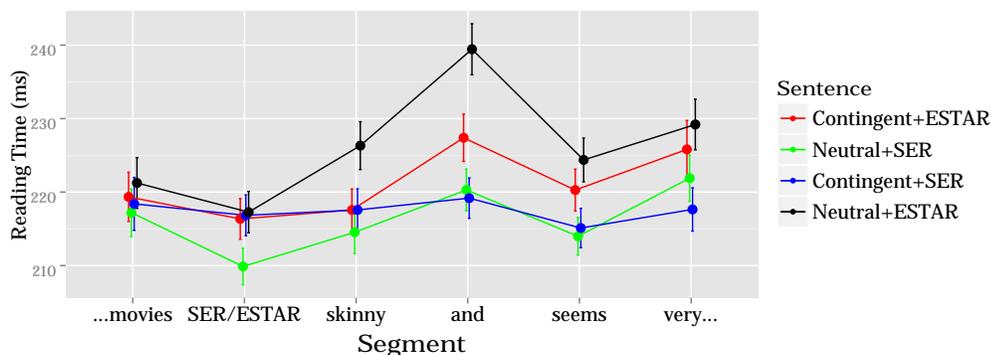
Figure 5.2: *Mean Reading Times for each Context-Copula Pair by Segment (Argentinian Spanish).*

The Mexican data did not show any significant differences across sentence pairs for any of the crucial segments (**COP:**$\chi^2(1)$=.69, p=.4, **ADJ:**$\chi^2(1)$=.52, p=.47, **ADJ+1**$\chi^2(1)$=1.61, p=.2, **ADJ+2:** $\chi^2(1)$=1.59, p=.2). Figures (5.1) and (5.3) show reading times for the Iberian and Mexican variety respectively. A summary of the results by dialect is presented in Tables (5.4) and (5.5).
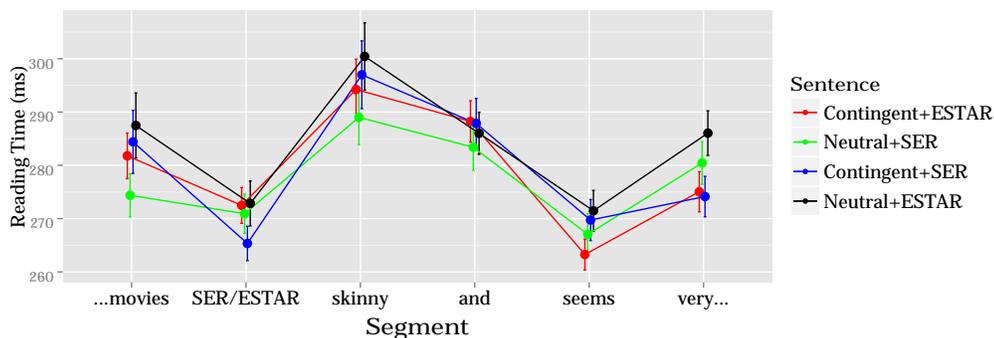
Figure 5.3: *Mean Reading Times for each Context-Copula Pair by Segment (Mexican Spanish).*

Dialect	Neutral Context	Supporting Context
Argentinian	estar > ser	estar > ser
Iberian	estar > ser	no differences
Mexican	no differences	no differences

Table 5.4: *Results for Between-Copula Comparison across Dialects*

Dialect	Estar	Ser
Argentinian	neutral > supporting	no differences
Iberian	neutral > supporting	no differences
Mexican	no differences	no differences

Table 5.5: *Results for Between-Context Comparison across Dialects*

5.4.5 Discussion

Overall, the results of the self-paced reading study align with the predictions made in Section 5.3 and in addition indicate that there is variability in copula processing across dialects. I will first review the results for the Iberian and Argentinian dialects, which are the ones that revealed processing costs for *estar* sentences. With respect to between-copula comparisons, the results for Iberian Spanish support the initial predictions: *estar* engenders a higher cost than *ser* only when preceded by neutral contexts, whereas no differences are observed between the two copulas when preceded by a supporting context. This cost was expected because of the additional requirement of *estar* that presupposes that the embedded proposition is bounded with respect to the context. No cost had been predicted for supporting-contexts. Previous work has showed that processing a presupposition in a context in which the presupposed content is part of the common ground does not engender cost.

Interestingly, the main difference with the Argentinian data is a cost for supporting contexts as well in this condition, which may indicate that Argentinian Spanish is a step behind in the diachronic process of development of the copulas (i.e., at a stage in which *estar*'s presupposition is partially context dependent) such that speakers need greater contextual support for *estar*'s presuppositional component to be satisfied.[9]

The within-copula comparisons allow for a finer-grained exploration of the

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[9]See Chapter 7 for a complete overview of the diachronic development of the copulas.

processing of *estar* sentences because in this comparison the meaning of the copulas is kept constant and the contextual information varies. The main observation is that both Argentinian and Iberian dialects show the expected pattern: a processing cost for *estar* when preceded by a neutral context. This higher cost in terms of reading times may be interpreted as the result of having to construe the relevant set of circumstances from the context to satisfy *estar*'s presupposition. In a supporting context that explicitly provides such a set, no processing cost is observed.

The results for Mexican Spanish differ from the other two varieties in that no costs are observed for either within- or between-copula comparisons. The data is in line with the results from the questionnaire and fill-in-the-blank tasks (Chapter 4) and can tell us about the processing mechanisms that underlie the offline data in Chapter 4. The main findings observed in the the questionnaire were that, despite contextual modulation across dialects, Mexican speakers showed less contextual modulation than Iberian and Argentinian speakers. In other words, Mexican speakers are more willing to accept *estar* sentences as native-like even when the sentence is preceded by a neutral context. The similarities observed between the questionnaire and the self-paced reading data suggest that variation in acceptability ratings is rooted in real-time processing differences, which in turn are dependent on the extent to which a dialect relies on contextual information to satisfy *estar*'s presupposition.

5.5 Conclusion

This Chapter focused on testing the presuppositional content of *estar* by investigating the online processing patterns of the copulas using a self-paced reading paradigm. The experimental data support the predictions of the boundedness-presupposition analysis and align with the offline experimental and sociolinguistic data. The main hypothesis tested is that the only difference between *ser* and *estar* is that *estar* imposes a presuppositional requirement on the conversational context. This higher informativity value of *estar* is operationalized in terms of a presupposition: *estar* presupposes that the proposition is bounded with respect to the context. Since this presuppositional requirement is not part of the lexical meaning of *ser*, no cost was expected for these sentences.

The predictions for *estar* sentences were based on previous experimental work on processing presupposed information that relied on a similar paradigm of contextual modulation and self-paced reading methodology. A main processing cost was observed for *estar* sentences whenever the sentence was preceded by a neutral context. These results indicate that presupposition accommodation engenders a processing cost for at least some varieties of Spanish. Presupposition accommodation has been defined as the process by which speakers make use of the conversational context to create a set of circumstances of evaluation that satisfies *estar*'s presuppositional requirements. The results complement previous experimental data and shed light on the time-course of processing presupposed information. As already found in previous studies (Tiemann et al., 2011; Schwarz and Tiemann, 2016), lexically-encoded presuppositions engender a cost in comparison to non-presuppositional triggers when preceded by a neutral context. In contrast to previous findings, however, the data also showed a cost of context update whenever *estar* sentences are preceded by a neutral context in comparison to presupposition-supporting contexts.

The self-paced reading results also shed light on the correspondence between offline

and online processing patterns. As indicated in previous studies, there is no direct correspondence between the two methodologies since lower acceptability ratings do not translate into an increase in reading times. This lack of correspondence does not seem surprising as the two methodologies measure different processes; a rating questionnaire measures an offline response, whereas a self-paced reading study measures the time-course of copula processing. From the self-paced reading data, we can conclude that the extent to which dialects rely on contextual modulation to satisfy *estar*'s presupposition does seem to correlate with processing cost. The more contextual modulation for *estar* is observed, the greater the difference in reading times. As observed for Mexican Spanish, however, lower ratings in the acceptability-rating task do not translate into an increase in reading times. In fact, no online processing differences were observed for *estar* sentences in this dialect, despite the fact that the questionnaire data did show a difference in acceptability ratings that was modulated by context.

The differences in terms of processing cost observed in the Iberian and Argentinian data and the lack thereof in the Mexican data may be understood as a result of how *estar*'s presuppositional component is satisfied. The boundedness-presupposition analysis predicts that, across dialects, *estar* encodes a presuppositional constraint on the conversational context. The difference lies in how this presuppositional component is satisfied: Argentinian and Iberian speakers seem to rely to a greater extent on the immediate conversational context, whereas Mexican speakers may satisfy the presuppositional constraint on the basis of previous experiences that support a bounded context for the prejacent. For example, consider the sentence *Las escaleras están peligrosas* 'The stairs are dangerous', which would be acceptable by native speakers of the three dialects. For Iberian and Argentinian speakers, the use of *estar* is acceptable only if they are able to identify an explicit context set that makes available a set of alternative circumstances of evaluation that satisfy the requirements of the boundedness presupposition. For example, such a sentence would be felicitous in a context in which the

speaker mentions that the stairs are not in good condition, which makes available an alternative set of circumstances of evaluation in which the stairs are in good condition –worlds in which the stairs have just been made. By contrast, Mexican speakers do not need to identify the specific relevant alternative set; upon hearing *estar*, the interlocutor knows that there must be an alternative set of circumstances which satisfies the conditions of the boundedness presupposition. If the speaker does not mention the bad condition of the stairs, s/he may infer that the stairs are dangerous because they are not in a good condition or maybe because they are wet. The Mexican speaker does not need to identify the exact relevant alternative set, it is enough to know that there is one in order for *estar*'s presupposition to be satisfied. Thus it is easier for the hearer to identify a bounded context even if the relevant set of alternatives is not easily accessible from the immediate conversational context. Iberian and Argentinian speakers need to access the immediate conversational context to identify the exact alternative set of circumstances, which translates into a processing cost for *estar* sentences preceded by a neutral context.

Finally, the data presented in this chapter have implications for the theoretical analyses that aim to characterize presuppositional content. The data support a characterization of presuppositions as requirements on the conversational context. As observed in previous experimental work, accommodation or context update does not need to be necessarily costly; a cost appears only if satisfying the presuppositional component only relies on accessing the immediate context of the conversation. If the presupposition can be satisfied by relying on prior knowledge of the interlocutors, the presupposition seems to be more easily accommodated, which in turn translates into higher acceptability ratings.

Chapter 6

Testing the Presuppositional Content of *estar*: Event-Related Potentials

6.1   Introduction

This Chapter investigates the online processing of copula sentences in Spanish by using event-related potentials (ERPs), a methodology that has a finer-grained temporal resolution: event-related potentials. This methodology measures small voltages in the electrical signal generated by the synchronous activity of neurons in response to a specific stimulus. It is an online methodology as it measures the output of an unconscious process as the sentence unfolds. ERPs will be used in this chapter to investigate how *ser* and *estar* are processed and how the predication is integrated into the larger discourse. More importantly, it will allow us to understand whether the presuppositional requirement of *estar* reveals any online differences based on the context that is provided.

6.2   The Methodology: Event-Related Potentials

Event-related potentials (ERPs) are small voltages generated in brain structures and recorded on a person's scalp by means of electrodes as s/he processes a specific stimulus. They can be recorded in response to stimuli of different nature: cognitive, motor or

sensory. They are thought to reflect the summed activity of postsynaptic potentials that is created by the correlated activity of (mostly) pyramidal neurons similarly oriented in the neocortex (Peterson et al., 1995). Their synchronous activity in response to a specific stimulus, in the order of thousands of millions of neurons, is recorded as changes in electrical potential in the EEG signal. The early waves within the first 100 ms are considered to reflect sensory processing and are therefore sensitive to the physical properties of the stimulus (Sur and Sinha, 2009). Later waves have been primarily related to cognitive processes and are therefore the the subject of study in this chapter.

In linguistic tasks, EEG waves are 'time-locked' to specific segments of interests, which means that electrical potentials are measured from the onset of presentation of the stimulus until the end of the segment. These potentials are then averaged over a number of trials, yielding the ERP, a series of positive and negative deflections. There are typical waveforms that have been traditionally associated with linguistic tasks, known as 'components'. They are are described on the basis of their polarity, timing (latency) of the onset or the peak, duration and distribution across the scalp. This section will introduce two of the most well-studied components in language processing: the N400 and the P600.

6.2.1   The N400

The N400 is described as a negative shift in the waveform that is more prominent in central parietal locations than in anterior parts of the scalp (Kutas and Hillyard, 1983). In young adults, the N400 reaches its maximum amplitude between 380-440 ms after stimulus onset. In visually presented words, the onset can be as early as 200 ms and may last for up to 300 ms. The N400 effect is modality independent as it appears with both in visual and auditory stimuli and also in signed language (see Swaab et al., 2012 for an extended overview).

Previous studies have shown that all content words elicit an N400. However, as the participant proceeds through the sentence and contextual information accumulates, the

amplitude of the N400 is reduced as it becomes easier to predict the upcoming words. Words that appear later in a sentence yield smaller N400 waves (van Petten and Kutas, 1990; Sitnikova et al., 2002). The first observation of the N400 effect was reported by Kutas and Hillyard (1980) for semantic anomalous sentences like *He spread the warm bread with socks* compared to *He spread the warm bread with butter*. Anomalous sentences elicited a negative waveform that peaked at 400 ms.

Later studies showed that the N400 is not restricted to semantic anomalies as it is also found with words that are semantically appropriate, but less expected (Kutas and Hillyard, 1984; Kutas et al., 1984). Crucially, the N400 effect has been related to manipulations of the discourse context. St. George et al. (1999) were the first to investigate the effects of discourse context on the processing of individual words. In their study, participants had to read texts of everyday tasks that did not make sense unless a disambiguating title was provided. ERPs were obtained for every word in the paragraph. The results showed that the amplitude of the N400 was reduced if participants read the disambiguating title before reading the experimental text. The N400 effect was interpreted as an indication of facilitation in the integration of the meaning of single worlds into preceding discourse.

Federmeier and Kutas (1999) conducted a further study on the effects of the N400 as a reflection of discourse context manipulations. Participants read sentences that contained a word that was strongly favored given the preceding context, in contrast to other words that were plausible, but less favored. For instance, the following sentence 'They wanted to make the hotel look more like a tropical resort. So along the driveway they planted rows of *palms/pines/tulips*' would strongly favor the word 'palms' over 'pines' or 'tulips'. The results showed a reduction of the N400 amplitude for lexical candidates that were strongly favored ('palms') by the preceding context in contrast to less favored candidates ('pines' and 'tulips').

Overall, the results presented in this section indicate that the N400 component reflects the extent to which the meaning of a word can be integrated into the overall discourse

context. The context is used to preactivate the upcoming discourse and create semantic expectations that will influence the retrieval of a word. The more expected a word is, the more reduced the amplitude of the N400 component will be.

6.2.2 The P600

The P600 is traditionally described as a slow positive shift beginning at approximately 500 ms after the onset of the stimulus and lasting for a few hundred millisecond. It peaks at approximately 600 ms, but a number of studies describe it as more of a shift without a clear peak (Swaab et al., 2012). It has been observed with both written and auditory stimuli (Hagoort and Brown, 2000). This ERP component was initially associated wtih processing anomalous and ambiguous syntactic structures (e.g., Osterhout and Holcomb, 1992, 1993; Hagoort et al., 2003; Friederici and Mecklinger, 1996; Neville et al., 1991; Osterhout and Nicol, 1999; Osterhout and Nicol, 1999). Nevertheless, the role of the P600 as being specific to processing syntactic structure has been called into question by a number of studies. For example, a number of studies have shown than the P600 is also modulated by semantic manipulations. One such study is that carried out by Kuperberg et al (2003), who compared the following types of sentences:

(6.1)

a.   For breakfast the **boys** would only eat toast and jam. [1]

b.   For breakfast the **eggs** would only eat toast and jam.

c.   For breakfast the **boys** would only bury toast and jam.

Sentence (6.1a) was used as the semantically acceptable sentence that was used as control. The other two sentences present two different anomalies. Sentence (6.1b) contains a semantic anomaly: *eggs* are inanimate and therefore cannot fill the Agent role. Sentence (6.1c) contains a pragmatic anomaly: boys can bury things, but are not expected to do so

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[1]Critical expressions to which the EEG signal is time-locked are marked in bold.

during breakfast time. As predicted by the authors, the pragmatic anomalies modulated the N400 signature in comparison to the control sentence. However, semantic anomalies led to an increase in the P600 waveform relative to the semantically control sentence. The authors interpreted this finding as a reassignment of thematic roles in a sentence (see Kuperberg et al., 2006 for an extended explanation).

From this brief overview, we can conclude that the interpretation of the P600 still deserves further research, but it seems clear that it is not a component that can be uniquely associated with syntactic processes. Indeed, these findings indicate that the interaction between semantic and syntactic information in online processing is more dynamic that it was previously thought.

6.3 Previous Experimental Work on Contextual Modulation

The study of event-related potentials has proven to be useful to study how contextual information influences the processing of unfolding discourse. As described in the previous section, the amplitude of the N400 component is sensitive to the level of predictability of a word, regardless of whether a word is anomalous or not. Manipulations of prior discourse also influence the P600 signature. This section will focus on the specific ERP components that have been associated with update of prior discourse context, which will be relevant for the discussion of the experimental data.

In one of the earliest studies, Van Berkum et al. (1999, 2003) presented participants with sentences in Dutch in which the critical word[2] was always acceptable within the local context: *Jane told his brother that he was exceptionally quick/slow*. Crucially, the sentence was presented with a context that either disfavored one of the critical worlds or was neutral

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[2]The critical word always refer to the specific segment at which the EEG signal is 'time-locked', that is the segment during which electical activity is analyzed.

and did not disfavor any of the critical words. Discourse anomalous words elicited an N400 starting a 150-200 ms. In a subsequent study, the authors presented the same sentences without a discourse context. In this case, the N400 effect disappeared. These findings indicate that the processing system does not make a distinction between local and global-discourse levels and that both levels affect the N400 amplitude. The study was conducted both with written and spoken language and the same effect was found, providing further evidence for the modality-independent nature of the N400 effect.

The N400 amplitude is also sensitive to the presence of given or new information in the discourse. Burkhardt (2006) compared three types of sentences in German that were dependent on inferential information. The sentences differed in three ways: 1) the critical DP had been introduced in the immediately preceding sentence (*given* condition); 2) the DP had not been introduced, but could be easily inferred from the previous sentence (*bridged* condition) and 3) the DP had not been introduced and the context did not provide any cues (*new* condition).

(6.2)

a.   **Context A: Bridged Condition:** Tobias visited a concert in Berlin.

b.   **Context B: Given Condition:** Tobias visited a conductor in Berlin.

c.   **Context C: New Condition:** Tobias talked to Nina.

Target Sentence: He said that the conductor was very impressive.

The results showed a reduced N400 for the *given* condition, which significantly increased in amplitude for the *new* condition. Additionally, the *new* condition showed a left posterior positivity (P600) between 600-900ms, which the author interpreted as a cost of establishing the referential dependency. By contrast, the *bridged* condition showed an attenuated N400 relative to the *new* condition (but larger in comparison to the *given* condition), which then was followed by a P600 also in the time window between 600-900 ms. These findings were interpreted as reflecting the additional cost required by

processing new DPs. The online signature for the *inferential bridge* condition indicates that expectations based on prior discourse reduce the amplitude of the N400. However, an additional cost of integrating the reference into previous discourse is observed as evidenced by the P600 effect. These findings suggest that the establishment of dependencies (N400) can be dissociated from the integration of information into the discourse context (P600).

In a subsequent study, Burkhardt (2007) further investigated the influence of context in processing unfolding discourse. Instead of manipulating the expectancy of a referent in the preceding context, the study focused on the extent to which specific information regarding the main event was provided. For instance, if the critical word was *the pistol*, the immediately preceding sentence was *the student was shot/killed/found dead*. Based on previous results, the prediction is that the three conditions would modulate the N400 amplitude to different extents. Indeed, offline data showed a three way distinction as a function of predictability. However, the results showed instead a modulation of the P600 signature, which increased in amplitude for the critical word when preceded by the context *the student was killed/found dead*, but not when the predicate was *shot*. Thus, despite the differences observed in the offline data, the results indicate that the online processing cost is the same for the three conditions when a relationship between the critical DP and prior knowledge needs to be established. The differences in P600 modulation were interpreted as reflecting discourse update to create a more specific event representation and thus as an index of parsing effort and discourse integration.

With respect to the processing of presuppositions *per se*, the literature on ERP components that can be associated to processing presupposed content is relatively scarce. Kirsten et al. (2014) compared the online signature of German sentences with either an indefinite or a definite determiner when they were preceded by two types of contexts: 1) the referent was introduced with an indefinite determiner or 2) the context included a quantifier determiner such as 'some' *einige*, 'several' *verschiedene* or 'many' *viele*.

(6.3)

a.   Tina was in the zoo and saw **some** polar bears. She observed that **the** polar bear was aggressive.

b.   Tina was in the zoo and saw **a** polar bear. She observed that the polar bear was aggressive. Infelicitous sentences yielded an N400/P600 complex in comparison to the felicitous sentence. The N400 was interpreted as reflecting the mismatch of the indefinite determiner with the context, which presupposed the existence of several bears. The P600, in turn, was interpreted as the attempt of trying to integrate the presupposition into the previous discourse, which does not satisfy the presupposition.

Finally, in a recent study by Jouralev and colleagues (2016), the authors investigated the time-course of the presupposition triggered by *again*, when preceded by contexts that either supported (*Jake had tipped a maid at the hotel once before. Today he tipped a maid at the hotel again...*) or falsified the presupposition (*Jake had never tipped a maid at the hotel before. Today he tipped a maid at the hotel again...*). The results for the falsifying condition showed an an early positivity at 300 ms (P3b component) that lasted through the time window between 450-750 ms, which is the the standard window for the P600 component. There was no modulation of the N400 signature, which was interpreted as an indication that presuppositions are rapidly integrated into the preceding context.

The authors provide two possible interpretations of the P3b/P600 effect. The data can be interpreted as a single extended P3b/P600 signature that reflects a similar effortful process of context update when a presupposition has been falsified (Brouwer et al.,2012; Donchin and Coles, 1988; Sassenhagenand Bornkessel-Schlesewsky, 2015). Alternatively, the result may indicate a biphasic P3b/P600 complex reflecting two independent cognitive processes. The P3b may reflect the mismatch with the preceding context, whereas the P600 may be a reflection of the resolution of the previously identified mismatch. The data cannot dissociate between these two alternatives.

The results from Jouralev et al.'s study contrast with those found by Kirsten et al. (2014). described above, which conducted a similar stimuli manipulation, but using a

referential word as the critical segment. The latter study crucially found an N400 modulation for quantifier context sentences followed by a definite determiner, which was interpreted as a result of identifying a mismatch with the previous context and resolving the referential ambiguity. The positivity found by Jouralev and colleagues appeared earlier and lasted for a longer period of time. The authors argue that since thier study did not require the establishment of a referential dependency, no modulation of the N400 signature was observed.

Altogether, the studies presented in this section indicate that P600 is related to integration of new information, regardless of whether it is expected or not. It has been found when integrating new or inferentially abridged information (Burkhardt 2006), but also when an event needs to be enriched (Burkhardt, 2007), in the cases of actual mismatches with the preceding context (Kirsten, 2014) and even when the content of a presupposition is falsified (Jouravlev et al., 2016). The P600 therefore can be interpreted as a 'search for meaning' ERP component. The N400, instead, appears to be more sensitive to the expectation of the critical word given the preceding context. Indeed, contextual modulation has been shown to decrease its amplitude as a function of the information presented in the previous discourse (Van Berkum et al., 1999, 2003; Burkhardt 2006; Kirsten, 2014).

6.4   Processing Predictions

The experimental study presented in the remainder of this chapter will focus only on the variety of Iberian Spanish. The restriction to this variety is done on the basis of our previous findings. Iberian Spanish is the variety that shows the larger extent of contextual modulation in the offline studies and also the one where the processing cost of *estar* appears to a larger extent in the self-paced reading data. Due to these clear differences in the offline acceptability ratings and online measurements, it is expected that any ERP

differences between the copulas will be more clearly seen in this variety.

The predictions for the processing of the copulas *ser* and *estar* are as follows. *Estar* sentences, when preceded by a neutral context, require creating a set of alternative circumstances of evaluation that satisfy the requirements of *estar*'s presupposition. This set, however, is not explicitly provided in the context and the participant needs to build it in order to make sense of the use of *estar* and to arrive at the final interpretation. Therefore, the interpretation of the new presupposed information of *estar* is expected to yield a P600 in comparison to supporting contexts. With respect to *estar* sentences preceded by a supporting context, the discourse context explicitly satisfy the presuppositional requirement of *estar*. Accordingly, no P600 is expected for these sentences since the information is already available in the context.

On the basis our previous experimental data, however, the use of *estar* with supporting contexts is still not the preferred option by Iberian speakers as indicated by the offline acceptability ratings.[3]. Thus due to the less frequent use of *estar* in these contexts, the prediction is that supporting contexts will modulate the N400 signature relative to *ser* sentences. It is possible that the N400 is also modulated to a larger extent by *estar* sentences preceded by a neutral context since the use of *estar* is less expected in these cases.

Regarding *ser* sentences, given the similar results observed in the self-paced reading data for both context types, the expectation is that *ser* sentences will behave similarly, therefore showing no differences in their online processing signatures. The rating questionnaire, however, did show some extent of contextual modulation for these sentences. Therefore, a second possibility is that *ser* sentences preceded by supporting contexts also modulate the N400 amplitude, thus reflecting that *ser* is less expected in

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[3]Indeed a number of Iberian participants mentioned after the offline and online studies that the sentences sounded native-like, but some of them had a 'Latin flavor'. When asked what that meant, some participants were not able to pinpoint a specific factor in the sentences, whereas others mentioned that *some* sentences used *estar* too much. These participants usually had a specific copula-adjective combination in mind, indicating that they were not generalizing the findings to the whole study, but instead had in mind specific examples. No participant, however, mentioned noticing the alternation between *ser* and *estar* in the experimental stimuli.

these contexts.

6.5 ERP Study

6.5.1 Participants

Twenty-nine monolingual native speakers of Iberian Spanish (13 women) participated in the experiment. Participants were between 21-40 years old (average age: 29) and had at least a secondary education. They were born in Spain and had lived in Spain most of their lives. Particular attention was paid to ensure that participants were not native speakers of any of the other official languages in Spain (Basque, Catalan and Galician) to minimize influences from a second language. All participants were right-handed, had normal or corrected-to-normal visual acuity and had no history of neurological disease or brain injury. All participants gave written informed consent in accordance with the guidelines set by the Yale University Human Subjects committee and were compensated for their participation.

6.5.2 Materials and Design

The materials were the same as those used for the self-paced reading study. The factors that were manipulated were context (supporting or neutral) and copula (*ser* or *estar*). The final stimuli consisted of 45 sets of items. Each set contained four items that corresponded to a possible combination of the factors context and copula. Examples of the four conditions are shown in Table (6.1). The final stimuli consisted of a total of 190 context-test sentence pairs.

Condition	Context	Test Sentence
Supporting + estar	**Supporting Context:** During | the | winter,| the | white | sand | at | Nogales | Beach | becomes | grey. |	The | sand | **está** | **grey** | because | of | the | volcanic | activity | in | the | island.
Supporting + ser	**Supporting Context:** During | the | winter,| the | white | sand | at | Nogales | Beach | becomes | grey. |	The | sand | **es** | **grey** | because | of | the | volcanic | activity | in | the | island.
Neutral + estar	**Neutral Context:** Nogales | beach, | with | its | grey | sand, | has | become | a | tourist | attraction | throughout | the | year.	The | sand | **está** | **grey** | because | of | the | volcanic | activity | in | the | island.
Neutral + ser	**Neutral Context:** Nogales | beach, | with | its | grey | sand, | has | become | a | tourist | attraction | throughout | the | year.	The | sand | **es** | **grey** | because | of | the | volcanic | activity | in | the | island.

Table 6.1: *Examples of the four conditions used as contrasts in the ERP Study. Critical segments of the test sentence are marked in bold (original sentences in Spanish can be found in the Appendix.) Vertical bars indicate windows of presentation in the study.*

Each experimental item was time-locked to the same two critical words, the copula (C1) and the adjective following the copula (C2), as the main segments of interest. To ensure that participants were paying attention, experimental items were followed by the same comprehension questions to those used in the self-paced reading study. The questions targeted different kinds of information presented in the experimental items, half of the time corresponding to the context sentence and the other half to the test sentence. An additional 40 items were included as fillers yielding a total of 220 sentences.

The 220 sentences were split into 10 groups. Items were presented to each participant in a unique pseudo-randomized order, such that no two items of the same condition would appear consecutively. Filler items were evenly distributed across the experiment. Participants indicated their response to the comprehension questions by pressing two adjacent keys marked 'S' and 'N' with their left hand on the keyboard.

Comprehension questions followed 75% of the sentences, the remaining 25% were followed by a statement indicating whether they had to press 'S' or 'N'.

6.5.3 Procedure

The experiment was carried out in a dimly-lit room and participants were seated comfortably in front of a computer monitory. They were instructed to read each sentence for comprehension in rapid serial presentation modality and respond to a comprehension question after each trial.

Pairs of sentences (context + test sentence) were presented visually in the center of a computer screen in white letters on a black background. Following the presentation of a fixation cross for 1000 ms, participants saw one word at a time for 500 ms with no ISI. Each trial ended with an asterisk of 1000 ms, followed by a comprehension question, shown in full on the computer screen. The question stayed on the screen until the participant responded, but no longer than 8000 ms. A fixation cross was displayed for 1000 ms between the end of the comprehension question and the beginning of the following trial. Participants were asked not to blink or move during trial presentation.

The comprehension task required participants to press one of two buttons on a keyboard, indicating whether the answer to the question was 'yes' or 'no'. 'Yes' and 'no' responses were evenly distributed across all items. Participants performed this task correctly in more than 80% of the trials.

Following electrode application, each participant performed a short practice session before the experiment was administered in ten blocks with short breaks in-between. Each block consisted of 22 trials.

6.5.4 EEG Recording

Electropysiological measures were recorded using Neuroscan Synamps2 amplifiers and a 64-channel Quik-Cap (sintered Ag/AgCl electrodes, 5% system configuration;

Oostenveld & Praamstra, 2001 Hz. All active channels were re-referenced offline to averaged mastoids. Horizontal and vertical electrooculograms were recorded with electrodes above and below the left eye and on both outer canthi to control for eye-movement artifacts. Electrode impedances were kept below 5kΩ during EEG recording.

6.5.5 Data Analysis

Before averaging, EEG data were processed for ocular artifacts, both visually inspected and using EEGLAB (Delorme and Makeig, 2004). Data were bandpass filtered with 1-80 Hz offline and a notch filter at 60Hz to exclude slow signal drifts. ERPs were time-locked to the onset of the critical words (200 ms pre- to 999 ms post-stimulus), baseline corrected using the pre-stimulus interval, and averaged per condition and participant.

The electrodes were grouped by topographical region, which entered the analysis as additional factor with nine levels: left anterior (AF3, F7, F5, F3), middle anterior (FP1, FPz, Fp2, F1, Fz, F2), right anterior (AF4, F4, F6, F8), left central (FT7, FC5, FC3, T7, C5, C3, TP7, CP5, CP3), middle central (FC1, FCz, FC2, C1, Cz, C2, CP1, CPz, CP2), right central (FC4, FC6, FC8, C4, C6, C8, CP4, CP6, TP8), left posterior (P7, P5, P3, PO7, PO5), middle posterior (P1, Pz, P2, PO3, POz, PO4, O1, Oz, O2, CB1, CB2), right posterior (P4, P6, PO6, PPO8). A linear mixed model analysis was performed in R (R Core Team, 2014) with the factors CONTEXT (Supporting vs. Neutral), COPULA (Estar vs. Ser), REGION (9 levels) and all interactions and random effect for subjects. The analysis was carried out on the mean amplitude value per condition in time windows commonly used in the literature and adjusted based on visual inspection: 0-300 ms, 300-500 ms, 500-700 ms, 550-750 ms, 600-850 ms and 900-999 ms post onset (Kutas and Federmeier, 2011; Schumacher, 2011, 2013a, 2013a-b). Statistical analyses were performed on a time interval from the onset of the critical expression till 500 ms thereafter. The analysis of the second

critical segment, the adjective, included an additional 500 ms to test for potential late ERP effects. All analyses were carried out hierarchically so that only significant interactions (p< 0.05) were resolved.

6.5.6   Results

6.5.6.1   Critical Segment 1: Copula

Figure 6.1 shows the grand-average ERPs for the four conditions in the study relative to the onset of the copula. The figure reveals an earlier and more pronounced positive deflection for *estar* sentences over *ser* sentences between 150-350 ms. This was confirmed by the statistical analysis which revealed a main effect of COPULA in the time window between 150-350 ms (χ^2(1)=38.8982, p<.001).

The amplitude of this positive deflection increases for the [SUPP+ESTAR] condition between 300-450 ms. The results of the linear mixed model showed an interaction of CONTEXT x COPULA in this time window (χ^2(1)=9.2778, p=0.002). Separate multilevel analyses by context type showed a main effect of context for *estar* sentences (χ^2(1)=8.7529, p=0.003). The main effect of copula remained only for the supporting context in this segment as revealed by a separate analysis by copula type (χ^2(1)=27.3731, p<.001). Additional tests in the window between 300-450 ms registered no significant effects (p>.05).
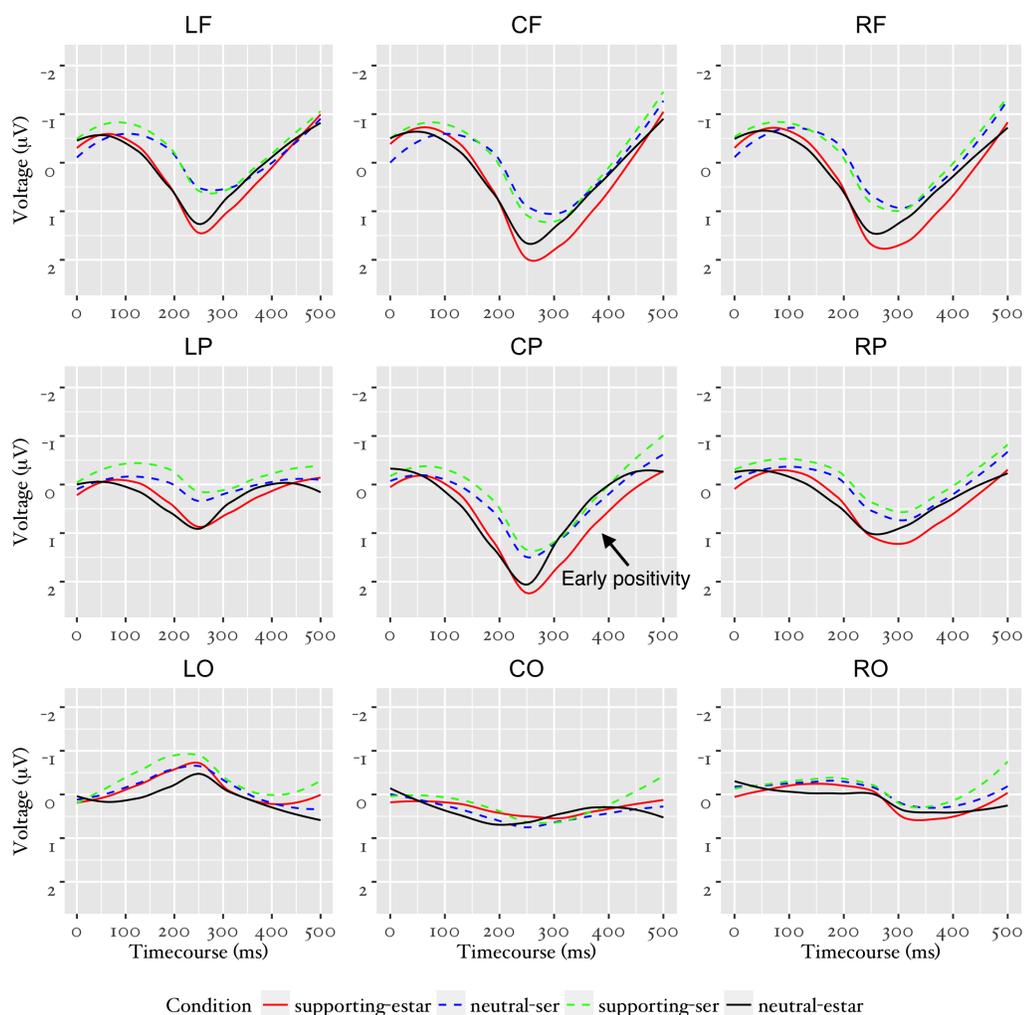
Figure 6.1: *Grand average ERPs time-locked to the onset of the copula at topographical regions: LF=left frontal, CF=central frontal, RF = right frontal, LP = left parietal, CP = central parietal, RP = right parietal, LO = left occipital, CO = central occipital, RO = right occipital. Dashed lines represent estar conditions, solid lines represent ser conditions. The arrows point to the areas where the significant main effects were found. Negativity is plotted upwards.*

6.5.6.2 Critical Segment 2: Adjective

The grand-average ERPs relative to the onset of the adjective are depicted in Figure 6.2. ERPs for a total of 1000 ms to test for potential late ERP effects are shown. The figure reveals a more pronounced negative deflection that peaks at 150 ms for *ser* sentences over *estar* sentences. This difference was confirmed by a linear mixed model analysis that showed a main effect fo COPULA in the time window 0-300 ms ($\chi^2(1)$=144.6437, p=.03).

In addition, the [SUPP+ESTAR] condition shows a negative deflection between 250-

450 ms, peaking at 400 ms. A statistical analysis in this time window shows an interaction CONTEXT x COPULA (χ^2(1)=6.2651, p=.012). A breakdown of the interaction indicates a main effect of context for *estar* sentences (χ^2(1)=9.1256, p=.003). An enlarged figure of this effect for centro parietal electrodes is showed in Figure (6.3).

Finally, figure 6.2 additionally reveals a late positivity for [NEUTRAL+ESTAR] sentences between 650-850 ms. Statistical analyses in this time window showed an interaction of CONTEXT x COPULA (χ^2(1)=3.6914, p=.054). Separate analyses by copula type showed a main effect of CONTEXT for *estar* sentences (χ^2(1)=5.9992, p=.006). A posthoc test of the main effect of LOCATION (χ^2(8)=35.9317, p<.014) with Tukey correction for multiple comparisons indicated that the effect of context was found primarily in central and left fronto-parietal areas in comparison to left occipital and right fronto-parietal areas (p<.05).
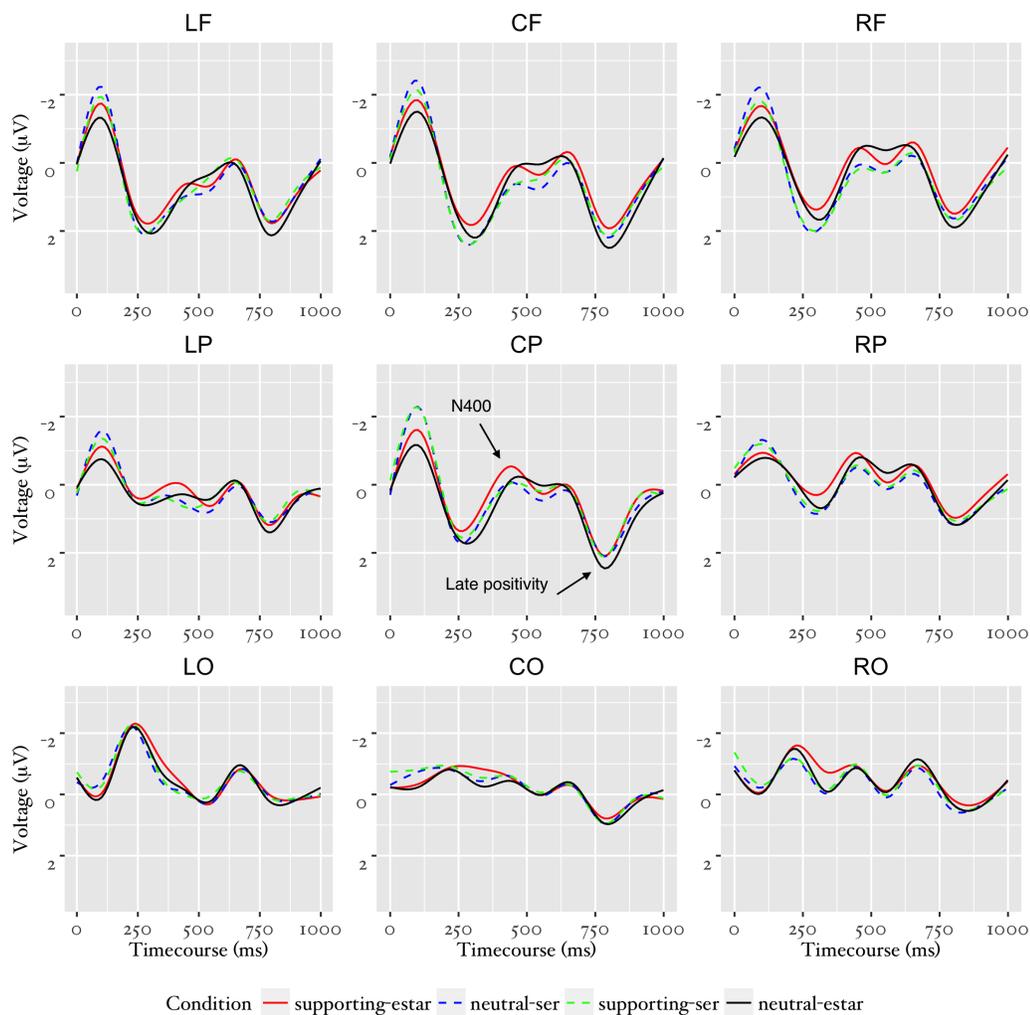
Figure 6.2: *Grand average ERPs time-locked to the onset of the adjective at topographical regions: LF=left frontal, CF=central frontal, RF = right frontal, LP = left parietal, CP = central parietal, RP = right parietal, LO = left occipital, CO = central occipital, RO = right occipital. Dashed lines represent estar conditions, solid lines represent ser conditions. The arrows point to the areas where the significant main effects were found. Negativity is plotted upwards.*
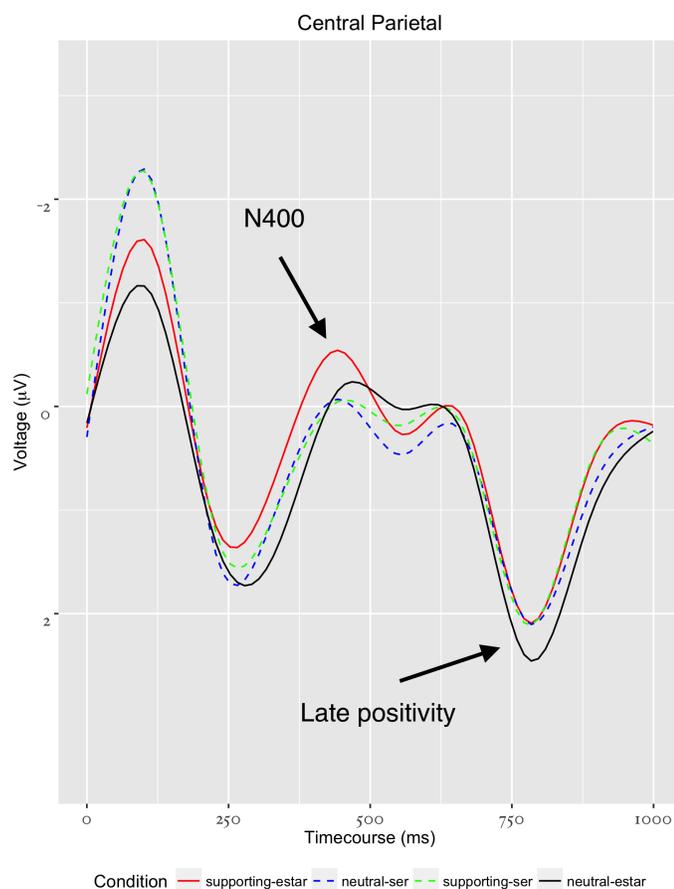
Figure 6.3: *Grand average ERPs time-locked to the onset of the adjective at central parietal regions. Dashed lines represent estar conditions, solid lines represent ser conditions. The arrows point to the areas where the significant main effects were found. Negativity is plotted upwards.*

6.5.7 Discussion

I will first discuss the results observed for *estar* sentences. As a reminder, the offline acceptability ratings (Chapter 4) showed that Iberian speakers are sensitive to the contextual modulation of *estar* predications. Ratings revealed a clear preference for *estar* when the predicate is preceded by supporting contexts and a preference for *ser* when the predicate is preceded by a neutral context. In the self-paced reading data (Chapter 5), only *estar* sentences preceded by a neutral context showed a processing cost. This indicates that the presuppositional requirement of *estar* can be satisfied relatively fast if the required information is explicitly provided in the context.

The results of the ERP study showed two different patterns for *estar* sentences as a function of contextual modulation. *Estar* sentences preceded by a neutral context yielded a late positivity starting at 600 ms and peaking at approximately 800 ms. This positivity can be interpreted as the reflection of contextual update to satisfy the requirements of *estar*. In other words, it can be interpreted as a 'search for an interpretation'. These results are in line with previous work showing a P600 when new information needs to be rapidly integrated in the context (Burkhardt, 2006, 2008, Kirsten, 2014, Jouravlev et al, 2016).

Presupposition-supporting contexts preceding *estar* sentences modulated the N400 signature, which was found to be more prominent in central parietal locations and reached its maximum amplitude between 380-450 ms. This modulation is in line with the traditional characterization of the N400 effect. This result was expected given that *estar* is not the only acceptable copula and, often times, as shown in the offline data, is not the most preferred copula for Iberian speakers.[4] No P600 was expected in this case since no context update is needed: the information needed to satisfy *estar*'s presuppositional requirement is explicitly provided in the context.

Finally, no modulation of the N400 was observed for *estar* sentences preceded by a neutral context, although such a finding had been considered a possibility in our predictions. An explanation for this result is that the neutral contexts are not sufficiently constraining, thus not modulating the N400 signature. The results are in line with those found by Burkhardt (2007) with contexts that either explicitly provided cues as to the enrichment of the event interpretation (the verb *shot* was mentioned preceding the word *the pistol*) or were neutral with respect to such an enrichment (*dead/killed*). In such cases, the author found no modulation of the N400 component.

With respect to *ser* sentences, as predicted, no differences were observed in their online processing signatures. These findings are consistent with those found in the self-paced reading study, in which no processing differences were observed. Due to the

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[4]Note also that the predicates are expected to show a preference for *ser* when presented in isolation, that is, without contextual modulation.

observed contextual modulation in the rating questionnaire, a possibility was that *ser* sentences modulated the N400 signature. That was not the case, indicating that *ser* sentences are not strongly disfavored when preceded by supporting contexts.

6.6   Conclusion

This chapter aimed at obtaining a better understanding of the online processing signature of copula predicates in native speakers of Iberian Spanish. Offline, both *ser* and *estar* show similar contextual modulation. Online, only *estar* preceded by a neutral contexts shows a processing cost. The findings of the ERP study indicate that this cost is the result of using the contextual information to satisfy *estar*'s presuppositional requirements. This becomes an effortful process since *estar*'s presupposition is not explicitly satisfied in the immediate preceding discourse. *Estar* sentences preceded by a supporting context, despite showing no online processing cost, do show an online signature that differs from *ser* sentences. Specifically, these sentences yield an increase in the N400 amplitude, which indicates that *estar*, despite being acceptable in a supporting context, is still not the most expected or constrained option. With respect to *ser* sentences, no differences were observed with respect to their underlying ERP components, which supports the neutrality of *ser* in Iberian Spanish and is consistent with the self-paced reading data.

Chapter 7

Synchronic Copula Variation as a Manifestation of the Diachronic Development

7.1 Introduction

The aim of this chapter is to show how an understanding of the diachronic changes in the distributional patterns of the copulas over time can shed light on their meaning differences in Modern Spanish. These distributional patterns are not specific to the Spanish copulas, rather, systematic patterns can be found across languages. The first part of the Chapter (Sections 7.2-7.3) will consider the possibilities of variation in the distributional patterns of copular systems across languages, i.e. systems in which there is a morphosyntactic differentiation in the realization of the copula within the set of copular clauses. These copula systems present a challenge to the often made assumption that copular expressions are semantically empty. Some languages, like Hebrew, show predicate dependent variation between a null and an overt copula. Other languages, like Spanish or African American English (AAE), have copulas that show distinct semantic and discourse contributions. These multiple-copula languages systematically differ from other languages that have a single overt copula form across the board.

The second part of the chapter (Sections 7.4-7.6) will present an overview of how

the distributional patterns of the Spanish copulas have changed over time. This section will serve as a case study to investigate how the synchronic variation in copula use may relate to their diachronic development. An important part in establishing this connection will be to characterize the role of contextual conditioning in semantic variation and change and particularly its contribution to copula variation in Spanish. A main conclusion that is naturally drawn from this investigation is that synchronic variation in copula use in Spanish may be understood as a manifestation of the diachronic development of the copulas. Understanding synchronic copula variation within the larger diachronic development thus provides an entry point to investigate the variation in the distributional patterns of copula systems that are disconnected across space and time.

7.2   Synchronic Variation in Copula Use across Languages

An assumption that is often made in the literature is that copula expressions are semantically empty (e.g., Bach, 1968; Lyons, 1969; Partee 1986, 1989). Evidence for this claim comes primarily from languages with a single overt copula, like English, which result in non-varying copular clauses (7.1). Languages that show competition between two or more copulas present a challenge to this assumption. These languages usually pose distributional restrictions on each copula and associate distinct semantic interpretations with distinct copulas.

(7.1) John **is** in the room/wounded/unhappy/intelligent/a war veteran/an architect.

In Hebrew, for example, the alternation of the pronominal copulas *hu/hi* and *ze/zot* has been associated with a semantic difference: *hu/hi* express identity between two expressions (equative structure), whereas *ze/zot* express predication, namely set membership. In the example in (7.2a), for example, Heller (2002) argues that the predication with *hu* is interpreted as meaning that Dan himself was helpful to the society, whereas *ze* means that Dan's job was helpful to the society. There is also

predicate-dependent variation in that the pronominal copula *ze* frequently co-occurs with

NPs, but not with APs, as shown in (7.2b-c).

(7.2)

a.   *ma   se-Dan   haya **hu/ze**   mo'il   la-xevra*
     what that-Dan was   hu.MSC/ze.MSC helpful for-the-society
     'What Dan was **was** helpful to society.'

[Hebrew; Heller 2002:248]

b.   *dani **hu/*ze**   gavoha*
     Danni huMSC/ ze.MSC tall
     'Dani **is** tall. '

c.   *dani **hu/ze**   baxur gavoha*
     Danni huMSC/ ze.MSC guy   tall
     'Dani **is** a tall guy.'

[Hebrew; Greenberg 1998:163-64]

Other copula systems associate distinct semantic and/or discourse contributions with each copula. Specifically, a number of copula systems have been associated with stage- and individual-level readings (Carlson, 1977). Bochnak et al. (2011) notes that in Washo, a linguistic isolate of the Lake Tahoe region in California and Nevada, the absence of the k- prefix copula is usually an indication of the episodic nature of the predicate and it is used to describe a stage-level property. By contrast, k-marked copulas are a reflex of the individual-level nature of the predication. This explains why only k-marked copulas are allowed in (7.3a) with the PP 'from Reno', which is a time-stable property of Tim; but they are not grammatical in (7.3b) with the predicate 'in Reno', which is a stage-level property. This distinction also explains the two different interpretations of the copulas with *duŋ* 'like'- predicates in (7.4). In (7.4a), the predication describes something that the boy is doing at utterance time that makes him look like Obama. The authors describe this event as 'episodic' is nature because it describes an accidental or transitory property and therefore k-marked copulas are not allowed. However, if the predication is a physical description that is expected to hold permanently of the boy, then k-marked copulas are acceptable, which is

the case in (7.4b).

(7.3)

a. *tìm   rínuwšilew* **k'éʔi / *ʔéʔi**
    Tim   Reno-from   K-- 3.SBJ-COP-IPF
    'Tim is from Reno. '

b. *tìm   rínuya*   ***k'éʔi / ʔéʔi**
    Tim   Reno-LOC   3.SBJ-COP-IPFV
    'Tim is in Reno. '

[Washo; Bochnak et al, 2011:5]

(7.4)

a. *me:hu obamaduŋ*   **k'éʔi**
    boy   Obama-like 3.SBJ-COP-IPFV
    'The boy **is** (acting) like Obama.'

b. *me:hu obamaduŋ   te-ʔ*   **ʔéʔi**
    boy   Obama-like AG.NMLZ 3.SBJ-COP-IPFV
    'The boy **is like** Obama (in physical appearance).'

[Washo; Bochnak et al, 2011:6]

In Scottish Gaelic, Ramchand (1996) argues that the copula *is* signals an individual-level predication, while the non-copular form *tha* is neutral between a stage-level and na individual-level reading. As such, *tha* can have a typical stage-level reading meaning that Calum is being careful about something right now; but it can also be interpreted as a habitual claim, which patterns more like an individual-level reading. These two readings of *that* are accounted for with the existence of a generic operator. In the case of the stage-level reading, the operator quantifies over an individual variable. The habitual claim is obtained by generalizing from situations provided by the contextual information available to the speaker:

(7.5)

a. **Is**   *faicilleach Calum*
    COP-PRES careful   Calum

'Calum **is** a careful person by nature. ' [individual-level]

b. **Tha** *Calum faicilleach*
be-PRES Calum careful
'Calum **is** being careful/is usually careful.' [stage-level]
'Calum **is** usually careful.' [habitual claim]

[Scottish Gaelic; Ramchand 1996: 173]

A similar semantic distinction is found in African American English (AAE) for two different interpretations of the copula 'be', namely auxiliary 'be' and aspectual 'be'. Auxiliary 'be' is used in the progressive form (7.6a) or to describe typical individual-level predications (7.7a). This simple tense copula contrast with aspectual 'be', which is associated with habitual claims (7.6b) and (7.7b).

(7.6)

a. He $\emptyset^1$ reading too loud.

'He **is** reading too loud.'

b. He **be** reading too loud.

'He is usually reading too loud.'

'*He **is** reading too loudly (now).'

(7.7)

a. Richard $\emptyset$ nice.

'Richard **is** a nice person.'

b. Richard **be** nice.

'Richard **is** occasionally nice.'

[AAE; adapted from Green 2000:16]

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[1]The copula is overt in specific environments. For example, it obligatorily occurs with the first person singular, in emphatic constructions with a pitch accent and in the past tense.

Aspectual 'be' copulas have been traditionally analyzed as having a habitual reading and cannot be interpreted as progressive (7.6).[2] The auxiliary copula in (7.7a) describes a personality trait of Richard. In contrast, the aspectual copula in (7.7b) indicates that Richard occasionally behaves nicely. Green (2000) characterizes aspectual 'be' with a habitual operator that binds variables ranging over eventualities (Green 2000). She follows Ramchand's (1996) analysis of Scottish English and assumes that all predicates, including individual-level predicates (ILPs), have a Davidsonian event argument. In combination with individual level-predicates such as (7.7), aspectual 'be' forces an event reading on the predicate, which is possible due to the assumed event argument.

The aspectual 'be' copula also co-occurs with locative predicates that describe stable properties of an entity. For example, the predication in (7.8a) describes the permanent location of Sam's wholesale stores. Green (2000) argues that, in this case, the predication is based on several encounters of Sam's stores at particular times, thus drawing the generalization that Sam's stores are always built outside the city limits. Aspectual 'be' forces an iterative reading of the event along a spatial dimension. In this context, the iterative meaning can only lead to the interpretation that there are Sam's stores located in the outskirts of the city. This reading is clear when additional contextual information regarding the individual episodes of encountering Sam's stores is explicitly provided in the predication. For example, when a *when*-clause restricts the quantification over situations involving the occurrence of Sam's stores at different locations (7.8b).

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[2]See Harris (2016) for an alternative explanation.

(7.8)

a.   Sam's wholesale stores **be** on the outskirts of the town.

'It is usually/always the case that Sam's wholesale stores are on the outskirts of the town.'

[AAE; Green 2000:21]

b.   Sam's wholesale stores **be** on the outskirts of town *(when they are/∅) in Louisiana*, but they **be** in the city limits *(when they are/∅) in Texas*.

[AAE; Green 2000:23]

In addition to these observations, the aspectual 'be' copula in AAE requires that the predication be instantiated in the world. For example, in (7.9) aspectual 'be' cannot be used to refer to the capacity of the printer to print a hundred pages a minute, there must have been at least one event of printing a hundred pages a minute to be interpreted as habitual. Harris (2016) adds that the use of 'be' in (7.10) is not possible in a context in which John has been appointed choir director, but has not had the opportunity to lead choir practice because he has been sick. She notes that there must have been at least one occasion of John leading choir practice for aspectual 'be' copula to be licensed. To capture this interpretation of 'be', Harris proposes an evidential-epistemic based approach that analyzes 'be' as having an evidential requirement. Thus a felicitous condition on aspectual 'be' is that the speaker has perceptual access to an eventuality instantiating P. The habitual meaning of 'be' is formally derived in this analysis through the modal assertion of the copula.

(7.9) The printer **be** printing a hundred pages a minute.

'The printer usually prints a hundred pages a minute.'   (actual printing activity)

'*The printer has the capacity to print a hundred pages per minute.'   (general property of the printer)

[AAE; Green 2000:4]

(7.10) John **be** the choir director.

[AAE; Harris 2016:189, adapted from Green 2000:19]

This brief overview of copula systems across four languages (Hebrew, Washo, Scottish Gaelic and AAE) serves as evidence against the assumption that copulas are semantically empty. In addition, it illustrates some observations that seem to be common across languages. The distinction between stage-level and individual-level predications, for example, has been argued to account for the differences observed between the copulas in all four languages. The copulas are also usually associated with habitual interpretations or the requirement that the predication be instantiated in the world, which is the case of Scottish Gaelic and AAE. In AAE, the requirement of aspectual *be* that the predicate be instantiated in the world leads Harris (2016) to attribute an evidential meaning to this copula. Aspectual *be* thus seems to indicate that the speaker has some evidence that the prejacent obtains in the world of evaluation. Finally, contextual conditioning is usually key in licensing copula uses with individual-level predicates that seem to be 'coerced' into stage-level.[3] These different factors that play a role in copula systems across languages have also been associated with *ser* and *estar* in Spanish.[4] The following examples illustrate each of these observations for the Spanish copulas:

(7.11) **Stage-level and individual-level distinction:**

a.   *Maria* **está**   *cansada*
        Maria   estar.PRES.3SING   tired
        'Maria **is** tired.'

b.   *Maria* **es**   *rubia*
        Maria   ser.PRES.3SING   blond
        'Maria **is** blond.'

b.   *Maria* **está**   *rubia*
        Maria   estar.PRES.3SING   blond
        'Maria **looks** blond/ **is** blond (today).'

[Spanish; Maienborn 2005]

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[3]The stage-/individual-level distinction has been applied to other languages such as Brythonica Celtic (Hendrick, 1994), Bengali (Finch, 2001), Standard Arabic, Maltese, Russian, Jamaican Creole, Finnish and Hungarian (Dalmi, 2016) and to Bantu languages (Jerro, 2015).

[4]A detailed description of these factors can be found in Chapter 3.

(7.12) **Evidential meaning of** *estar*:

a. *El   pastel* **está**   *bueno/malo.*
    The cake   estar.PRES.3SING good/bad.
    'The cake **tastes** good/bad.'

b. *Él jamón serrano* **estaba**   *delicioso.*
    the ham   serrano estar.PAST.3SING delicious
    'The serrano ham **was** delicious'.

c. *La   fiesta* **estuvo**   *muy   divertida.*
    The party   estar.PAST.3SING very fun
    'The party **was** a lot of fun'.

<div align="right">[Gumiel-Molina et al., 2015:39, 40]</div>

(7.13) **Coercion of individual-level predicates:**

a. **Context:** Luisa has been answering all questions correctly in class today, something quite

    unusual since she is always very quiet:

    ¡Luisa **es/está**   *muy   inteligente!*
    Luisa   ser/estar.PRES.3SING very intelligent
    'Luisa **is (behaving)** very intelligent(ly)'

b. **Context:** Pedro is wearing a bowler and walking with a cane is his cane. I say to my

    friend:

    ¡Pedro **es/está**   *muy   británico hoy!*
    Pedrol ser/estar.PRES.3SING very British   today
    'Pedro **is (behaving)** very British today!'

<div align="right">[Adapted from Escandell-Vidal and Leonetti, 2002]</div>

(7.14) **Habitual meaning of** *estar*:

a. *Elena* **está**   *simpática*
    Elena   estar.PRES.3SING friendly
    'Maria **is** (now/usually) friendly.'

b. *Elena* **es**   *simpática*
    Elena   ser.PRES.3SING   friendly
    'Maria **is** friendly (by nature).'

The examples in (7.11) illustrate that *estar* typically appears with stage-level predicates like *cansada* 'tired'. However, the copula may also co-occur with individual-level predications like *rubia* 'blond', thus giving rise to a temporal interpretation of the predication in which Maria looks blond after dyeing her hair. *Estar* usually appears with predicates that require a first time sensorial experience (7.12), which has led some authors to argue that *estar* is the preferred copula to describe predications that are based on immediate evidence (e.g., Maienborn, 2005; Roby, 2009). A coercion mechanism has also been attributed to *estar* in combination with individual-level predications (7.13). Finally, the habitual reading of *estar* is possible in combination with adjectival predicates, as the example in (7.14) shows.

In the next section, I will explore the connection between these observations and the development of the distributional patterns of the copulas in Spanish over time. As will be seen, an understanding of the development of the Spanish copula system can cast light upon the variation observed in the distributional patterns of the copulas in Modern Spanish. Indeed, the variation observed in Modern Spanish has been present in the Spanish copula system over time.

7.3 Synchronic Variation as a Manifestation of the Diachronic Development

This section shifts the focus to the systematic changes in the distributional patterns of the Spanish copulas over time as an entry point to understand their meaning differences. This investigation rests on the observation that expressions across languages seem to follow systematic patterns of development from innovation to generalization (for

an overview of these steps see Deo, 2014, 2015). Innovated forms are usually recruited from similar lexical domains across languages and evolve in systematic way despite being disconnected in space and time. Examples of cross-linguistic patterns of systematic diachronic development are the generalization of progressive markers to markers of imperfective aspect (Comrie 1976, Bybee, 1994), the generalization of resultative markers to markers of perfect aspect and past tense (Dahl, 1985, 2000; Bybee 1994) or the generalization of expressions encoding location to expressions encoding alienable and inalienable possession (Clark, 1978; Aristar, 1996; Heine, 1997; Stassen, 2009). The existence of these regularities indicates that natural languages harness similar conceptual structures.[5] The study of these grammaticalization paths may therefore shed light onto the processing mechanisms that package elements of conceptual structure into lexical items.

At least in some substages of a grammaticalization path, synchronic variation between diachronically competing variants is conditioned by (non-linguistic) contextual factors. Synchronic variation over long periods of time is characterized by an optional use of innovated variants in licensing contexts. In this section I will argue, following previous work on diachronic semantics (Traugott, 1999; Traugott and Dasher, 2002; Eckardt, 2006; Deo 2014, 2015), that the role of context in pushing towards or against certain interpretations can be precisely characterized. This finding has predictive value in that it allows us to determine future steps in a grammaticalization path. One of the main implications of this investigation is that any theory that aims to explain the synchronic state of a system will necessarily have implications for the diachronic transitions into and out of that state and how meaning encoded in lexical items changes over time.

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[5]The term 'conceptual structure' is used here in the sense of Jackendoff (1997), Culicover and Jackendoff (2005) and Jackendoff (2015) to refer to 'the level of representation in which the meanings of sentences are encoded' (Jackendoff, 2015:9). Conceptual structure encodes both linguistic and nonlinguistic thought and it is considered to be outside the language faculty per se as it is also found in babies and apes, but it is deeply enriched in humans through the use of language (Jackendoff 1983, 2002, 2012). It is this structured level of meaning that languages feed on and package in different ways via lexical items. Traugott and Dasher (2002) use this notion to investigate semantic change and describe it as the space where abstract structures are stored. These structures are relatively stable and consistent across languages and not necessarily linguistic in nature, such as the notions of MOTION, LOCATION or CONDITION (Traugott and Dasher, 2002:7). For an overview of major features of Conceptual Structure, see Jackendoff 2002, chapters 11-12.

The next sections will use as a case study the distributional patterns of *ser/estar*. They will serve to illustrate how an understanding of the diachronic development of the meaning of expressions can shed light on their synchronic differences. Section (7.4) provides a characterization of the observed systematic changes over time. Specifically, it addresses the changes in the distributional patterns of the copulas such that a 'path' may exist between them. Sections (7.5-7.6) investigate the role of the discourse context in pushing changes in a particular direction. Of relevance for this section is the role of the context in the acceptability of the copulas across dialects and particularly in the categoricalization and generalization of innovated uses of *estar*.

7.4 The Diachronic Distributional Patterns of the Spanish Copulas

An investigation into the changes in the lexicon of a language over time may reveal the possibilities of 'packaging' conceptual structure into lexical items. Indeed, research on semantic change points to a core of shared conceptual structures that natural languages harness. Deo (2014, 2015, 2016) argues that not all possibilities of lexical meaning are part of the inventory of a given language at any particular stage. However, over time, the inventory of lexical meanings will change. She identifies three logical possible changes in the systematic development of a language:

1. **Recruitment.** At this stage, a lexical expression in the lexicon of the language gets harnessed to express a new semantic contrast. The innovated expression X contrasts with an existing category Y in the language. The new expression communicates a more specific meaning in that the meaning is usually considered a subset of that expressed by Y, a more general expression. An illustration of this stage is the innovation of the periphrastic progressive in Middle English or the innovation of the *be going to* prospective aspect marker in Early Modern English.

2. **Categoricalization.** This involves the obligatory use of the innovated expression X to communicate the specific semantic contrast in certain contexts that originally required the existing expression Y. For example, the English progressive became obligatory for expressing events-in-progress in the 19th century. Similarly, the Spanish progressive is gradually becoming more and more obligatory for conveying the event-in-progress meaning.

3. **Generalization.** The contrasts expressed by the innovated expression X undergoes a gradual blurring overtime. This ultimately leads to the generalization of X to all contexts associated with Y. Examples of this step are the realization of the progressive marking in Old Gujarati into imperfective aspect in Modern Gujarati and the generalization of Romance perfect markers to indicate perfective aspect and past tense.

These paths of change can be identified in the development of the copulas *ser* and *estar* from Late Latin to Modern Spanish.[6]The main observation is that *estar* has been expanding its uses from the locative meaning in Late Latin to include a number of uses that were initially only possible with *ser* (Vaño-Cerdá, 1982; Herrero, 2008; Batllori et al., 2009; Batllori and Roca, 2012; Sánchez Marco, 2012, among others). In Latin, *stare* was used to express physical position and it is usually translated as 'stand, stand still, remain standing, stand up stiffly' (Batllori and Roca, 2012:79). The following examples illustrate this use:

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[6]Late Latin refers to the Latin language found in literary texts between the 6-8th centuries. After this stage, Latin varieties begin to differentiate from each other, which will later lead to the diversity of Romance languages. It should be noted that the source of Castilian was not Classical Latin, i.e. the variety of Latin used in texts, but rather a variety of Latin spoken in Castile. There are not texts that reflect this variety of Latin and therefore the data presented here is an approximation of the copula uses that are expected to be in place in spoken Latin. Despite being an approximation, it will suffice to present the basis of copular uses that will later develop in Castilian or Old Spanish. This variety of Latin will be referred hereafter as 'Latin'.

(7.15)

a. **Sto** *ad ianuam.*

'I **am** in front of the door.'

b. *Petra autem quadrangulis, quae* **stabat** *in medio praeturio...*

'The square pillar that **was** in the middle of the praeturio.'

The verb *esse* in Latin is often translated as 'be, exist, be there' and it is used in combination with locative predicates (7.17a), but it also appears with individual-level (7.17b) and stage-level predicates (7.17c), and with existential sentences (7.17d)[7].[8].

(7.17)

a. *Roma in Italia* **est**.

'Rome **is** in Italy.' [Locative 'to be located']

b. *Ueri amici fideles* **sunt**.

'Real friends **are** faithful.' [Individual-level]

c. *Bene* **est**.

'He **is** well.' [Stage-level]

d. **Erant** *omnino itinera duo.*

'There **were** only two tracks.' [Existential]

[Batllori and Roca, 2012:80]

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[7]The verb *habere* 'to have, to hold, to carry, to wear, to possess, to own, to keep' is already present in Late Latin in existential sentences, followed by a noun phrase with accusative case, although the use is very limited:

(7.16) **Habet** in biblioteca Ulpia librum elephantinum.
'**There is** in Ulpia library a book made of ivory.' [*Tacitus*, 8,I]
[Hernández-Díaz, 2006:1127]

[8]Unless otherwise explicitly indicated, examples from Batllori and Roca (2012) do not appear with reference to a cited work. I take the unreferenced examples to be constructed by the authors.

In addition to these uses, *esse* was used as auxiliary of the *perfectum* to express both resultative and non-resultative passives (7.18). It was also used in the progressive form (7.19), which in Latin could be formed in two ways, in combination with the present participle (7.19a) or with the ablative gerund (7.19b).

(7.18)

a.   *amatus sum*   [perfect indicative]

b.   *amatus eram*   [past perfect indicative]

c.   *amatus ero*   [future indicative]

d.   *amatus sim*   [perfect subjunctive]

e.   *amatus essem*   [past perfect subjunctive]

[Batllori and Roca, 2012:80]

(7.19)

a.   *Quos semper uideas* **bibentes esse** *in Thermopolio*

'Those you always see **drinking** in Thermopholio.' '   [*esse*+present participle

Plautus, *Curculio*, 292]

b.   *Tuic in monte* **erat** *Darius* **vociferando** *et* **congregando** *multitudinem hostium.*

'Then, Darius **was shouting** and **gathering** the crowd of the armies in the

mountain.'

[*esse*+ablative gerund

Leo, *Historia Alexandri Magni*, 2.14]

[Batllori and Roca, 2012:80]

The verb *stare*, however, was not the only verb in Latin to express location. Another verb of location in Old Spanish[9], which interacts with the development of the copulas is *sedere*, often translated as 'sit, sit in council, sit about, be inactive, be settled, stay fixed'. Indeed, the verb *ser* in Spanish is the result of merging forms of *esse* and *sedere*. Most of the verbal forms of *ser* come from *esse*, but *sedere* will be the Latin basis for the future, conditional, present subjunctive, imperative and impersonal forms (Corominas y Pascual, 1980-1991).[10] Examples of *sedere* in Latin are the following:

(7.20)

a.   *Puer in sella* **sedet**.

    'The boy **sits** in the chair.' '   ['to sit']

b.   *Toga* **sedet** *umero*.

    'The toga/gown **stays fixed** at the shoulder.'   ['to stay fixed']

[Batllori and Roca, 2012:79]

The following sections will describe how the development of *estar* and *ser* over time follows a path from innovation to generalization.   Substages of this process are characterized by changes in the distributional patterns of the copulas that lead to a gradual expansion of *estar* to uses in which only *ser* was initially allowed. This developmental path is characterized by three main steps: 1) innovation of *estar* in Old Spanish (**recruitment**), 2) *estar* becomes the default copula with the progressive and stage-level predicates (**categoricalization**) and 3) *estar*'s encroachment upon *ser* (**generalization**).

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[9]Old Spanish will be used throughout to refer to the early stages of Castilian, a Romance variety spoken in the kingdom of Castile, in the Iberian Peninsula, which provided the foundations for Modern Spanish.

[10]Latin had other verbs that expressed different spatial positions, but which minimally interacted with the development of *ser* and *estar*. This is the case of *iacere* 'be in a horizontal position, lying down' and *fincar* 'to befixed on the ground' (Bouzet, 1953; Yllera, 1982). For an overview of other location verbs that do overlap with some uses of the copulas, see Stengaard, 1991.

7.4.1 Recruitment: Innovation of *estar* in Old Spanish

The developmental path of the copulas *ser* and *estar* is characterized by substages in which *estar* innovates with a new set of predicates to express a semantic contrast. I will illustrate such substages by presenting the main innovations that occurred during the 12th and 13th centuries, which is when the first texts written entirely in Castilian appear. During this time, new uses of *estar* are found in the following predicates: stage-level, progressive, locative, existential and perfective.

7.4.1.1 Stage-Level Predications

In the early stages of Old Spanish in the 11th century, uses of *ser* follow the same pattern than those of *esse* in Latin. However, the descendants of Latin *stare* and *sedere* begin to co-occur optionally with stage-level predications, which until then could only appear with *esse*. Indeed, as illustrated in (7.21), the three verbs co-occur with the same adjectival predicate in *Cantar de Myo Çid*, which is the oldest preserved epic poem in Old Spanish, dating from the 12th century. *Ser* continues to be used with both stage-level and individual-level predicates (7.22).

(7.21)

a. **Firmes son** *los moros, avn nos van del campo.*
   'The Moorish **remain**, they do not leave the battle yet.'   [*ser*; *Çid*, v.755]

b. **Firme estido** *Pero Bermuez.*
   'Pero Vermuez **remained firm** (on the horse).'   [*estar*; *Çid*, v.3629]

c. **Firmes sed** *en campo aguisa de varones.*
   '**Remain firm** in the battle as knights would be.'   [*sedere*; *Çid*, v.2195]

[Batllori and Roca, 2012:81-82]

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(7.22)

a.   *Alegre* **es** *Myo Çid por quanto fecho an.*

'Myo Çid **is** happy for all they have done.'   [*stage-level, ser*; *Çid*, v.2745]

b.   *Todos* **eran** *ricos quantos que alli ha.*

'They **were** all rich, all those who are over there.'   [*individual-level, ser*; *Çid*, v.1215]

[Batllori and Roca, 2012:81-82]

7.4.1.2 Progressive

Another area of innovation of *estar* is the progressive. Descendants of the Latin verbs *stare* and *sedere* begin to appear with some progressive constructions, only with gerunds, as illustrated in the examples in (7.24), whereas the combination with the present participle is still reserved to *ser*. This innovation appears cross-linguistically, and indeed, the most common source for progressive constructions is locative expressions (Blansitt, 1975; Traugott, 1978; Bybee and Dahl, 1989).[11],[12]

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[11]Bybee and Dahl note that languages harness locative expressions to communicate new contrasts in the progressive. Indeed, more than one expression may be used in the progressive at the same synchronic stage and before the expression has completely lost its locative meaning. Ngambay-Moundou, for example, a language spoken in Cameroon and Chad, recruited two verbs of location *ísi* 'sit' and *ár* 'stand' to express the progressive (Bybee and Dahl do not report any differences in meaning between the two forms in Modern Ngambay-Moundou):

(7.23)

a.   m-ísi m-úsa da
     I-**seat** I-eat meat
     'I am eating meat.'

b.   m-ár m-úsa da
     I-**stand** I-eat meat
     'I am eating meat.'   [Bybee & Dahl, 1989:78-79; from Vandame, 1963:3]

[12]The English progressive can also be traced back to a construction that contained a locative prepositional element *he is a-working*, in which *a* develops from the preposition *on*. Bybee and Dahl (1989) hypothesize that the preposition disappeared as the construction became more frequent in the progressive.

(7.24)

a. *Myo Çid don Rodrigo en Valencia* **esta** *folgando.*

    'Myo Çid don Rodrigo **is** at leisure in Valencia.' [*stare*; *Çid*, v.2090]

b. *Pagado es Myo Çid que lo* **estar** *aguardando.*

    'Myo Çid, who **is** waiting for him, is satisfied.' [*stare*; *Çid*, v.1058]

c. *Ala puerta de la Eclegia* **sediellos** *esperando.*

    'He **was** waiting for them at the church door.' [*sedere*; *Çid*, v.2239]

d. *Allabandos* **seyan** *los ynfantes de Carrion.*

    'The princesses of Carrion **were** singing your praises.' [*sedere*; *Çid*, v.2824]

    [Batllori and Roca, 2012:81-82]

7.4.1.3 Locative Prepositional Predicates

The Latin uses of *stare* and *esse* with locative predicates are carried over to Old Spanish. *Estar* is used with the meaning of 'to stand' and *ser* to express a more general notion of location, i.e. not restricted to vertical position (7.25a-b). There are also locative uses in which both copulas co-occur with the same predicate, as in (7.25c) and (7.25d). (7.25)

a. *Hya salieron al campo do* **eran** *los moiones.*

    'They already went to the field, where the boundary stones **were**.'

    [*ser*; *Çid*, v.3588]

b. *Aquí* **esta** *con Myo Çid el obispo don Iheronimo.*

    'Here Mío Cid **is** with the bishop Mister Iheronimo.' [*estar*; *Çid*, v.2512]

c. *El Señor que* **es** *en el çielo*

    'The Lord who **is** in heaven.' [*ser*; *Çid*, v.1094]

d. *Al Criador, que en el çielo* **esta**.

    'To the Lord, who **is** in heaven.' [*estar*; *Çid*, v.2892]

    [Batllori and Roca, 2012:82]

In the 12th century, *estar* and *ser* begin to appear with the same locative prepositional predicates (7.26) and *estar* is used in predicates in which only *ser* was allowed (7.27):

(7.26) *embíame a ella et* **está** *tú en tu lugar fasta que yo torne a ti.*

'Send me to her and **stay** where you are until I come back to you.'

[*estar*; *Calila e Dimna*:135]

[Batllori and Roca, 2012:85]

(7.27)

a.   *et el caño* **era** *del pozo çerca.*

'and the spout **was** near the well.'   [*ser*; *Calila e Dimna*:111]

b.   *el caño que* **está** *çerca del pozo.*

'The spout that **was** near the well '   [*estar*; *Calila e Dimna*:111]

[Batllori and Roca, 2012:85]

7.4.1.4   Existential Sentences

In Late Latin, *esse* had been the preferred option with existential sentences.[13] In Old Spanish, however, *ser* + locative co-exists with *haber* + locative (7.28), and the two verbs are commonly found with existential predicates:

(7.28) *Trezientas lanças* **son**, *todas tienen pendones.*

'Three hundred spears **are**, all have standards.'   [*ser*; *Çid*, v.723]

[Saussol, 1977:57]

(7.29) **Abra** *y ondra....*

'**There will be** honor...'   [*haber*; *Çid*, v.1905]

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[13]The term 'existential sentence' is used here in the sense of McNally (2016) to refer to a 'specialized sentence or non-canonical construction that expresses a proposition about the presence or existence of someone or something' (2016:1829). The structural properties of existentials that will be relevant here are: 1) existentials appear with a nominal that describes the individual whose existence is under discussion, so-called *pivot*, which is often a definite noun, and/or 2) they show non-canonical order with the verb preceding the pivot. Additionally, in Old Spanish, existential sentences usually appeared with the locative adverb 'y'.

[Batllori and Roca, 2012:83]

Example (7.28) is an existential sentence because it communicates the presence of an entity, three hundred spears. It contrasts with typical uses of *ser* is that there is no noun or adjective in predicate position that can serve to classify the entity-denoting subject. The subject is so-called *pivot* to distinguish it from typical subjects in *ser*-predications. The use in (7.29) appears with the locative adverb *y*, from Latin *ibi* 'in that place, there', which frequently co-occurred with *haber* in the early existential uses in Old Spanish.[14] In the 13th century, *estar* begins to appear in existential sentences in which only *ser* had been previously allowed. The verb *haber* is also attested with existentials, but the most frequent copula is still *ser*:

(7.30)

a. *Sobre un monte blanco* **es** *un elefante blanco.*

   'at the top of a white mountain **is** a white elephant.'

   [*ser*; *Calila e Dimna*:287]

   [Batllori, 2003:6]

b. *Et* **estava** *en la casa un niño.*

   'And **there was** a boy in the house.'   [*estar*; *Calila e Dimna*:177]

c. *Et* **avía** *y una bestia que l'edzían Jauzana.*

   'And **there was** a beast that was known as Jauzana'   [*haber*; *Calila e Dimna*:196]

   [Batllori and Roca, 2012:85]

Over the next two centuries, the usage of *haber* in existential sentences increases to become the predominant verb in these constructions.[15] By the 15th century, *ser* existential

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[14]The French locative particle *y* shares the same Latin ancestor *ibi*. The main difference is that French requires the existence of expletive *il*.

[15]During this period, the use of *haber* in existential sentences will coexist with its Latin use to indicate possession. Indeed, Hernández Díaz points to uses of *haber* that are ambiguous between its locative and existential meaning. In (7.31), for example, there is an individual who has nobility, but the individual appears in a locative expression *en él* 'in him':

uses have been considerably reduced in number, although not the diversity of predicates it can appear with[16]. There is also an increase in the frequency of *estar*; in most cases, *estar* tends to co-occur with an indefinite noun (7.32a) and/or a locative expression (7.32b)[17].

(7.32)

a. *En la techumbre alta de la iglesia* **está** *un agujero.*

   'On the high roof of the church, **there is** a hole.' ' [*estar*; *Andanças e viajes*, 25]

b. **Estaban** *allí tantos de probres, que ellos solos finchirían una gran çibdat.*

   'And **there were** so many poor people, that they by themselves could fill a big city.'

   [*estar*; *Andanças e viajes*, 233]

   [Herrero, 2008:350-351]

At this stage of the language, *haber* and *ser* may appear in existential sentences with locative expressions, but this is not necessarily the case, and they may also co-occur with definite subjects (7.33). In some cases it is difficult to notice a difference between the two verbs in corpus data[18]. The use of *haber* with expressions that do not denote a location is illustrated in (7.34a) with a relative clause, (7.34b) with a comparative construction and

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(7.31) *Nobleza de corazón* **auye** *en el muy grande para desdennar e despreciar las cosas malas e viles e de pagarse de onrrar las nobles.*
   '**There was** nobleness of heart in him to dismiss and disregard the mean and despicable things and to honour the noble ones.' [*Setenario*, 11-19; from Hernández-Díaz (2006:1128)]

[16]In a corpus study of Medieval Spanish conducted by Herrero (2008), the author notes that *ser* and *haber* appear in contexts that can be considered prototypical of existential sentences: followed by a relative clause, in combination with a locative expression and in consecutive constructions, in which the verb is followed by the determinants *tanto/a* 'so much/many' or *tal* 'such' + que 'that'. This is not the case of *estar*, which shows a more restricted predicate selection.

[17]According to McNally (2016), existentials based on copular constructions contain the same building blocks as locative copular sentences across languages. Specifically for Spanish, they consist of a locative prepositional predicate, the copula and a subject, so-called *pivot*. The main difference is in the relative order of the locative expression and the pivot. For *estar* sentences, the locative expression always appears before the pivot in existential sentences.

[18]Most corpus-based analyses restrict their object of study to the sentence in which the verb appears. The larger context is not considered, which might have contributed to blurring any semantic differences between the two copulas.

(7.34c) with a consecutive construction.

(7.33)

a. *Y non solamente* **hay** *esta dubda, pero otras muchas.*

'And there is not only this doubt, but many others .'

[*haber*; *Cárcel de amor*: 211]

b. *Cuatro maneras* **son** *de casamiento: las tres son reprobadas, la una de loar.*

'**There are** four types of marriages: three of them are failures and one is praiseworthy.'

[*ser*; *Arcipreste de Calavera o Corbacho*:177]

[Herrero, 2008:346, 348]

(7.34)

a. *Non* **ay** *arte, ciencia, nin maestría que ellos non dizen que saben.*'

'**There is** no art, science or skill that they seem to not know.'

[*haber*; *Arcipreste de Calavera o Corbacho*:236]

b. *que non* **ha** *gato que mejor trave de asadura que la muger de donde engargar.*

'**There is** no cat that gets the entrails better than a woman that has somewhere to

eat. '

]'Strike while the iron is hot'.]

[*haber*; *Celestina*:155]

c. *no* **ay** *cosa tan provechosa que en llegando appriessa aproveche.*

'**There is** nothing beneficial, that gives immediate profit.'

[*haber*; *Andanças e viajes*:53]

[Herrero, 2008:348]

The use in (7.33) is similar to the use in Modern Spanish in that the verb *haber*

appears in third singular person in all tenses, does not show agreement with the subject

or pivot, which usually appears after the verb, and there is a locative expression in the sentence. Examples (7.33a and c) show the merge between third person singular *ha* and the locative particle *y*, which will lead to the form in Modern Spanish *hay*.

7.4.1.5 Past Participles with a Perfect Interpretation

Late Latin expressed perfective meaning with perfect morphology. In early stages of Old Spanish, the verb *haber* 'have' became the most frequent verb to communicate that a past situation has present relevance (Comrie, 1976) (7.35):[19]

(7.35)

a. *de que* **ouo** *andado vn rrato por la çibdat fuese al palaçio.*
    'after he **had** walked across the city for a while, he went to the palace.'

    [*haber*; *Libro del Cauallero Çifar*]

b. *entre las peynas el uido una carrasca, la qual se* **auie** *alli nasçido.*
    'he saw a holm oak in the crags, which **had** emerged there.

    [*haber*; *Grant Cronica de Espanya I*]

    [Sánchez Marco, 2012:48]

During this century, *ser* and *estar* begin to encroach on some perfect uses. Whereas the use of *estar* is restricted to accomplishments and achievements that describe motion or change of location (7.36), *ser* may also appear with past participles that denote activities. The variety of uses of *ser* is illustrated in (7.37) (Sánchez Marco, 2012).

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[19]Sánchez Marco (2012:49) says that *habere* already appears in the last stages of Late Latin in combination with predicates denoting activities to express a perfect interpretation.

(7.36) [20]

a. *Quando vieron los turcos aquellos vellacos que* **estauan** *ya llegados al muro vinieron de todas partes & traxeron huego grecisco encendido que parecia sangre tanto era bermejo.*

'When the Turks saw that villains **had** already come to the wall, they came from all parts and brought fire, which looked red as blood.'

[*estar*; *Gran Conquista de Ultramar*]

b. *Et llegando a la oriella del lago no ueyendo el aun, ca a otra part* **estaua** *tornado, echo luego el manto aluenne.*

'And upon arriving at the bank of the lake and not seeing him yet, as he **had** gone back to the other side, he threw the cloak far away.'   [*ser*; *General Estoria II*]

[Sánchez Marco, 2012:54-55]

(7.37)

a. *Esta dueña mj madre nunca ouo por agujsado de me castigar de palabra njn de fecho quando era pequeño njn después que* **fuy** *crecido and loaua me todo quanto fazia quier fuese bueno quier fuese malo.*

'My mother never punished me when I was a child, and when I **had** grown up she worshipped all that I did; it did not matter whether it was right or wrong.'

[*ser*; *Libro del Cauallero Çifar*]

b. *El infante* **fue** *uenido; por las armas prender.*

'The Prince **had** come in order to take the weapons.'   [*ser*; *Libro de Alexandre*]

c. *Los çagueros se tornaron entala Ribera del Rio de do ellos* **eran** *partidos mas antes.*

'The freighters went back the bank of the river, where they **had** left long time before.'

[*ser*; *Grant Cronica de Espanya I*]

[Sánchez Marco, 2012:50-51]

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[20]Note that readings (7.36a-b) involve pluperfect tense in Spanish and are translated into English past perfect.

7.4.2 Categoricalization: *estar* Becomes the Default with Progressive & Stage-Level Predicates

A stage of categoricalization in a developmental path is characterized by an obligatory use of the recruited expression in contexts that originally required a diachronically competing variant. Two early examples of categoricalization of *estar* are found in combination with the gerund to express an event-in-progress reading and with adjectival predicates to denote a property that obtains in a temporally-defined slice of an individual (stage-level predicates).

The first instance of categoricalization of *estar* is the event-in-progress reading. Already in 13th-century Old Spanish, *estar* becomes the preferred copula with the gerund to express the progressive (7.38). Descendant forms of Latin *sedere* have disappeared at this point with the progressive (Batllori and Roca, 2012). Some uses of *ser* with the progressive can still be found in fourteenth-century Old Spanish (Sánchez Marco, 2012), as illustrated in (7.39).

(7.38)

a. *Lo* **estava** *aguardando por lo matar.*

    'He **was** waiting for him so as to kill him.'   [*estar*; *Calila e Dimna*:268]

b. *Et* **están** *anbos comiendo et solazándose.*

    'And they **were** both eating and relaxing.'   [*estar*; *Calila e Dimna*:254]

    [Batllori and Roca, 2012:85]

(7.39) *E despues ponlos en su vara e* **sea** *ardiendo candela toda la noche.*

    'And then put them in their stick so that they candle will **be** burning all night.'

    [*ser*; *Tratado de Cetrería*]

    [Sánchez Marco, 2012:79]

In combination with adjectival predicates, *estar* increases its frequency with predicates in which the property obtains only temporarily. This subset of adjectival

predicates have been traditionally characterized as stage-level predicates. There is, however, variation and the same predicate may appear with either copula at this stage (7.40). *Ser* can also appear with predicates that are temporally delimited, as in (7.41), but *estar* is used to make the temporal nature of the entity-denoting subject explicit, as in (7.42).

(7.40)

a.   *Et por qué **eres** triste e demudado.*

       'And why **are** you sad and upset?' '   [*ser*; *Calila e Dimna*:286]

                                                        [Batllori and Roca, 2012:84]

b.   *Amigo, qué ha que **estás** triste?*

       'My friend, why is it that you **are** sad?'   [*estar*; *Calila e Dimna*:245]

                                                            [Vaño-Cerdá, 1982:248]

(7.41)

     *¡Dios, qué alegre **fue** el abbat don Sancho!*

     'Lord, how happy **was** abbot Mr. Sancho!'   [*ser*; *Cantar de Mío Cid*:15]

(7.42)

a.   *El mur salio de su cueva... vido al gato **estar** en los lazos, et fue muy alegre.*

       'The mouse went out of its cave... saw that the cap **was** trapped in the snares, and it was very happy.'   [*ser*; *Calila e Dimna*:268]

b.   *Quando la cabeça **está** bien, el cuerpo **está** bien.*

       'When the head **is** well, the body **is** well.'   [*estar*; *Calila e Dimna*:284]

c.   *ca mi muger **está** doliente.*

       'because my wife **is** ill.'   [*estar*; *Calila e Dimna*:257]

                                                            [Batllori and Roca, 2012:84]

Copula variation with the same predicate occurs until the 15th century with stage-level predicates (Vaño-Cerdá, 1982). Exceptions to this are the verbs *quedarse* 'stay still' and *posar* 'be set', which show a categorical use with *estar* already in the 13th century (7.43). In an analysis of texts from the 15th-17th century, Vaño-Cerdá (1982) found no occurrences of *ser* with adjectives that denote physical appearance, health or psychological state (7.44), which indicates that the categoricalization of *estar* with adjectival predicates was already well underway.

(7.43) *Non seria derecho que los otros lidiassen por mi e yo* **estoviesse** *quedo.*

'It would not be right that others fight for me while I **stayed** still.'   [*estar*;

Bonium:484]

(7.44)

a. *Hoy* **está** *la más desdichada criatura del mundo.*

'Today s/he **is** the unhappiest creature in the world.'   [*estar*; *El Quijote, II*:33, 10]

b. *¡Qué linda* **estás!** *¿Qué te pones?'*

'How pretty you **are**! How do you do it?'   [*estar*; *Los pechos privilegiados*:204]

c. *Francia* **está** *sospechosa con la descendencia real....*

'France **is** suspicious because of the royal offspring...'   [*estar*; *Los sueños*:185, 20]

[Vaño-Cerda, 1982:243, 268-269]

7.4.3   Generalization: *estar*'s Gradual Expansion into *ser*'s Domain

A developmental path experiences a gradual blurring of semantic contrasts over time as the innovated expression increases in frequency and expands to new contexts. In the case of the Spanish copulas, a period of encroachment upon a new semantic domain is characterized by co-occurrence of the two copulas with the same predicates (**recruitment**), followed by a period of increase in frequency of the innovated expression, which leads to

stabilization of the new semantic contrast (**categoricalization**). This development from variation to categoricalization characterizes the expansion of *estar* into the domain of use of *ser*. Thus the increase of use of *estar* ends up blurring the semantic contrasts over time (**generalization**).

The combination of *estar* with verbal and adjectival passives illustrates this developmental path of the copulas. *Estar* takes over the domain of *ser* selectively, leading to periods of variation and rapid increases in frequency that in turn pave the way for categoricalization. In a comprehensive corpus-based study of the frequency of the copulas with past participles, Sánchez Marco (2012) describes a period of variation in which *estar* co-occurs with a wide range of past participles between the 13-15th century. During this time, the frequency of *estar* in comparison to *ser* uses is low. The first past participles to appear with *estar* usually describe a locative relation. Examples of these initial uses of *estar* are as follows:

(7.45)

a.   *ca estaua ya açerca del otro emperador, so que* **estaua** *acercado de gente a derredor.*

    'Because he was already close to the other emperor, and he **was** surrounded by people.'

<div align="right">

[*estar, 13th cent.*; *Libro de Alexandre*]

</div>

b.   *E agora ya es el pueblo muerto & el templo arde pues uos porque* **estades** *armados. Dexat las armas.*

    'And now the people are dead and the temple burns. And you, why **are** you armed? Leave the weapons.'   [*estar, 13th cent.*; *Estoria de España*]

<div align="right">

[Sánchez Marco, 2012:124-125]

</div>

This variation is followed by a period of extension between the 15-20th century in

which the frequency of *estar* increases considerably.[21] Two substages can be distinguished during this time. First, there is a period of extension until the 17th century, in which the frequency of *estar* increases selectively with predicates that indicate location or change of state, such as *extender* 'extend', *cubrir* 'cover, and *esparcir* 'scatter'. This is followed by new uses of *estar* that will stabilize with certain verbs (*congelar* 'freeze', *alargar* 'lenghten', *encarcelar*), whereas with others the frequency drops over time (*crear* 'create', *comer* 'eat', *venir* 'come'). Indeed, these latter uses of *estar* are rarely found in Modern Spanish, which only allows *estar* with resultative passive constructions such as the examples in (7.46), already attested in the 13th century.

(7.46)

a.　*veía otrosí que su cuerpo* **estaba** *todo bañado en sangre.*

　　'furthermore (s/he) saw that her/his body **was** covered in blood.'

[*estar, 13th cent.*; *Calila e Dimna*: 280]

b.　*Más razón es que* **esté** *lo suyo guardado que non lo mío.*

　　'All the more reason that her/his thing **is** saved rather than mine.'

[*estar, 13th cent.*; *Calila e Dimna*: 95]

[Batllori et al., 2012:124-125]

7.4.4　Summary of the Copula Developmental Path from Late Latin to Old Spanish

I have so far described the developmental path in the distributional patterns of the copulas. The main observation is that *estar*, starting as a locative, has encroached on the domain of the use of *ser*. Categoricalization has already occurred with some predicates, such as in the progressive or with stage-level predications (Tables 7.1-7.2). The different substages in this path depict a systematic extension of *estar*, which is characterized by

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[21]Sánchez Marco (2012) restricts the corpora to only Iberian Spanish at this point, thus excluding the Latin American varieties of Spanish.

a selective incursion into the domain of *ser*, followed by an increase in frequency and subsequent categoricalization. An important aspect of this developmental path is that the two copulas interact over time with other lexical items in the language, and this interaction determines the extent of *estar*'s encroachment.

Having described the properties of the diachronic path undergone by the Spanish copulas, I now turn to consider the role of the context in pushing changes into a particular direction. Specifically, I will focus on the role of context in the categoricalization of *estar* uses and ultimately in pushing its expansion into the domain of use of *ser*. As will be shown, an understanding of the properties of the contexts that make the use of *estar* acceptable at a particular synchronic stage will shed light onto the semantic contrasts that *estar* is recruited to express. Before that, I turn to previous studies on the role of contextual conditioning in semantic change and identify the main insights that will be crucial for the study of copula development in Spanish.

Predicate type	Copula	
Locative	esse	stare (restricted to 'stand still')
ILPs/SLPs[a]	esse	—
Existential	esse	—
Passive	esse	—
Progressive	esse	—
Perfective	esse	—

Table 7.1: *Copula Uses in Late Latin.*

[a] ILP: individual-level predicate, SLP: stage-level predicate

Predicate type	Copula		Other possible verbs
Locative	ser	estar	—
ILPs/SLPs[a]	ser	estar (restricted to SLPs)	sedere 'sit' (restricted to SLPs)
Existential	ser	estar (restricted to locative uses)	habere 'have'
Passive	ser	estar (restricted to resultative passives)	—
Progressive	—	estar	sedere 'sit'
Perfective	ser	estar	—

Table 7.2: *Copula Uses in Old Spanish (13th century)*

[a] ILP: individual-level predicate, SLP: stage-level predicate

7.5 Contextual Conditioning in Semantic Change

Grammaticalization paths may be conceived as a series of strategies that speakers use to communicate semantic contrasts. There are at least two different strategies that speakers may follow: they can either rely on morphosyntactic structure or contextual support (Deo 2016). Each of these strategies, or a combination of the two, ultimately leads to an expansion in the contexts of use of the innovated expression. In the next sections, I will investigate the role of contextual support in communicating new semantic contrasts, I will introduce previous studies that investigate contextual conditioning in different processes of change. Specifically, the next sections will show how substages of diachronic development are characterized by synchronic variation between diachronically competing variants. The role of the context is crucial in disambiguating between the two forms and ultimately in pushing the changes forward into specific directions.

7.5.1 The 'be going to' Construction in English: Conventionalization through Pragmatic Inferencing

Eckardt's (2006) analysis of recruitment phenomena across languages points to a crucial role of the context during this stage. Her case studies show how pragmatic inferences at the propositional level become associated over time with the lexical meaning of the recruited expression. The recruited expression increases in frequency as speakers begin to exploit the new semantic contrast that it communicates.

Pragmatic inferences during the initial stages of recruitment arise only in contexts in which the shared information between the interlocutors supports the inference. As a result of this increase, the pragmatic inference is consistently associated with the recruited expression, becoming a so-called 'generalized invited pragmatic inference'. Invited inferences, therefore, are implicatures evoked by the speaker and which the hearer is

'invited' to infer.[22] They are 'generalized' when they are associated with certain lexemes or constructions that are specific to a linguistic community. This lead to the semantic contrast becoming conventionalized and thus part of the lexico-semantic structure (Traugott and Dasher, 2002:16). The authors identify this as the first step of grammaticalization. The conventionalization of the new meaning is due to the reliable association between the expression and a particular semantic contrast arising from a given context.

This process of contextual conditioning and change in lexical meaning may be illustrated with the grammaticalization of the *be going to* construction in English, which is used to express a future-oriented perspective in Modern English. The development of the *be going to* construction has been described as starting in purely motional uses of *go* (7.47a), followed by uses to indicate motion with a purpose (7.47b-c), which are ambiguous (in Modern English) between motion and a future reading , and finally the construction extends to unambiguous future uses (7.47d-e) (Mossé, 1938; Hopper and Traugott, 2003).:

(7.47)

a.   John is going to Paris.

b.   John is going to get a beer.

c.   John is going to be married.

d.   John is going to finish the talk at 5 o'clock.

e.   John is going to like Paris.   [Eckardt 2002:54]

The initial contexts for conventionalization in which *be going to* begins to appear without a purely motion interpretation occur in drama and fiction prose. These are contexts in which two requirements are met: 1) the speaker wishes to convey the intentions of the

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[22]The term is borrowed from Geis and Zwicky (1971) and places the focus on both the speaker and hearer as active members of a communicative act and thus playing an equally important role in the inference process.

protagonists and 2) there is no evidence that an actual physical movement of the subject is required. The following uses illustrate these types of contexts:

(7.48)

a.   'Stout resolved mates! **Are** you now **going** to dispatch the deed?'

[Shakespeare, Richard III: I. iii. 341]

b.   '**Are** you **going** to catch Quailes that you bring your pipes with you?'

[Drama Corpus: T. Dekker and J. Webster, Vvest vvardhoe, 1604: v. 1)]

[Eckardt, 2006:15]

In these examples, the use of *be going to* relates to an action that is going to occur in the near future and the authors wish to convey the intentions of the protagonists, rather than movement. In (7.48a), the speaker is asking about an action that s/he expects to happen in the future, whereas in (7.48b), the speaker wants to know the reason for bringing the pipes, presumably because the hearer is planning to go bird hunting in the near future. Eckardt argues that the change in interpretation of *be going to* from pure motion to expressing futurity crucially relies on the hearer inferring that the event is 'imminent' in the initial contexts of the change. For example, let us consider the following use of *be going to*:

(7.49) Horatio is going to visit a friend.

According to Eckardt (2006), this use led to a purely motion interpretation of *be going to*, which has the content shown in (7.50). The fact that the visit is 'imminent' in that particular context allows the default imminent inference, shown in (7.51).

(7.50) ⟦Horatio PRESENT PROGRESSIVE go- to visit a friend⟧ = $\exists e$ (R=S $\wedge$ R $\subset$ τ(e) $\wedge$

GO(HORATIO, e) $\wedge$ $\exists e'$ (PREPARE(e,e') $\wedge$ $\exists y$ (FRIEND (y, HORATIO) $\wedge$ VISIT(HORATIO, y, e'))))

(7.51) Inference:

$\exists e'$ (IMMINENT (now, e') $\wedge$ $now < \tau$(e') $\wedge$ $\exists y$(FRIEND(y, HORATIO) $\wedge$ VISIT (HORATIO, y, e')))

[Eckardt, 2006:39-40]

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The sentence in (7.50) expresses that (i) the reference time (R) coincides with the speech time (S), (ii) there is an event at reference time of Horatio going, (iii) this *going* event happens in preparation for another event e', (iv) which is and event of Horatio visiting a friend. The sentence in (7.51) represents the inference that the planned visit is imminent. Eckardt argues that the literal meaning of *be going to* relates two kinds of events, GO and PREPARE, this leads to the conventional implicature that there is an event that is imminent. The relation IMMINENCE is used as a cover term to refer to a variety of ways in which an event can be imminent. The relation can be instantiated in different ways (e.g., with different shades of immediacy, urgency and planning) and it is initially through context that speakers infer the specific semantic contrast. The diversity of imminent relations has gradually expanded over the years to include new uses, but a semantic core is stable (Krug, 2000). It is this 'semantic core' that is represented with the relation IMMINENCE at different stages of the language.[23]

The relation crucially predicts that the synchronic variation in the use of *be going to* over time needs to be necessarily related to the diachronic development. At any point in the stage of development of the *be going to* construction, there is certain variation in the contexts in which the construction appears. For example, in the early stages of the change, speakers would find the construction in contexts that support a purely motion interpretation while it would also appear in contexts with no evidence of physical movement. Once this variation is integrated and consistently associated with *be going to*, the IMMINENT relation will be expanded.

The inference is characterized as a conventional implicature because it relies on the mutual understanding between authors and listeners/readers that there is a shared context in which 1) there is no evidence of movement and 2) it is clear that the speaker wishes to communicate or find out about the intentions of the protagonists. Over time, the inference of futurity that arises from the context is conventionally associated with the *be going to*

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[23]The characterization of this semantic core is left unspecified as Eckardt does not conduct a systematic analysis of how the relation is instantiated over time.

construction. This is because new generations of speakers end up establishing a one-to-one relation between the construction and the inference of futurity.

The changes observed in the interpretation of *be going to* can help to explain the differences with the use of *will* future. The IMMINENT relation requires that the sentence be about the present (speech time S), while *will* is not. Accordingly, the *be going to* relation leaves open the possibility that the future event will not occur. The use of *will*, however, expresses that the events are considered to be true at any time before the events hold and actually happen. This difference is shown in the following examples:

(7.52) *John* **will be** *at Stanford in May*.

Backward-entailing: if sentence S is true at t and $t'{<}t$, then sentence S is also true at t' (because John's being in Stanford is also in the future ot t').

(7.53) *John* **is going to be** *at Stanford in May*.

Not backward-entailing: sentence might be true today (John made up his mind only this morning), but have been false yesterday (yesterday, John might have lacked some crucial information that led him to decide on this visit).

[Eckardt, 2006:47-48]

The interpretations illustrated in the above examples are the result of how the relation between the reference time R and the speech time S is instantiated. The use of *will* in (7.52) locates the reference time R after the speech time S. In contrast, *be going to* in (7.53) locates the reference time R at the time of speech S.[24]

Eckardt speculates that, eventually, the relation IMMINENCE will reach a stage at which it will be semantically empty, i.e., the degree of imminence is negligible. Two situations are possible at such a stage. A semantically empty relation may lead to a complete replacement of *will* future or to a stage in which the *be going to* construction will be used to express a new semantic contrast, which would justify the existence of the two competing future

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[24]Native speakers of English agree that the entailment in (7.52a) seems to be more easily cancelable.

forms. These are mere speculations at this point since $will$ is in fact much more frequent than *be going to* in Modern English (Huddleston and Pullum, 2008).

The changes observed in the lexico-semantic structure of *be going to* had been previously understood as the result of a process of reanalysis. Eckardt's crucial contribution has been to provide an explicit truth-conditional characterization of the observed changes in the lexical entry of *be going to*. Her data also point to the crucial role of speaker-hearer interactions in language change.

7.5.2 The Extension of the Present Perfect: Generalization via Inflationary Use

The existence of consistent associations over time between certain contexts and an expression also play a role in other types of changes. Schaden (2012) models the effect that such associations have across generations of speakers by investigating the diachronic tendency of present perfect forms to express past tense. In contrast to Eckardt, who focused on the initial contexts that led to a change in the lexical meaning of the recruited expression; the focus of Schaden is on what drives the changes once there is a recruited expression already established in the language.[25]

Schaden begins with the already known observation that present perfect signals that the described situation is of 'current relevance' for the discourse. In contrast, the past tense is neutral with respect to the relevance of the eventuality (Comrie, 1976). The diachronic data indicate that once the present perfect enters de language to locate an event in the past, the present perfect thrives and increasingly appears in contexts that were only reserved to the simple past. The simple past undergoes a decline in the kind of contexts it is acceptable and in its absolute frequency. To illustrate that present perfect and simple past tenses have different contextual restrictions, Schaden presents the following examples

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[25]This stage of the diachronic development seems to fit better with a stage in which there is already categoricalization of the specific contexts in which the present perfect locates a past event.

of the *passé composé* (present perfect form) (7.54b-c) and the *passé simple* (simple past form) (7.54a,d) in French:

(7.54)

a.   *J'écrivis hier.*

      I wrote yesterday.

b.   **J'ai écrit hier.*

      I have written yesterday.

c.   *J'ai écrit ce matin /cette nuit*

      I have written this morning/this night.

d.   **J'écrivis ce matin /cette nuit*

      I wrote this morning/this night.

The examples in (7.54) illustrate how the simple past is only acceptable when the event is located relatively close to utterance time, as in (7.54c), but not in (7.54b); and the reverse pattern is observed for the simple past form in examples (7.54a,d). These observations led to the '24-hour rule': 'for anything that is at least one day away from the day in which we speak, one must use the *passé simple*, else one uses the *passé composé* (Arnold and Lancelot, 1754:150).

Schaden investigates this notion of 'current relevance' by making two assumptions: 1) current relevance is a gradable notion that is relativized with respect to the discourse participants, and 2) the degree of relevance can be measured as an interval ranging from 0 (complete absence of current relevance) to 1 (absolute acme of current relevance). He develops an Iterated Learning Model (Smith et al., 2003) of language acquisition and transmission to track the development of the change from present perfect to past tense. The model relies on the tendency of speakers to overrate the relevance of their utterances for the current discourse. This tendency is described as a causal mechanism that acts as

the driver of the lexical changes. Hearers will be able to establish the probability distribution of an event's current relevance if three conditions are met:

- hearers compute the degree of relevance on the basis of the information in the sentence and the utterance-context

- hearers are able to maintain a probability distribution of the current relevance of past events that they have experienced

- the probability distributions remain stable across generations

The notion of relevance is then operationalized via a threshold n that determines the speakers' use of the present perfect if the described eventuality has relevance above n. The threshold n is therefore what determines the distribution of the present perfect and the past tense at any given synchronic stage. At an early stage in the diachronic path, the present perfect is used in contexts in which the previous eventuality has some relation to a 'perfect state' at utterance time. Schaden argues that speakers tend to overestimate the relevance of the past eventuality in the current discourse. As a result, they use the present perfect in contexts in which the relevance of the eventuality is below the expected threshold n. Hearers do not adjust to this inflationary use and consider the threshold to be appropriate for a felicitous use of the present perfect. The author provides the following example to show how the model works:

Assume that the initial value of n (noted n_0) is 0.7 which means 10% of present perfects in the input. Since the probability distribution is shifted to the right, speakers will believe that by an n_0, they are entitled not to a mere 10%, but say 13% of present perfects. In the next generation of hearers, the fact that the present perfect has become more frequent will entail setting n_1 to a value below n_0. Speakers will adopt n_1, overuse the present perfect, such that $n_2 < n_1$ (and more generally, for each n_k, if $n_k \neq 0$, $n_k+1 < n_k$). This will drive n

towards 0, where the system has an equilibrium, that is, when the past tense is extinct, and the present perfect has taken over all of its uses.

[Schaden, 2012:273-274]

This model relies on a causal mechanism to estimate the probability of a form in the next generation: to become more past-tense like: speakers tendency to overestimate relevance. Current relevance is considered a strategy to invite the reader to infer that the past eventuality is relevant for the current discourse. Over time, the present perfect ends up being used in contexts in which the past eventuality has a minimal degree of current relevance. In the final stage of the diachronic path, the present perfect ends up taking over the domain of use of the simple past, which is gradually driven out of the language.[26] One of the model's main advantages is that it captures the synchronic stages of the developmental path as being the result of speaker-hearer interactions. Over time, these synchronic stages lead to modifications of the notion of relevance and ultimately to a change in the tense system.

7.5.3 From Emphatic to Plain Negation: Loss of Emphasis via Inflationary Use

The inflationary use of an expression in context has been proposed as the main driver of Jespersen's cycle, in which forms marking emphatic negation diachronically come to be used to signal plain negation. Kiparsky and Condoravdi (2006) provide a structural analysis of this cycle that offers a more precise characterization of the change as

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[26]Condoravdi and Deo (2008) provide an analysis of the perfect to perfective shift that focuses on the logical relation between the grammaticalized meanings of the present perfect at different stages of the diachronic path. These structural relations are taken as an enabling factor in the process of change. In particular, the authors show that the range of readings available at any given time are a superset of the readings available at prior stages. Presumably, the contextual relevance of the past eventuality contributes to push the extension of the present perfect, which is ultimately enabled by the conceptual relations that may be established between discrete synchronic stages of the process. The authors, however, do not delve into how the utterance-context interacts with the specific lexical entries. The precise characterization of the relation between the discourse context and the grammaticalized meanings remains for further investigation.

a semantic weakening of emphatic negation. The systematic path of change across languages is therefore characterized as an invariant pattern of semantic shifts.[27]

The cyclical nature of the change is taken as an indication of the need to maintain a semantic contrast between emphatic and plain negation over time. Among the cross-linguistic semantic contrasts that emphatic negation expresses are the following:

(7.55)

    A: Obviously, he ate the porridge.

    B: No, he didn't eat the porridge **at all**.

(7.56)

    A: What did it cost you?

    B: It didn't cost me **a thing**.

(7.57)

a   I haven't eaten the porridge.   [Telic and atelic reading]

b.   I haven't eaten the porridge **at all**.   [Telic reading only]

[Kiparsky & Condoravdi, 2006:7-8]

In (7.55), emphatic negation is used to contradict an assertion. In (7.56), it serves to deny a presumption or expectation. Finally, the example in (7.57a) is ambiguous between a telic reading 'I haven't eaten any of the porridge' and an atelic reading 'I haven't eaten all the porridge' (though I might have eaten some of it).[28] In contrast, emphatic negation in (7.57b) forces a 'totality' reading on the predicate, thus helping to disambiguate the predicate towards a telic reading.

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[27]Condoravdi (2009) proposes a formal analysis of emphatic negation as presupposing finer grained partitions of the common ground. As a result, emphatic negation contrasts with the plain form in that it eliminates more possibilities.

[28]Some native speakers of American English, however, do not agree with the acceptability of the atelic reading.

Similarly to Schaden's (2012) proposal, the authors argue that speakers end up using emphatic negation to make stronger claims in contexts that do not license the use of the emphatic form. In the initial stages of the cycle, the force of negation is strengthened by recruiting one of two kinds of nominals: a minimizer or a generalizer. A nominal minimizer makes the negation stricter because it extends the negation to the most insignificant amounts. In Greek, for example, the initial forms of emphatic negation may be translated as 'I did not drink (even) a drop' or 'I did not find (so much as) a twig', in which 'drop' and 'twig' are nominal minimizers. On the other hand, a nominal generalizer strengthens the negation quantitatively by denoting a maximally general type or class, as in 'nothing of any kind' or 'nothing whatsoever'. In this way, the negation extends its scope to include everything in the maximal sortal domain of the nominal.

Over time, the emphatic form rises in frequency, which has an inflationary effect (Dahl, 2001). Due to this inflationary use, the form ultimately appears under contextual felicity conditions that are not consistent anymore with core contexts, i.e., those contexts that characterize the early stages of the cycle. When the emphatic form rises in frequency to the point that it is considered obligatory, the form cannot serve to provide emphasis anymore. As Kiparsky and Condoravdi (2006:5) explain, 'an obligatory element cannot be emphatic, for to emphasize everything is to emphasize nothing'. This 'loss of emphasis' is followed by the renewal of the emphatic function with recruitment of new morphosyntactic material.

7.5.4 Interim Summary: Contextual Conditioning in Semantic Change

The three studies presented in this section describe systematic paths of changes in the distributional patterns of a recruited expression. They all investigate these changes over time as being the result of synchronic stages of variation in the distributional patterns of the expression. Overtime, the main observation is that there is an overuse of the new

expression, and an expansion to new contexts.

The context plays a crucial role in pushing the extension of the new expression forward. A semantic contrast is initially contextually supported and its consistent association with a specific lexical entry leads to its conventionalization. At that stage, the recruited expression does not need to rely on the context to express the specific contrast – it is now part of its conventionalized meaning. One of the shortcomings of previous studies is the lack of a specific analysis that models the interaction between the context and the lexical entry of the recruited expression. The next section will focus on how the boundedness-presupposition analysis predicts the crucial role of contextual information in innovated uses of *estar*.

7.6 Contextual Conditioning in the Diachronic Development of the Spanish Copulas

Contextual conditioning is crucial in pushing changes towards a particular direction in a diachronic path. Context is expected to be particularly relevant as the innovated form encroaches on a new domain and speakers begin to associate the new form with a particular semantic contrast. The new form, however, will not always completely encroach upon the new domain. As shown in section (7.4.1.4) with existential sentences, other innovated forms may be competing to express the same semantic contrasts. One of the innovated forms will increase in frequency, which will lead to the subsequent categoricalization of the recruited form. In the remainder of this chapter, I will investigate the role of contextual conditioning in the encroachment of *estar*. A precise characterization of the contextual requirements posed by *estar* can contribute to our understanding of their semantic differences.

In what follows, I will first describe the initial contexts in which innovation of *estar* first occurs with adjectival predicates, followed by an overview of copula uses before the

13th century. This will set the groundwork for the corpus analysis of copula use in the second half of the 13th century. The main focus of this section will be to identify the contexts that allow *estar* to encroach on the domain of adjectival predicates.

7.6.1 Initial Contexts of *estar* with Adjectival Predicates

Uses that yield temporary readings are among the first uses of *estar* with adjectival predicates. A common observation in the literature is that the temporary nature of *estar* predications is usually associated with a change in the entity-denoting subject. Crucially, these are contexts in which *estar* does not convey that the entity-denoting subject is in vertical position, which was the common use of *stare* in Late Latin and early stages of Old Spanish. According to Vaño-Cerdá (1982), *estar* begins to co-occur in Old Spanish with predicates that describe physical (7.58a) or psychological (7.58b) states, alongside the common use of *estar* with locative predicates (7.58c).

(7.58)

a.   *Commo* **estaua** *el cuerpo caliente e sudoriento.*

'How his body **was** hot and sweaty!'   [*estar, 13th cent.*; *Alexandre, 886*]

b.   *¿Que as que* **estás** *triste e cuydosa?*

'Why **are** you sad and worried?'   [*estar, 13th cent.*; *Calila e Dimna, 71AB*]

c.   *Essa primera cassa que* **estaba** *forana.*

'That first house that **was** on the outskirts.'   [*estar, 13th cent.*; *Berceo, Misa, 89A*]

[Vaño-Cerdá 1982:236-237]

On the boundedness-presupposition analysis, identification of the relevant sets for comparison relies on a contextually relevant parameter. The prediction, therefore, is that those contexts in which the relevant parameter for comparison is explicitly provided will be the first contexts to appear with *estar*. Specifically, for copula uses in (7.58a-b), the

preferred contexts will be those that make available alternative circumstances of evaluation that vary along the time parameter. By contrast, the locative predicates in (7.58c) rely on the world parameter being the contextually relevant parameter.

The question that I aim to investigate in the remainder of this chapter is which contexts allow the extension of *estar* to adjectival predicates and the inclusion of the time parameter as a relevant parameter to satisfy *estar*'s presupposition. I first analyze the use of the adjective *triste* 'sad' in *Calila e Dimna*. This book is a collection of fables of Indian origin that were originally written in Sanskrit around the 2nd century B.C. They were translated from Arabic into Castilian in the 13th century by the command of Alfonso X, when he was still a prince. They consist of a series of tales told by a philosopher to a king and were initially created as advice to princes. The book contains 23 occurrences of the adjective *triste*, 17 of which appear with *estar* and 6 with *ser*. The book already shows a large number of *estar* uses with this particular predicate, which indicates that encroachment was already underway.

Restricting the analysis to one adjective type and one book allows to control for differences in genre, adjective type and author's idiosyncrasies. However, it is very limited with respect to the generalizations that can be made. Thus, the next step, once the patterns in *Calila e Dimna* are established, is to investigate whether the patterns hold for copula uses in other works of the 13th century. This larger investigation includes books of different genres and authors. *Calila e Dimna* is a translation from Arabic, and comparing the uses with those found in other works of the time will ensure that differences in copula use are not

the result of influence from Arabic.[29] Only works from the second half of the 13th century are included because during this time the kingdom of Castile expanded and King Alfonso X began efforts to 'standardize' the Castilian language as the official language of the kingdom (Rubio García, 1981; Niederehe, 1983; Lapesa, 1984). The Toledo School of Translators flourished during this time and contributes to the standardization of Castilian. This group of scholars, who worked during the 12th and 13th century, began translating primarily into Latin. During the second half of the 13th century, under the reign of Alfonso X, they began to translate works into Castilian, thus establishing the foundations of Modern Spanish. It is also during this time when the first books originally written in Castilian appear, such as the *General Estoria* and the *Estoria de España*, two encyclopedic books written on the initiative of Alfonso X.

7.6.2 Copula Use before the 13th Century

The Castilian language underwent a notable process of growth during the 13th century due to the efforts of Alfonso X and the Toledo School of Translators. There are some major works before then that cast light on the transition from Vulgar Latin to Castilian. One of the earliest examples of what can be considered Castilian are the *Glosas Silenses* and *Glosas Emilianenses* from the 11th century. These are glosses writen on the margins of Latin codices with the aim of clarifying the Latin text. The glosses show the fusion of *esse* and *sedere* 'to sit' and the subsequent loss of meaning of *sedere* as a verb of position (Saussol, 1977). Bourciez (1931) also found an increase in the number of uses of

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[29]It is relevant to note that translations during this time were conducted differently from modern translations (Brasa Díez, 2009). It was usually the case that at least two translators worked on the translation process. One of them was a native speaker of the original language, whereas the other was a native speaker of Castilian. It was often the case that the translator into Castilian was not a native speaker of the original language, which was Arabic or Latin. This may have led to translations that did not follow the original word by word. On the other hand, a number of translations were from scientific books describing falconry skills or astronomy. Languages like Arabic and Latin had already a large scientific vocabulary in these areas, whereas Castilian lacked most of the terminology and, therefore, borrowings from these languages are expected. Nonetheless, these translations have been included in the analysis since they contributed to set the foundations of Modern Spanish. They are usually considered representative of the Castilian spoken at the time as they were created under Alfonso X's motivation of standardizing the Castilian language.

stare in comparison to Latin without making reference to the types of predicates with which the verb co-occurs.

A second work of relevance is the *Poema de Mío Cid*, which is the oldest preserved Castilian epic poem, dated from the early 13th century and it is traditionally considered the first book written in Castilian. Copula uses in this poem have been extensively analyzed (Ford, 1899; Saussol, 1977; Vaño-Cerdá, 1982; Stengaard, 1991) and authors agree that the use of *estar* with adjectival predicates is very limited. Saussol (1977) conducted one of the most extensive analysis of copula use in *Poema de Mío Cid* and found only two uses of *estar* with adjectival predicates in the earliest version of the poem:

(7.59)

a. *A este don Jerome ya le otorgan por obispo, diéronle en Valençia o do puede* **estar**
    rico.

    'Don Jerome was named bishop and was given income in Valencia, where he can **be**
    rich.'

b. *Firme* **estido** *Per Vermudoz, por eso nos escamó*

    'Per Vermudoz **was** firmly positioned (on the horse) and that is why he did not fall.'

    [Saussol, 1977:39-40]

The predicates in (7.59) are strongly dependent on the location of the entity-denoting subject. In (7.59a), the locative adverb 'where' limits the predication to Valencia, the only place where the bishop can be rich because of the income he will receive.[30] The use in (7.59b) indicates that Per Vermudoz stayed firm on the horse and did not fall. In this use, the predication depends on the position of Per Vermudoz on the horse.[31]

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[30]Ford (1899:7) provides the following English translation 'where well he may dwell in might'.

[31]There are no copula uses with the adjective *triste* in the poem, but there are several occurrences of the adjective *alegre* 'happy', which always appears with *ser*:

The relevant contextual parameter in the context of these first adjectives with *estar* is not the temporal parameter, as it is often the case when *estar* appears with adjectival predicates, but rather the world parameter. These first uses of *estar* with adjectival predicates thus represent the first extension of *estar* to the domain of adjectival predicates, which is allowed by a context that makes the world parameter relevant. Saussol (1977:39), making reference to copula uses in *Poema de Mío Cid*, concludes that *la distinción actual 'cualidad como nota definitoria no considerada en el tiempo/cualidad como susceptible de cambio con matiz temporal' no era expresada en la época de nuestro anónimo autor con 'ser' o 'estar' respectivamente, sino con la mera relación 'sujeto-contenido del atribution' y su inserción en el contexto.*[32] The author notes with this that this use of *estar* must have not been part of a systematic distinction between the copulas at the time given the reduced number of uses. Rather, it was the contextual information that made the world parameter relevant and therefore the use of *estar* acceptable since at the time this was the only parameter that licensed the use of *estar*. On the basis of this data, it seems that it was the contextual support of *estar*'s presupposition that allowed the extension of *estar* to adjectival predicates. Now, we turn to how copula uses developed during the next century.

7.6.3 Copula Use in *Calila e Dimna*

This section begins the exploration of copula uses during the second half of the 13th century. A main generalization of *estar* uses in *Calila e Dimna* is that they all appear

(7.60)

a. *Llamavan a la puerta i sopieron el mandato, ¡Dios, qué alegre **fue** el abbat don Sancho!*
'Someone knocked on the door and gave the order, Lord, how happy **was** abbot don Sancho!'
[*Poema de Mío Cid*, Vs. 243]

b. *Con todas estas ganancias a la posada tornándose van; todos **son** alegres, granancias traen grandes.*
'The went back to the inn with all the profits; they **are** all happy, the profits are huge.'
[*Poema de Mío Cid*, Vs. 945]

c. *Alegre **es** el conde e pidio agua a las manos.*
'The Count **es** happy and asked for water on the hands.'   [*Poema de Mío Cid*, Vs. 1049]

[32]The present distinction between "property as a defining feature not temporally delimited / property subject to change over time" was not expressed at the time with *ser* or *estar* respectively, but with a mere relation of "subject-internal attribution" obtained from the context.

immediately after the narrator has described the cause of the sadness. In most cases, *estar* appears in direct speech in the form of a question inquiring about the cause of the sadness (7.61a) (13 cases) or to describe the state of sadness of an individual (7.61b) (4 cases).

(7.61)

a. *Dijo el lobo cerval: 'Dicen que era una garza, e había fecho su nido en una ribera muy viciosa, do había muchas truchas'. E envejeció e non podía pescar, e hubo fambre, e trabajóse de engañar aquellas truchas e aquel pescado, e demostró muy grant tristeza e cuidado. E viola un cangrejo de a lueñe. Vínose para ella, et díjole: '¿Qué has que* **estás triste** *e cuidosa?'*

The fox said to the deer: 'A crane once dwelt upon a lake that had lots of fish. The crane became old and unable to plunge into the water and soon he was almost starving. There wandered sideways a crab, who asked: 'Why **are you sad** and worried?'

[*Calila e Dimna, p.41*]

b. *Et acabó el león de matar al buey. Et pues que lo hubo muerto, repintióse e pensó de su facienda, e lo que ficiera. Et después que se amansó la saña que había, dijo: '¡Oh!, cuánto me ha mancillado Senceba en sí mismo, ca era de buen consejo e agudo, e non sé por ventura si fue acusado a tuerto.' E* **estovo muy triste** *et muy repentido e quejoso mucho por lo que ficiera.*

'And the lion killed the ox. And after he killed it, the lion regretted what he had done. And then, he calmed down and said: 'Oh!, it is a disgrace because Senceba was the wisest and nicest friend and he was accused for no reason. And the lion **was very sad** and regretted what he had done.'

[*Calila e Dimna, p.65*]

With respect to *ser* uses, they appear in self-reports in which the person who is undergoing the sadness describes this state (7.62). Indeed, in (7.62a), the frog asks the

question with *estar* and the raven describes its own state of sadness with *ser*.

(7.62)

a. *Dijo el cuervo: 'Dicen que una culebra envejeció et enflaqueció, e non podía cazar*
   et vínose para una fuente do había muchas ranas de que ella solía cazar, e se
   mantenía dellas. E echó se cerca de la fuente, a semejanza de triste e de pesante.
   Díjole una rana '¿Qué has que estás triste?' Dijo ello: '¿E cómo non **seré triste**
   que la mi vida non era de ál, si non de las ranas, et agora vino me grand ocasión de
   guisa que non puedo comer nin tomar si non las que me dan en limosna.' E fuese la
   rana, e fízolo saber al rey de las ranas, e él vino le preguntar aquesto, e llegóse a
   ella e preguntóle: '¿Cómo te acaesció esto que dices?'
   'And the raven said: A snake once became old and thin and could not hunt. And it
   went to a lake where there used to be many frogs that he used to hunt. He lay next to
   the lake, sad and troubled. A frog said: 'Why are you sad?' And the snake said:
   'How could I not **be sad** if I was fed on frogs and now I can only eat the frogs that I
   am offered by charity.' And the frog left and told the king of the frogs about the
   snake. The king went to the snake and asked: 'How did this happen to you?'

   [*Calila e Dimna, p.116*]

b. *Et tanto veo de la tu tristeza e pesar e cuidado, que me pesa de corazón. Et non*
   puedo **ser triste** *por lo que non sé, ca el rey es tan con el pueblo como la cabeza*
   con el cuerpo; cuando la cabeza está bien el cuerpo está bien.
   'Your sadness, regret and concerns hurt me. And I cannot **be sad** for what I do not
   know because the king is with the people as the head with the body; when the head
   is well, the body is well.'

   [*Calila e Dimna, p.65*]

Further evidence for the use of *ser* in self-reports comes from Vaño-Cerdá (1982),
who notes that there is copula variation in the two available manuscripts of *Calila e Dimna*.

In (7.63), for example, there is variation in the use of the copula in self-reported speech, whereas both manuscripts maintain *estar* in the question:

(7.63)

a.   *'E dijo la fenbra: '¿que has por que* **estas triste***?' Et dixo el çarapico:* **Estoy triste** *por las tribulaciones.'*

'And the female said: 'Why **are you sad**?' And the curlew said: I **am sad** because of my sorrows.'

[*Calila e Dimna, 360*, Manuscript A]

b.   *'¿Que has por que* **estas triste***?' Et dixo el çarapico:* **So triste** *por las tribulaciones.'*

'And the female said: 'Why **are you sad**?' And the curlew said: I **am sad** because of my sorrows.' '

[*Calila e Dimna, 360*, Manuscript B]

There are two uses of *ser*, however, that do not follow this pattern. They seem to differ from *estar* uses in that they describe a state of sadness that lasts for a certain period of time. In (7.65a), the priest is putting a spell on the snake and asking that it be sad – this would be a state of sadness that lasts for a certain period of time. In (7.65b), it is the delay of the husband that is causing the state of sadness. It is probably the duration of the stay, which will last as long as the husband is away, that makes the duration of the state relevant and the use of *ser* acceptable.[33]

(7.65)

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[33]According to Vaño-Cerdá (1982), the use of *ser* to refer to a property that obtains through time, without any implication of holding temporarily, would be a common use of *ser* until the 15th century when it is replaced by *estar*:

(7.64)

'Triste **es** *la mi alma fasta la muerte.'*
'Sad is my soul until death.'   [*El evangelio de San Mateo, 26, 38*, 13th century]

a. *Díjole: 'Fuí en rastro de una rana por la tornar, e ella metióse en casa de un*

    religioso, et yo entré en pos ella, e la casa estaba oscura. E estaba en la casa un

    niño. E cuidando que mordía a la rana, mordí al niño en la mano et murió. E salí

    dende fuyendo, et salió el religioso empos de mí, e maldijo me, et díjome: 'Así como

    mataste este niño sin culpa ninguna con tu traición, maldígote que **seas triste** *e*

    confondida, e que seas cabalgadura del rey de las ranas, e que non hayas poder de

    tomar ninguna rana, si non las que te diere su rey por limosna.'

    'He said: 'I chased after the frog and it went into the house of a priest and I followed

    it into the dark house. And there was a boy in the house. And thinking that I was

    biting the frog, I bit the boy's hand and he died. I ran away and the priest came after

    me and put a spell on me saying: 'In the same way as you killed this blameless boy,

    I put a curse on you to make you sad, troubled, and servant of the king of frogs, and

    that you are unable to eat any frogs except those that are given to you.'

    [*Calila e Dimna, p.116*]

b. *Et salió a él et abrazáronse uno con otro, e solazáronse e fablaron en uno e*

    posieron su amor, e estovieron amos desta guisa un tiempo, que el galápago non

    tornó a su compaña nin otrosí el simio se partía dél. Desí la muger del galápago

    fue muy triste *por la tardanza de su marido, e quejóse a una su comadre e díjole la*

    comadre: 'Non te acuites, que me dijeron que tu marido está en la ribera de la mar,

    e que ha por amigo un simio e están ambos comiendo e solazándose, et por esto

    tardó tanto que non veno, e non te pese dello, et olvídalo tú así como él te olvida a

    ti. Pero si pudieres guisar como mates al simio faz lo, ca si el simio muere, luego se

    verná tu marido para ti e fincará contigo.' Et la muger del galápago estaba triste, e

    lloraba, e non comía, et dejó se mal caer, atanto que enflaquesció de mala manera.

    'And he came out and they held each together, and relaxed and they talked and

    loved each other. The turtle would not return home until the ape left. Thus the

turtle's wife **was very sad** because of the delay of her husband and complained to a friend: 'Do not worry, I have heard that your husband is on the riverbank, and that he became friends with an ape and they are eating and relaxing and that is why he is not back yet. Do not worry, forget about it in the same way that he forgets about you. But if you can find a way to kill that ape, do it, because if the ape dies, then your husband will come back and stay with you'. And the turtle's wife **was sad** and cried and did not eat. She did not take care of herself and lost much weight'.

<div align="right">[Calila e Dimna, p.118]</div>

The only case in which *ser* is used in direct speech, as a request for more information about the cause of the sadness is shown in (7.66). This example illustrates a conversation between the King and the philosopher Cameirón:

(7.66)

a. *Et cuando el rey oyó esto que le aconsejaba la reina, tovo que le aconsejaba bien, et cabalgó en su caballo, et fuese para Caimerón, que era cerca dél. Et cuando llegó a su puerta descabalgó e entró a él e humillóse le. Et dijo el Caimerón al rey: '¿Qué te acontesció, rey, que veniste acá, e por qué* **eres tan demudado e tan triste***, et non te veo traer la corona en la cabeza nin la diadema que sueles?'*

'And when the King heard what the Queen advised, he took it as a good advice and left with his horse to Caimerón's house, which was nearby. When he got to the door, dismounted, went and swallowed his pride. And Caimerón said to the King: 'What happened, King, that you came here and **are you so upset and sad**, and I see neither the crown nor the tiara that you usually wear? '

<div align="right">[Calila e Dimna, p.137]</div>

This use of *ser* is, in principle, unexpected given that other similar uses of the adjective in direct speech appear with *estar*. One of the main differences with the other

examples is that this is the only use of *triste* in which a vassal, the philosopher Caimerón, speaks directly to the King. [34] Although the evidence is limited, it can be speculated that the use of *ser* may be considered a more 'appropriate' or 'formal' way to speak to the King.[35] Another more possible explanation is that the use of *estar* to yield temporary readings is still in the early stages, and therefore a consistent association has not yet been established between *estar* and the specific contexts that allow access to a bounded context.

Although the data presented is restricted to a particular predicate and one book, some tentative conclusions can be drawn regarding the initial contexts that allow *estar* to encroach on the domain of use of *ser*, specifically with stage-level predications. There is a preference for *estar* to appear 1) in questions that ask about the cause of the sadness and 2) in contexts in which the cause of the sadness is explicitly provided. The encroachment of *estar* has implications for *ser* uses: *ser* is restricted to cases in which the cause of the change of state is not explicitly provided in the context, and/or the state is not perceived as temporary.

7.6.4   Copula Use in the 13th Century

This section will investigate whether the patterns of copula use in *Calila e Dimna* hold in other works of the 13th century. The aim is to identify whether these patterns apply to other genre and works that are not translations into Castilian. As described in the

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[34]A similar question is asked by Queen Helbed, who uses *estar*:

(7.67) *Et cuando Helbed esto oyó non le mostró ningun miedo, mas sonriósele en la cara e díjole: 'Señor, por esto non debes* **estar triste***, ca nuestras almas ofrecidas te son, et de grado las dejaremos por librar a ti de tristeza e porque finques en tu regno. Et tú has otras mugeres sin mí, diez e seis mil con Jorfate la buena dueña, que habrás en vez de mí.'*
'And when Helbed heard this, she did not show any fear, instead she smiled at him and said: 'Lord, you should not **be sad** because of this; as our souls are offered to you and we would be pleased to give them to you, so that you do not feel sadness and stay in your kingdom. And you have other women besides me, sixteen thousand with Jorfate the good landlady, and you can have them besides me.'

[*Calila e Dimna*, p.137]

[35]Indeed, sociolinguistic data indicate that innovations of *estar* are more frequent in speakers of lower socioeconomic status in Modern Spanish (Gutiérrez, 1992).

introduction to this section, the analysis will be restricted to works written in the second half of the 13th century. The analysis was conducted using the *Corpus del Nuevo Diccionario Histórico del Español*, a corpus created by the Spanish Royal Academy with over 400 million occurrences from the 12th century until the 20st century. The search was restricted to the adjective *triste* and to those cases in which the adjective appeared immediately after the copula. The corpus study included a total of 23 works, 15 of them conducted by the order of Alfonso X. Twelve works were translations from Arabic (8), French (1) or Latin (3). No restrictions in terms of genre were made. A total of 97 copula uses were analyzed; 31 uses of *estar* and 66 uses of *ser*. A full description of the works used has been included in the Appendix.

A first look at copula uses shows that *ser* was at this time the most common copula with the adjective *triste*. However, *estar* seems to be already an acceptable copula, representing a third of copula uses, which is a large number of uses in comparison to the limited number in the *Poema de Mío Cid*. A second observation is that both *ser* and *estar* overlap in their use in six out of the 23 books. Indeed, they are both used in one the main works written originally in Castilian, the encyclopedic book *General Estoria*. The next step is to analyze whether these uses are in free variation or whether they are used selectively in certain contexts. First, I will describe those contexts that categorically allow only one of the copulas, followed by a description of those contexts in which both copulas are found.

As observed in *Calila e Dimna*, *estar* is the only copula used in questions that ask about the state of sadness of the interlocutor. This use is observed in three different works, two translations from Arabic and one original Castilian book, which suggests that it is not the result of either the translation process or the author's own idiosyncrasies. There are in total five uses of *estar* with the adjective *triste* in questions. No uses of *ser* were found. The following examples illustrate this use:

(7.68) *E dixo Loginen a su señor: '¿Por qué* **estás** *triste?'*

'And Loginen asked his Lord: Why **are** you sad?.'

[*Bocados de Oro*, CNDHE]

(7.69) *¿Por qué te veo* **estar** *triste e cuidado? Si es por miedo o si te fize algún pesar, fázmelo saber...*

'And why **are** you sad and worried? If you are afraid or if I did something to you, let me know....'

[*Sendebar*, CNDHE]

Questions are, therefore, the first contexts in which *estar* shows a systematic use. The meaning of a question is traditionally analyzed as the set of all propositions that correspond to a possible answer, namely, those that are true in the given world (Karttunen, 1977). Questions, therefore, require assuming that there have to be alternative situations that falsify the proposition. For example, a question asking for the reason of someone being sad requires assuming that there are other temporal intervals at which the predication does not apply to the referent. Questions, therefore, represent one of the best supporting contexts for *estar*'s presupposition because they systematically require considering alternative situations that either verify or falsify the prejacent.

Let us now turn to contexts in which *ser* uniquely appears, which are contexts that describe personality traits. This is also a common use of *ser* in Modern Spanish. This use can be found in three different texts, two translations from Latin and Arabic and one original text in Castilian. It is a very common use in the book *Judizios de las estrellas*, a treatise on astronomy translated from Arabic by the Toledo School of Translators. It is used throughout the book to describe the personality of the gods or people depending on the location of the stars:

(7.70)

a.   *Venus quando* **fuere** *en todas las partes de Aries; es triste, dolorida, pobre, menguada, cuydadosa*

'Venus, whenever it **is** in Aries, is sad, painful, poor, cowardly and worried.'

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b. *E si fuere con Saturno en su catamiento. el nacido **sera** triste, dolorido, escasso.*

'And if the Saturno was ruling, the newborn **will be** sad, grieving and poor.'

[*Judizios de las estrellas*, CNDHE]

With respect to the overlapping uses of the copulas, it is important to remember that *estar* in *Calila e Dimna* was used primarily in contexts in which the reason for the state of sadness was made explicit in the immediate context. The current, analysis, however, indicates that *ser* was also a common copula in these contexts. Indeed, *ser* was used in such contexts in 28 out of a total of 66 uses that were analyzed, similarly to *estar*, which appeared in 15 out of the 31 uses analyzed. The overlapping use of the copulas occurs even within the same book, as shown by the following two uses:

(7.71)

a. *Quando el rey Minos esto oyo, pesol por ell e **fue** triste.*
'When King Minos heard this, he was sorry for him and **was** sad'.

b. *Cuenta otrossi el libro que uio Plato un dia un omne **estar** triste por una occasion quel contesciera...*
'The book also says that Plato saw one day a man who **was** sad because of something that happened...'.

[*General Estoria. Segunda/cuarta parte*, CNDHE]

A closer look at these uses, however, suggest that they are not as homogeneous as they may seem. A main generalization, for example, is that these uses of *estar* appear in contexts in which the duration of sadness is temporally delimited, i.e., there is a clear beginning and end of the state of sadness. Temporal delimitations are explicitly marked with conjunctions such as *fasta* 'until' and *mientra* 'while' or time adverbs such as *quando* 'when'. Compare the following uses of *estar*:

(7.72)

a.   *E déxenlas folgar en casas lóbregas mientra* **estidieren** *tristes.*

    'And let them rest in a dark place while they **are** sad'.

             [*Moamín. Libro de los animales que cazan*, CNDHE]

b.   *La mugier, quando pare,* **esta** *triste, por que uiene su hora, mas quando ha parido el ninno, ya nol uiene emiente*

    'The woman, when giving birth, she **is** sad because the time has come, but when she has already given birth to a child, she does not remember it anymore'.

             [*El Nuevo Testamento según el manuscrito escurialense*, CNDHE]

c.   *yo* **estaua** *triste fastal sacrifficio dela noch*

    'I **was** sad until the night's sacrifice'.   [*Biblia del Escorial*, CNDHE]

In (7.72a), the author describes the illness of a bird, who causes the bird to be sad. It is during the state of sadness that the birds should rest in a dark place. In (7.72b), the use *estar* describes a state of sadness and pain of a women as she is giving birth. Finally, in (7.72c), the sentence establishes a clear temporal boundary for the state of sadness 'until the night's sacrifice'. These are three cases in which the time parameter is clearly relevant. The context provides explicit temporal boundaries during which the predication holds, thus making the time parameter relevant, which satisfies *estar*'s presupposition. By contrast, *ser* appears in cases in which the cause of the state of sadness is explicit, but not the temporal boundaries, as in the following examples:[36]

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[36]There is, however, an implied temporal boundary in that the sadness is not expected to last forever.

(7.73)

a. *El Rey quando esta palabra oyo pesol porque el so mandado fue assi passado e* **fue** *triste por ello.*

    'When the King heard this, felt bad because his law had been broken and **was** sad for that '.   [*General Estoria. Cuarta parte*, CNDHE]

b. *quando Cornelia estas palabras oyo a Ponpeo tanto* **fue** *triste e quebrantada e tan grande dolor le tomo al coraçon que la saco de sentido*

    'When Cornelia heard these words from Ponpeo **was** sad and and weak and she was hurt so painfully that she lost consciousness'.

    [*General Estoria. Quinta parte*, CNDHE]

c. *ssentiendo que él auya de morir, non rreçeló la muerte, ssegunt él mismo dixo, que* **era** *triste la ssu alma ffasta en la muerte.*

    'knowing that he had to die, he did not fear death and said that his soul **was** sad even in death'.   [*Vidal Mayor*, CNDHE]

The example in (7.73a) is used in a context in which the King has ordered that the people can only pray to him, but not to the gods, and he has found that one of his vassals has broken the law. The use on (7.73b) describes a situation in which Ponpeo tells his wife that his is going to fights in a battle and there is a chance that he may die. In both cases, the sadness is not explicitly temporally delimited and, indeed, in both cases the copula would be replaced by another verb in Modern Spanish, such as *ponerse* 'to become'. Finally, the use of *ser* in (7.73c) describes a state of sadness that continues even during death, which eliminates any temporal boundaries.

7.6.5   Conclusion: Initial Contexts of *estar* with Adjectival Predicates

This section examined the contextual requirements imposed by *estar*'s presupposition, specifically in the transition from Late Latin, in which *estar* was only used with locative predicates, to the early stages of Old Spanish. The focus has been on those

contexts that allowed *estar* to appear for the first time in combination with adjectival predicates to express temporary readings. As shown, *estar* appears for the first time with adjectival predicates in contexts in which the world parameter is relevant. In these cases, the predication is not necessarily temporary, rather, it shows a strong dependence on a locative relation.

A corpus analysis of copula use with the adjective *triste* in the 13th century revealed an increase in the frequency of *estar* with this adjective. This was particularly noticeable in questions, in which no uses of *ser* were registered. Questions presuppose the existence of both falsifying and verifying circumstances of evaluation, which meet the requirements of the boundedness-presupposition, thus making questions a suitable context for *estar*'s encroachment. The unique uses of *ser* with adjectival predicates are those that describe pesonality traits, a use of *ser* that is also found in Modern Spanish. The overlapping uses of the copulas in contexts in which the explicit cause of the state of sadness is provided shows a constrained use: *estar* appears only in those cases in which the state is temporally delimited.

7.7 General Conclusion: Connecting Synchronic and Diachronic Distributional Patterns

This chapter described how the distributional patterns observed in copula use in Modern Spanish show commonalities with patterns of the copulas in other languages, specifically in non-Romance languages such as Hebrew, Washo, Scottish Gaelic and African American English. These commonalities suggest that copulas are not semantically empty and that the variation in copula use follows a systematic behavior. Indeed, an exploration of the diachronic distributional patterns of *ser* and *estar* suggests that the synchronic variation in Modern Spanish can be understood as a manifestation of its diachronic use.

The diachronic data point to a systematic development in the distributional patterns of the copulas, in which there is a selective extension of *estar* into the domain of use of *ser*. The extension of *estar* over time can be characterized by three different stages: innovation, categoricalization and generalization. Previous work on semantic change points to a crucial role of context in pushing towards or against certain interpretations throughout this path. This Chapter has shown that these contexts can be precisely characterized. A corpus study of texts from the 13th century revealed that those contexts that more easily satisfy the boundedness-presupposition requirements are the first contexts to appear with *estar*: questions and temporally-delimited changes of state. In addition, initial data from the early 13th century suggest that the encroachment of *estar* on adjectival predicates may have occurred in contexts that were strongly dependent on a locative relation, and therefore uses that do not yield a temporary reading of *estar*. This would explain how *estar* transitioned from a purely locative verb to a copula that asserts that a property holds of an individual temporarily. An important observation is that these periods of innovation of *estar* are characterized by some variation in the use of the copulas. This variation is systematic and can be contextually determined. The main

conclusion from this chapter is that the innovated uses of *estar* observed in Modern Spanish may be better understood as a period of variation in copula use that is contextually conditioned, thus reflecting *estar*'s diachronic extension into the domain of use of *ser*.

Chapter 8

Summary of Main Findings and General Discussion

The motivation behind this dissertation was to understand the relation between systematic patterns of synchronic and diachronic variation in language. This question has been addressed through the lens of the Spanish copula system, and specifically investigating the alternation of the copulas *ser* and *estar*. The overview of the distributional patterns of the copulas, on the basis of previous work presented in **Chapter 2**, indicate that copulas alternate with three main predicate types, adjectival, nominal and prepositional predicates, giving rise to a wide range of interpretations. Despite the attempts of early grammarians to identify categorical uses of the copulas, such an enterprise has not been able to capture the principled components that can account for the variety of copular uses. Indeed, one of the main difficulties of early descriptive explanations is that the contexts in which the copulas appear were often ignored or difficult to characterize without appealing to broad descriptive generalizations. Sociolinguistic work on copula use across Spanish dialects has proven to be very useful in shedding light on copula uses in Modern Spanish and particularly on their dialectal variation. The data point to a generalized increase of uses of *estar* in certain dialects, such as Mexican and Venezuelan Spanish, relative to Iberian Spanish.

The overview of previous literature on copula use in Spanish described in **Chapter 3** shows that most analyses of copula alternation have been restricted to their combination with adjectival predicates. It is with these predicate types that copulas show the widest range of interpretations and constraints in their use. Additionally, previous analyses have been restricted to patterns of copula use in specific dialects, without aiming at explaining the cross-dialectal variation. This dissertation relied on three main insights have been taken from previous work as properties that any viable analysis of copula distribution should be able to account for: 1) the sensitivity to discourse context of both copulas, 2) the presuppositional component of *estar* and 3) the neutrality of *ser*. These insights establish the basis of the boundedness-presupposition analysis, which explains the distinction between the copulas based on *estar*'s presuppositional requirements. This analysis provides a precise characterization of the contextual requirements of *estar* and the pragmatic effects that arise for both copulas in interaction with the expectations of the interlocutors.

The analysis presented in this dissertation has been experimentally tested using four different methodologies across four varieties of Spanish (Argentinian, Iberian, Mexican and Venezuelan Spanish). The offline experiments presented in **Chapter 4**, an acceptability rating task and a fill-in-the-blank task, showed that contextual modulation of *estar*'s presuppositional requirements is found across varieties. However, as hinted by previous sociolinguistic data, there are clear dialectal differences. Despite general contextual modulation, Mexican and Venezuelan speakers showed less contextual modulation relative to Argentinian and Iberian Spanish.

With respect to the online studies, described in **Chapter 5** the self-paced reading data provided a finer-grained understanding of the processing cost of the copulas. Out of the three dialects that were tested, only Iberian and Argentinian Spanish showed a processing cost for *estar* sentences. Such processing costs appeared when the predicates were preceded by a neutral context, but the cost disappeared when the same sentence was

preceded by a context that supported *estar*'s presuppositional requirements. By contrast, speakers of Mexican Spanish revealed no processing cost for *estar* sentences, relative to *ser* sentences, regardless of the preceding context. These findings are in line with the offline data and the larger contextual modulation observed for Iberian and Argentinian Spanish. Dialects that show larger contextual modulation show a processing cost. Mexican speakers, however, behaved differently than Iberian and Argentinian speakers by showing less contextual modulation in offline ratings. This was translated into a lack of online processing costs.

Finally, the ERP study with Iberian speakers included in **Chapter 6** provided a better understanding of the cognitive processes underlying the processing of copula use. *Estar* sentences preceded by a supporting context modulate the N400 amplitude, which is taken to reflect the offline preference for these sentences to appear with *ser* when no contextual or neutral information is provided. As expected, *estar* sentences did not yield a late positivity with supporting contexts since no context update is needed. However, when a neutral context precedes a *estar* sentence a late positivity is found. With respect to *ser* sentences, no differences in their online signature were observed. Crucially, the ERP findings inform us about the nature of the underlying processing mechanisms, which are clearly distinct for *estar* sentences as a function of the preceding contextual information.

Overall, the experimental work supports the boundedness-presupposition analysis and the variation across Spanish dialects. The proposed analysis has the advantage that it accounts for a wide variety of copula uses in combination with adjectival, nominal and locative prepositional predicates. Additionally, it explains the variation observed across Spanish dialects as a function of the extension of *estar* in each dialect. **Chapter 7** focused on this aspect, based on two main observations: 1) similar systematic patterns of synchronic variation across languages that are separated across time and space and 2) the diachronic development of copula use, which suggest an encroachment of *estar* upon the domain of the use of *ser*. This last chapter showed how the extension of *estar* over time is supported

by previous corpus data and particularly focused on the innovations of *estar* in the 13th century. The results of the corpus analysis support the diachronic extension of *estar*. In addition, the results indicate that copulas are not in free variation in this century since their use instead can be predicted, to certain extent, by the properties of the context in which they appear. Crucially, these contextual requirements are predicted by the boundedness presupposition analysis.

8.1   General Discussion

The main motivation of this dissertation was framed in terms of two main questions:

- How can we characterize the sources of linguistic variation such that they lead to systematicities across languages and, specifically, across copula systems?

- How is synchronic variation in language related to stable diachronic changes?

The first step to address these questions was to provide a unifying analysis that could precisely characterize the meaning of the Spanish copulas *ser* and *estar* and that could account as well for the wide range of copular uses and the contextual sensitivity of *estar* predications. The boundedness-presupposition analysis locates the distinction between the copulas in the presuppositional component of *estar*. That is, the two copulas serve to indicate that the predication holds on the entity-denoting subject but *estar*, additionally presupposes that the context fulfills the two boundedness conditions (described in detail in Chapter 4).

One of the main conclusions arising from this investigation is that the presuppositional component of *estar* acts as driver of change. Speakers of different dialects are making use of this higher informative value of *estar* as reflected in the experimental findings . The larger picture that emerges is that *estar* serves to communicate a more specific meaning than *ser* and speakers tend to exploit this meaning

of *estar* over time. In the diachronic data, this overuse of the meaning of the *copula* is reflected in several diachronic stages, which are characterized by the inclusion of new contextual parameters (time, location, agent, delineation parameter and world) that satisfy *estar*'s presuppositional requirements.

The higher informative value of *estar* has been characterized in terms of a presuppositional component. This means that, during a conversation, interlocutors need to be sensitive to the described contextual parameters that allow access to a set of alternatives circumstances of evaluation, which in turn allow satisfaction of *estar*'s presuppositional component. The relevant parameters necessary for identification of a set of alternative circumstances may be explicitly provided by the immediate context in which an utterance appears, thus facilitating presupposition satisfaction. On the other hand, such a context may be part of the shared information of the speakers from a conversation and therefore be readily available. A third alternative is that the speaker may have to infer the relevant contextual parameters and build the set of circumstances of evaluation 'on the fly'. For example, let's consider the following use of *estar*:

(8.1) *¡Qué linda* **estás!**

       How pretty you **are***!*

In this example, the use of *estar* signals that the speaker is making a comparison across truth values of *estar* predications. The set of alternative circumstances considered for truth evaluation will minimally differ in a single parameter. Let's assume that the relevant parameter is *time*. The speaker may make explicit in the immediate context that today the hearer is wearing a particularly nice dress, which is the reason why the person is pretty. A second option is that this information is not readily available, but the use of *estar* triggers a search for this *contingent* meaning of *estar*, i.e. it triggers the search for identification of bounded context. The speaker may not be able to identify the exact set of relevant circumstances of evaluation, but s/he knows that the use of *estar* signals such a use.

The presuppositional component of *estar* therefore requires the identification of specific information. It is this processing computation that speakers are making use of and that characterizes the uses of *estar*.

The variation observed across Spanish dialects is systematic and can be conceived as a manifestation of the diachronic development of *estar* over time and of sensitivity to this presuppositional component of *estar*. This systematicity in cross-dialectal variation is observed in the contextual sensitivity of *estar* predications across dialects in both acceptability ratings and copula use. Copula use does not vary randomly, instead, it is subject to specific contextual constraints imposed by *estar*.The cross-dialectal variation observed with respect to *estar*'s contextual sensitivity is an indication of the ability of speakers to identify the relevant set of alternative of circumstances necessary for evaluation of the truth value of the *estar* predication.

The hypothesis that emerges from the experimental findings, which remains to be further investigated, is that diachronic change and variation are dependent on the relevant contextual parameters associated with *estar*'s lexical entry. The prediction is that changes over time in patterns of copula use can be grouped in terms of the relevant parameters that allow access to alternative circumstances of evaluation. The synchronic variation observed across dialects would therefore be a reflection of the available parameters associated with *estar*'s lexical entry.

Finally, I have argued that the role of context is crucial to facilitate access to the relevant set of alternative circumstances of evaluation. Indeed, the findings from this dissertation indicate that immediate contextual information may be a crucial component in the process of variation and ultimately change. The contextual information provides a way to explicitly inform the reader about the relevant parameter. Therefore, the context is a good candidate for broadening the set of contextual parameters associated with satisfaction of *estar*'s presupposition.

This dissertation has shown that interdisciplinary work is crucial to achieve a better understanding of language variation and change in language. On the one hand, it connects observations from historical linguistics and sociolinguistics. Specifically, it started with the diachronic observation that there is a process of encroachment of *estar* onto the domain of the use of *ser* over time. In parallel, sociolinguistic data pointed to variation in copula use and particularly to an overuse of *estar* in certain dialects, characterized by innovative uses of *estar*. A main conclusion from this dissertation is that the observed variation across dialects in Modern Spanish can be understood as a manifestation of the diachronic development of the copulas over time. Finally it has been shown that a psycholinguistic approach to the study of copula variation provides new methodological tools and analyses that allow for a better understanding of the synchronic stages that characterize a development path of change. This dissertation has shown that experimental tools can provide a window into the lexical meaning of expressions that are undergoing a change. Different measures tap into distinct aspects of processing and a combination of offline and online methodologies can provide a better understanding of the sources of variation.

Further questions regarding copula use remain for further investigation. For instance, it is still a matter of further investigation how variation in copula use leads to a change in the distributional patterns of the copulas. Acquisition studies with children on *ser* and *estar* that focus on careful manipulations of the context can shed light on this question. Additionally, the conceptual space that underlies the development of locative expressions over time into copula uses still remains for further investigation.

The dissertation also adds new questions regarding the processing of presupposed information. Previous research have focused on presuppositional triggers as conforming a single category, but the data indicate that the shift should rather be made to characterize the requirements that presuppositional triggers impose onto the larger discourse. Finally, the findings from this dissertation show that the connection between diachrony and

synchronic variation can be formally captured and experimentally investigated. The findings also point to the relevance of cross-disciplinary research in which findings from different fields, be it of historical, sociolinguistic or psycholinguistic nature can be combined to better understand the cognitive basis of language.

Chapter 9

Appendix

9.1 Stimuli Material

9.1.1 List of adjectives (with subject referent)

Aburrida (trama), ajustada (falda), alegre (Pedro), ancho (traje), azul (agua), compicado (viaje), complicada (operación), corta (cortina, falda), corto (vestido), cortos (pantalones), delgada (Elena, Lidia), difícil (situación), emocionante (historia, partido, trama), enponjoso (Roscón de Reyes), grande (mantel), gris (arena), interesante (historia), intrigante (trama), justos (pantalones), pedregoso (camino), peligroso (acantilado), pequeño (marco), suave (relleno). [1]

9.1.2 Full Stimuli

1. Rebeca estudió filología inglesa, pero con la crisis no hay muchas plazas de profesor, así que tiene un trabajo temporal. Me han dicho que ESTÁ de gerente en un hotel de Cuenca.

2. Rebeca se licenció en Hostelería y turismo en Salamanca con las mejores notas y ha

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[1] Boring (plot), tight (skirt), happy (Pedro), wide (suit), blue (water), complicated (trip), complicated (surgery), short (curtain, skirt), short (dress), short (pants), skinny (Elena, Lidia), difficult (situation), exciting (story, game, plot), intriguing (plot), tight (pants), stony (path), dangerous (cliff), small (frame), soft (filling).

conseguido un buen trabajo. Me han dicho que ES de gerente en un hotel de Cuenca.

3. Rebeca estudió filología inglesa, pero con la crisis no hay muchas plazas de profesor, así que tiene un trabajo temporal. Me han dicho que ES de gerente en un hotel de Cuenca.

4. Rebeca se licenció en Hostelería y turismo en Salamanca con las mejores notas y ha conseguido un buen trabajo. Me han dicho que ESTÁ de gerente en un hotel de Cuenca.

5. Mi primo de momento tiene un trabajo de 6 meses. Le pagan bien porque ESTÁ de fontanero asistente en el Palacio Municipal de Congresos.

6. Mi primo lleva en el mismo trabajo desde hace años. Le pagan bien porque ES de fontanero asistente en el Palacio Municipal de Congresos.

7. Mi primo de momento tiene un trabajo de 6 meses. Le pagan bien porque ES fontanero asistente en el Palacio Municipal de Congresos.

8. Mi primo lleva en el mismo trabajo desde hace años. Le pagan bien porque ESTÁ de fontanero asistente en el Palacio Municipal de Congresos.

9. Miguel ha conseguido un trabajo de fin de semana. Me han dicho que ESTÁ de cocinero en un restaurante de la Gran Vía.

10. Por fin, Miguel ha conseguido su sueño de tener un trabajo estable en el mundo culinario. Me han dicho que ES cocinero en un restaurante de la Gran Vía.

11. Miguel ha conseguido un trabajo de fin de semana. Me han dicho que ES cocinero en un restaurante de la Gran Vía.

12. Por fin, Miguel ha conseguido su sueño de tener un trabajo estable en el mundo culinario. Me han dicho que ESTÁ de cocinero en un restaurante de la Gran Vía.

13. El defensa estrella del equipo, Pepe, se lesionó en el último partido y el jugador nuevo le reemplaza hoy. El jugador nuevo, Sergio, ESTÁ de defensa izquierdo y ha

despertado pasiones entre la afición.

14. La defensa del equipo ha mejorado con la llegada de un jugador nuevo y el equipo lleva ganados muchos partidos. El jugador nuevo, Sergio, ES defensa izquierdo y ha despertado pasiones entre la afición.

15. El defensa estrella del equipo, Pepe, se lesionó en el último partido y el jugador nuevo le reemplaza hoy. El jugador nuevo, Sergio, ES defensa izquierdo y ha despertado pasiones entre la afición.

16. La defensa del equipo ha mejorado con la llegada de un jugador nuevo y lleva ganados muchos partidos. El jugador nuevo, Sergio, ESTÁ de defensa izquierdo y ha despertado pasiones entre la afición.

17. A Luis aún le queda un año para terminar la carrera de medicina. Para ganarse un dinero extra, ESTÁ de enfermero en el Centro de Salud 'Góngora'.

18. Luis se licenció en enfermería hace años en la Universidad de Granada y trabaja en el Hospital Virgen de las Nieves. Para ganarse un dinero extra, ES enfermero en el Centro de Salud 'Góngora'.

19. A Luis aún le queda un año para terminar la carrera de medicina. Para ganarse un dinero extra, ES enfermero en el Centro de Salud 'Góngora'.

20. Luis se licenció en enfermería hace años en la Universidad de Granada y trabaja en el Hospital Virgen de las Nieves. Para ganarse un dinero extra, ESTÁ de enfermero en el Centro de Salud Góngora .

21. Con la crisis, varios vecinos del barrio han perdido sus trabajos y ahora trabajan en lo que sale. Luis, mi vecino de al lado, ESTA de peluquero en un centro de estética en Badalona.

22. En mi barrio, los vecinos ejercen diferentes profesiones. Luis, mi vecino de al lado, ES peluquero en un centro de estética en Badalona.

23. Con la crisis, varios vecinos del barrio han perdido sus trabajos y ahora trabajan en

lo que sale. Luis, mi vecino de al lado, ES peluquero en un centro de estética en Badalona.

24. En mi barrio, los vecinos ejercen diferentes profesiones. Luis, mi vecino de al lado, ESTA de peluquero en un centro de estética en Badalona.

25. El coche de David se ha averiado y le ha tocado arreglarlo, así que no va a poder venir al cine. Me ha dicho que ESTÁ de mecánico en el taller de su padre.

26. David ha dedicado su vida al negocio familiar y todavía no quiere jubilarse. Me ha dicho que ES mecánico en el taller de su padre.

27. El coche de David se ha averiado y le ha tocado arreglarlo, así que no va a poder venir al cine. Me ha dicho que ES mecánico en el taller de su padre.

28. David ha dedicado su vida al negocio familiar y todavía no quiere jubilarse. Me ha dicho que ESTÁ de mecánico en el taller de su padre.

29. Marta ha encontrado un trabajo de fin de semana para pagarse el viaje a Egipto.

30. Me han dicho que ESTA de pastelera en el restaurante de la Avenida de Roma.

31. Marta ha desarrollado una carrera brillante en el negocio pastelero. Me han dicho que ES pastelera en el restaurante de la Avenida de Roma.

32. Marta ha encontrado un trabajo de fin de semana para pagarse el viaje a Egipto. Me han dicho que ES pastelera en el restaurante de la Avenida de Roma.

33. Marta ha desarrollado una carrera brillante en el negocio pastelero. Me han dicho que ESTA de pastelera en el restaurante de la Avenida de Roma.

34. Rocío quiere que Laura vaya de compras mañana, pero Laura aún tiene que preparar los dulces para el cumpleaños de la abuela, ya tiene todo preparado en la cocina. Le he dicho que Laura ESTÁ de panadera y tiene que levantarse pronto.

35. Laura tiene mucho trabajo en la panadería y ayer apenas pudo dormir por el ruido que había en casa del vecino. Le he dicho que Laura ES panadera y tiene que levantarse

pronto.

36. Rocío quiere que Laura vaya de compras mañana, pero Laura aún tiene que preparar los dulces para el cumpleaños de la abuela, ya tiene todo preparado en la cocina. Le he dicho que Laura ES panadera y tiene que levantarse pronto.

37. Laura tiene mucho trabajo en la panadería y ayer apenas pudo dormir por el ruido que había en casa del vecino. Le he dicho que Laura ESTÁ de panadera y tiene que levantarse pronto.

38. Después de la guerra, las mujeres del vecindario han perdido sus puestos administrativos y ahora trabajan en lo que sale, en general con contratos de sólo 2 ó 3 meses. La madre de Pablo, por ejemplo, ESTÁ de conserje en un hotel de la capital.

39. Los padres de Pablo han trabajado en hoteles de Madrid desde hace años y, con el tiempo, han conseguido puestos estables. La madre de Pablo, por ejemplo, ES conserje en un hotel de la capital.

40. Después de la guerra, las mujeres del vecindario han perdido sus puestos administrativos y ahora trabajan en lo que sale, en general con contratos de sólo 2 ó 3 meses. La madre de Pablo, por ejemplo, ES conserje en un hotel de la capital.

41. Los padres de Pablo han trabajado en hoteles de Madrid desde hace años y, con el tiempo, han conseguido puestos estables. La madre de Pablo, por ejemplo, ESTÁ de conserje en un hotel de la capital.

42. Claudia mide sólo 1.50 metros, pero hoy lleva tacones. Tiene muy buen estilo, ESTÁ alta y la ropa le sienta genial.

43. Siempre he creído que Penélope Cruz debería trabajar como modelo, en vez de como actriz. Tiene muy buen estilo, ES alta y la ropa le sienta genial.

44. Claudia mide sólo 1.50 metros, pero hoy lleva tacones. Tiene muy buen estilo, ES alta y la ropa le sienta genial.

45. Siempre he creído que Penélope Cruz debería trabajar como modelo, en vez de como actriz. Tiene muy buen estilo, ESTÁ alta y la ropa le sienta genial.

46. Ayer Pedro parecía preocupado, pero hoy todo lo contrario. Sólo tienes que mirarlo, ESTÁ alegre y bromista y se ríe todo el rato.

47. Acabo de conocer a Pedro y me ha caído muy bien. Sólo tienes que mirarlo, ES alegre y bromista y se ríe todo el rato.

48. Ayer Pedro parecía preocupado, pero hoy todo lo contrario. Sólo tienes que mirarlo, ES alegre y bromista y se ríe todo el rato.

49. Acabo de conocer a Pedro y me ha caído muy bien. Sólo tienes que mirarlo, ESTÁ alegre y bromista y se ríe todo el rato.

50. Después del embarazo, Elena hizo dieta durante seis meses. La vi ayer en el cine, ESTÁ delgada y guapa, además, parece muy feliz.

51. Por fin he conocido a la mujer de Iván. La vi ayer en el cine, ES delgada y guapa, además, parece muy feliz.

52. Después del embarazo, Elena hizo dieta durante seis meses. La vi ayer en el cine, ES delgada y guapa, además, parece muy feliz.

53. Por fin he conocido a la mujer de Iván. La vi ayer en el cine, ESTÁ delgada y guapa, además, parece muy feliz.

54. Durante el invierno, la arena blanca de la playa de Nogales, en Canarias, se vuelve de color gris. Tienes que verla, la arena ESTÁ gris por la acción volcánica de la isla.

55. La playa de Nogales en Canarias, con su arena gris, se ha convertido en un gran atracción turística en cualquier época del año. Tienes que verla, la arena ES gris por la acción volcánica de la isla.

56. Durante el invierno, la arena blanca de la playa de Nogales, en Canarias, se vuelve de color gris. Tienes que verla, la arena ES gris por la acción volcánica de la isla.

57. La playa de Nogales en Canarias, con su arena gris, se ha convertido en un gran atracción turística en cualquier época del año. Tienes que verla, la arena ESTÁ gris por la acción volcánica de la isla.

58. Lidia siempre me ha parecido un poco subida de peso, pero ha adelgazado y ahora se la ve estupenda. Tiene muy buen cuerpo, ESTÁ delgada y la ropa le sienta bien.

59. Siempre he pensado que Marta Sánchez debería dedicarse al mundo de la moda, en vez de cantar. Tiene muy buen cuerpo, ES delgada y la ropa le sienta bien.

60. Lidia siempre me ha parecido un poco subida de peso, pero ha adelgazado y ahora se la ve estupenda. Tiene muy buen cuerpo, ES delgada y la ropa le sienta bien.

61. Siempre he pensado que Marta Sánchez debería dedicarse al mundo de la moda, en vez de cantar. Tiene muy buen cuerpo, ESTÁ delgada y la ropa le sienta bien.

62. La tarta de limón de Martina ha mejorado, sobre todo el relleno porque antes le quedaba muy seco. Me parece una exquisitez, el relleno ESTÁ suave y con un intenso sabor a limón.

63. Elena me ha dado la receta de la tarta de limón que prepara su madre y hoy mismo me he puesto a hacerla.. Me parece una exquisitez, el relleno ES suave y con un intenso sabor a limón.

64. La tarta de limón de Martina ha mejorado, sobre todo el relleno porque antes le quedaba muy seco. Me parece una exquisitez, el relleno ES suave y con un intenso sabor a limón.

65. Elena me ha dado la receta de la tarta de limón que prepara su madre y hoy mismo me he puesto a hacerla.. Me parece una exquisitez, el relleno ESTÁ suave y con un intenso sabor a limón.

66. Óscar ha hecho por primera vez un Roscón de Reyes y a todos nos ha encantado. El roscón en general gusta a todo el mundo, pero este en concreto ESTÁ esponjoso y tiene muchas frutas escarchadas.

67. Óscar me recomendó comprar el Roscón de Reyes de la panadería de la calle Águila. El roscón en general gusta a todo el mundo, pero este en concreto ES esponjoso y tiene muchas frutas escarchadas.

68. Óscar ha hecho por primera vez un Roscón de Reyes y a todos nos ha encantado. El roscón en general gusta a todo el mundo, pero este en concreto ES esponjoso y tiene muchas frutas escarchadas.

69. Óscar me recomendó comprar el Roscón de Reyes de la panadería de la calle Águila. El roscón en general gusta a todo el mundo, pero este en concreto ESTÁ esponjoso y tiene muchas frutas escarchadas.

70. Cuando supe que Ramón y Roberto querían saltar desde un acantilado, me acerqué para me acerqué para ver el lugar y me sorprendió la altura y que no parecía haber mucha profundidad. Estoy intentando decirles que el acantilado ESTÁ peligroso, pero no me hacen caso.

71. Hay muchos niños jugando alrededor del acantilado, tienen que tener cuidado. Estoy intentando decirles que el acantilado ES peligroso, pero no me hacen caso.

72. Cuando supe que Ramón y Roberto querían saltar desde un acantilado, me acerqué para me acerqué para ver el lugar y me sorprendió la altura y que no parecía haber mucha profundidad. Estoy intentando decirles que el acantilado ES peligroso, pero no me hacen caso.

73. Hay muchos niños jugando alrededor del acantilado, tienen que tener cuidado. Estoy intentando decirles que el acantilado ESTÁ peligroso, pero no me hacen caso.

74. Víctor fue ayer a ver el camino que lleva al Pico San Carlos y no trajo buenas noticias. El camino a la cima ESTÁ pedregoso pero tiene unas vistas preciosas que merecen la pena..

75. En el pueblo dicen que todo el mundo debería subir al Pico San Carlos. El camino a la cima ES pedregoso pero tiene unas vistas preciosas que merecen la pena..

76. Víctor fue ayer a ver el camino que lleva al Pico San Carlos y no trajo buenas noticias. El camino a la cima ES pedregoso pero tiene unas vistas preciosas que merecen la pena..

77. En el pueblo dicen que todo el mundo debería subir al Pico San Carlos. El camino a la cima ESTÁ pedregoso pero tiene unas vistas preciosas que merecen la pena..

78. Ayer fuimos por primera vez a la Playa Mondragó y nos sorprendió, nada comparado con otras playas a las que hemos ido. Hay muchas palmeras, el agua ESTÁ azul y tiene un mar tranquilo.

79. La Playa Mondragó tiene todas las cualidades de la playa ideal. Hay muchas palmeras, el agua ES azul y tiene un mar tranquilo.

80. Ayer fuimos por primera vez a la Playa Mondragó y nos sorprendió, nada comparado con otras playas a las que hemos ido. Hay muchas palmeras, el agua ES azul y tiene un mar tranquilo.

81. La Playa Mondragó tiene todas las cualidades de la playa ideal. Hay muchas palmeras, el agua ESTÁ azul y tiene un mar tranquilo.

82. Le probé el vestido a mi hija, pero no le vale. Tiene mucho escote y, además, le ESTÁ corto, le queda por encima de la rodilla.

83. Aurora lleva un vestido precioso, ajustado y muy provocativo. Tiene mucho escote y, además, ES corto, le queda por encima de la rodilla.

84. Le probé el vestido a mi hija, pero no le vale. Tiene mucho escote y, además, ES corto, le queda por encima de la rodilla.

85. Aurora lleva un vestido precioso, ajustado y muy provocativo. Tiene mucho escote y, además, le ESTÁ corto, le queda por encima de la rodilla.

86. Compré la cortina de ducha más larga que encontré, pero me temo que habrá que cambiarla. Fíjate en el tamaño, ESTÁ corta, no llega al suelo.

87. Me encanta la cortina de ducha que acabo de comprar, queda perfecta. Fíjate en el tamaño, ES corta, no llega al suelo.

88. Compré la cortina de ducha más larga que encontré, pero me temo que habrá que cambiarla. Fíjate en el tamaño, ES corta, no llega al suelo.

89. Me encanta la cortina de ducha que acabo de comprar, queda perfecta. Fíjate en el tamaño, ESTÁ corta, no llega al suelo.

90. Sandra va a tener que cambiar la falda que compró el sábado en el mercado.

91. Fíjate bien, la falda le ESTÁ corta y muy ajustada en las caderas.

92. Sandra lleva una falda bonita y provocativa. Fíjate bien, la falda ES corta y muy ajustada en las caderas.

93. Sandra va a tener que cambiar la falda que compró el sábado en el mercado. Fíjate bien, la falda ES corta y muy ajustada en las caderas.

94. Sandra lleva una falda bonita y provocativa. Fíjate bien, la falda le ESTÁ corta y muy ajustada en las caderas.

95. Parece que Juan debería haber elegido una talla más grande para el disfraz. Fíjate en los pantalones, le ESTÁN cortos, por encima de la rodilla.

96. Juan ha elegido un disfraz de vampiro muy original, de estilo veraniego, porque así no pasa tanto calor durante el desfile. Fíjate en los pantalones, SON cortos, por encima de la rodilla.

97. Parece que Juan debería haber elegido una talla más grande para el disfraz. Fíjate en los pantalones, SON cortos, por encima de la rodilla.

98. Juan ha elegido un disfraz de vampiro muy original, de estilo veraniego, porque así no pasa tanto calor durante el desfile. Fíjate en los pantalones, le ESTÁN cortos, por encima de la rodilla.

99. Hugo se acaba de probar el traje para la boda, pero ha adelgazado y ahora necesita

una talla menos. Si te fijas, los pantalones le ESTÁN anchos y la camisa larga, pero sin duda es un traje muy elegante.

100. El traje que Hugo ha elegido me parece poco adecuado para una boda, demasiado atrevido. Si te fijas, los pantalones SON anchos y la camisa larga, pero sin duda es un traje muy elegante.

101. Hugo se acaba de probar el traje para la boda, pero ha adelgazado y ahora necesita una talla menos. Si te fijas, los pantalones SON anchos y la camisa larga, pero sin duda es un traje mu elegante.

102. El traje que Hugo ha elegido me parece poco adecuado para una boda, demasiado atrevido. Si te fijas, los pantalones le ESTÁN anchos y la camisa larga, pero sin duda es un traje muy elegante.

103. Al mantel de la mesa nueva le sobra bastante a los lados, ¡pero si compré el más pequeño de la tienda! No hay duda de que ESTÁ grande, mide más de 2 metros.

104. Creo que con el mantel de la abuela bastará. No hay duda de que ES grande, mide más de 2 metros.

105. Al mantel de la mesa nueva le sobra bastante a los lados, ¡pero si compré el más pequeño de la tienda! No hay duda de que ES grande, mide más de 2 metros.

106. Creo que con el mantel de la abuela bastará. No hay duda de que ESTÁ grande, mide más de 2 metros.

107. Me temo que Antonio se ha equivocado de talla de pantalones, le quedan pequeños. Tienes que verlos, los pantalones le ESTÁN justos de cadera y un poco cortos.

108. Antonio lleva unos pantalones estilo chino que se han puesto muy de moda. Tienes que verlos, los pantalones SON justos de cadera y un poco cortos.

109. Me temo que Antonio se ha equivocado de talla de pantalones, le quedan pequeños. Tienes que verlos, los pantalones SON justos de cadera y un poco cortos.

110. Antonio lleva unos pantalones estilo chino que se han puesto muy de moda. Tienes que verlos, los pantalones le ESTÁN justos de cadera y un poco cortos.

111. El edredón que me regaló mi madre hay que cambiarlo por otra talla, casi llega al suelo. No hay duda de que ESTÁ grande, habrá que comprar una talla menos.

112. En general, me gustan los edredones grandes, pero el que me ha regalado mi madre parece enorme, aunque aún no lo he probado. No hay duda de que ES grande, habrá que comprar una talla menos.

113. El edredón que me regaló mi madre hay que cambiarlo por otra talla, casi llega al suelo. No hay duda de que ES grande, habrá que comprar una talla menos.

114. En general, me gustan los edredones grandes, pero el que me ha regalado mi madre parece enorme, aunque aún no lo he probado. No hay duda de que ESTÁ grande, habrá que comprar una talla menos.

115. Cristina parece decepcionada porque, aunque ha adelgazado, la falda que compró en Italia todavía no le vale, apenas puede abrocharse los botones. A ella le encanta esa falda, pero la falda le ESTÁ demasiado ajustada y eso la hace muy incómoda.

116. Cristina no debería llevar la falda negra a la reunión de la empresa esta tarde. A ella le encanta esa falda, pero la falda ES demasiado ajustada y eso la hace muy incómoda.

117. Cristina parece decepcionada porque, aunque ha adelgazado, la falda que compró en Italia todavía no le vale, apenas puede abrocharse los botones. A ella le encanta esa falda, pero la falda ES demasiado ajustada y eso la hace muy incómoda.

118. Cristina no debería llevar la falda negra a la reunión de la empresa esta tarde. A ella le encanta esa falda, pero la falda le ESTÁ demasiado ajustada y eso la hace muy incómoda.

119. La foto no entra en el marco que acabo de comprar, ¡pero si compré el marco más grande de toda la tienda! No hay duda de que ESTÁ pequeño pero, por si acaso, voy a comprobar de nuevo las medidas de la foto.

120. El marco que me ha traído Rocío se ve perfecto para enmarcar la foto pequeña del bautizo. No hay duda de que ES pequeño pero, por si acaso, voy a comprobar de nuevo las medidas de la foto.

121. La foto no entra en el marco que acabo de comprar, ¡pero si compré el marco más grande de toda la tienda! No hay duda de que ES pequeño pero, por si acaso, voy a comprobar de nuevo las medidas de la foto.

122. El marco que me ha traído Rocío se ve perfecto para enmarcar la foto pequeña del bautizo. No hay duda de que ESTÁ pequeño pero, por si acaso, voy a comprobar de nuevo las medidas de la foto.

123. Luis tiene una vista increíble de Manhattan desde su oficina. Creo que la oficina ESTÁ en el piso número 22.

124. No recuerdo exactamente a qué piso tenemos que subir. Creo que la oficina ES en el piso número 22.

125. Luis tiene una vista increíble de Manhattan desde su oficina. Creo que la oficina ES en el piso número 22.

126. No recuerdo exactamente a qué piso tenemos que subir. Creo que la oficina ESTÁ en el piso número 22.

127. Si necesitas ir al baño, sube las escaleras. Creo que el baño de invitados ESTÁ en el segundo piso, junto al dormitorio principal.

128. Me gusta el mapa de la casa que nos ha enviado el arquitecto, pero no recuerdo dónde van los baños. Creo que el baño de invitados ES en el segundo piso, junto al dormitorio principal.

129. Si necesitas ir al baño, sube las escaleras. Creo que el baño de invitados ES en el segundo piso, junto al dormitorio principal.

130. Me gusta el mapa de la casa que nos ha enviado el arquitecto, pero no recuerdo

dónde van los baños. Creo que el baño de invitados ESTÁ en el segundo piso, junto al dormitorio principal.

131. Hoy fui al médico para que me examinara el pie que me duele. Me ha dicho que la lesión ESTÁ en el tobillo derecho y voy a tener que evitar caminar mucho.

132. Después de caerme de la bici, fui al médico porque apenas podía caminar. Me ha dicho que la lesión ES en el tobillo derecho y voy a tener que evitar caminar mucho.

133. Hoy fui al médico para que me examinara el pie que me duele. Me ha dicho que la lesión ES en el tobillo derecho y voy a tener que evitar caminar mucho.

134. Después de caerme de la bici, fui al médico porque apenas podía caminar. Me ha dicho que la lesión ESTÁ en el tobillo derecho y voy a tener que evitar caminar mucho.

135. Vas a encontrar más información sobre el origen de Las Meninas en la sección de diarios del siglo XVII. La primera mención de Las Meninas ESTÁ en el Diario de Madrid.

136. El Diario de Madrid cumplía una función muy importante en la vida cultural de la época. La primera mención de Las Meninas ES en el Diario de Madrid.

137. Vas a encontrar más información sobre el origen de Las Meninas en la sección de diarios del siglo XVII. La primera mención de Las Meninas ES en el Diario de Madrid.

138. El Diario de Madrid cumplía una función muy importante en la vida cultural de la época. La primera mención de Las Meninas ESTÁ en el Diario de Madrid.

139. Hoy encontré una versión doblada de la película Volver de Almodóvar, una de mis películas favoritas. La vi porque la película ESTÁ en inglés y así puedo practicar el idioma.

140. No me gustan las películas de Tarantino, pero hoy hice una excepción con Kill

141. Bill . La vi porque la película ES en inglés y así puedo practicar el idioma.

142. Hoy encontré una versión doblada de la película Volver de Almodóvar, una de mis películas favoritas. La vi porque la película ES en inglés y así puedo practicar el idioma.

143. No me gustan las películas de Tarantino, pero hoy hice una excepción con Kill Bill. La vi porque la película ESTÁ en inglés y así puedo practicar el idioma.

144. Leticia me ha dicho que la parada de metro se encuentra muy cerca de su casa. La parada más cercana ESTÁ en la Plaza Cibeles y tenemos que coger la línea amarilla en dirección Moncloa.

145. Leticia ya me ha dicho qué línea de metro tenemos que coger esta noche para ir a la cena. La parada más cercana ES en la Plaza Cibeles y tenemos que coger la línea amarilla en dirección Moncloa.

146. Leticia me ha dicho que la parada de metro se encuentra muy cerca de su casa. La parada más cercana ES en la Plaza Cibeles y tenemos que coger la línea amarilla en dirección Moncloa.

147. Leticia ya me ha dicho qué línea de metro tenemos que coger esta noche para ir a la cena. La parada más cercana ESTÁ en la Plaza Cibeles y tenemos que coger la línea amarilla en dirección Moncloa.

148. Hoy en clase hemos estudiado los picos más altos de España. El pico más alto ESTA en la isla deTenerife y mide casi 4000 metros.

149. Hoy en clase, la profesora nos ha enseñado un mapa que mostraba todas las islas de Canarias y los picos principales. El pico más alto ES en la isla deTenerife y mide casi 4000 metros.

150. Hoy en clase hemos estudiado los picos más altos de España. El pico más alto ES en la isla deTenerife y mide casi 4000 metros.

151. Hoy en clase, la profesora nos ha enseñado un mapa que mostraba todas las islas de Canarias y los picos principales. El pico más alto ESTA en la isla deTenerife y mide

casi 4000 metros.

152. No tienes que caminar mucho para llegar a la cafetería más cercana. La cafetería más cercana ESTÁ en la Avenida de Ronda, a aproximademente 5 minutos andando.

153. Deberíamos tomar un café antes de ir a clase. La cafetería más cercana ES en la Avenida de Ronda, a aproximadamente 5 minutos andando.

154. No tienes que caminar mucho para llegar a la cafetería más cercana. La cafetería más cercana ES en la Avenida de Ronda, a aproximadamente 5 minutos andando.

155. Deberíamos tomar un café antes de ir a clase. La cafetería más cercana ESTÁ en la Avenida de Ronda, a aproximademente 5 minutos andando.

156. La casa que aparece en la foto no puede pertenecer a Alicia porque la foto se sacó en Barcelona. Si mal no recuerdo, la casa de Alicia ESTÁ en el Barrio Santa Cruz, no muy lejos de la Giralda, uno de los monumentos más visitados de Sevilla.

157. Si vamos a Sevilla, deberíamos quedarnos a dormir en casa de algún amigo para ahorrarnos los gastos de hotel. Si mal no recuerdo, la casa de Alicia ES en el Barrio Santa Cruz, no muy lejos de la Giralda, uno de los monumentos más visitados de Sevilla.

158. La casa que aparece en la foto no puede pertenecer a Alicia porque la foto se sacó en Barcelona. Si mal no recuerdo, la casa de Alicia ES en el Barrio Santa Cruz, no muy lejos de la Giralda, uno de los monumentos más visitados de Sevilla.

159. Si vamos a Sevilla, deberíamos quedarnos a dormir en casa de algún amigo para ahorrarnos los gastos de hotel. Si mal no recuerdo, la casa de Alicia ESTÁ en el Barrio Santa Cruz, no muy lejos de la Giralda, uno de los monumentos más visitados de Sevilla.

160. Te voy a decir dónde puedes encontrar los baños, por si necesitas darte una ducha. Uno de los baños ESTÁ en el primer piso y el otro en el segundo piso.

161. Como puedes ver en el mapa, queremos construir la casa con dos pisos y dos baños.

Uno de los baños ES en el primer piso y el otro en el segundo piso.

162. Te voy a decir dónde puedes encontrar los baños, por si necesitas darte una ducha. Uno de los baños ES en el primer piso y el otro en el segundo piso.

163. Como puedes ver en el mapa, queremos construir la casa con dos pisos y dos baños. Uno de los baños ESTÁ en el primer piso y el otro en el segundo piso.

164. Antonio ha decidido quedarse en casa viendo el partido en vez de ir al cine. El partido de esta noche ESTÁ emocionante porque quien gane se lleva la Copa del Rey.

165. El Real Madrid y el Barcelona van a jugar en el estadio Santiago Bernabéu esta noche. El partido de esta noche ES emocionante porque quien gane se lleva la Copa del Rey.

166. Antonio ha decidido quedarse en casa viendo el partido en vez de ir al cine. El partido de esta noche ES emocionante porque quien gane se lleva la Copa del Rey.

167. El Real Madrid y el Barcelona van a jugar en el estadio Santiago Bernabéu esta noche. El partido de esta noche ESTÁ emocionante porque quien gane se lleva la Copa del Rey.

168. El paciente ha perdido mucha sangre durante las 2 primeras horas de la operación y todavía no se ha estabilizado. Se necesitan varios médicos porque la operación ESTÁ complicada y supone un riesgo para el paciente.

169. Mañana se va a realizar en el hospital una cirugía reconstructiva facial. Se necesitan varios médicos porque la operación ES complicada y supone un riesgo para el paciente.

170. El paciente ha perdido mucha sangre durante las 2 primeras horas de la operación y todavía no se ha estabilizado. Se necesitan varios médicos porque la operación ES complicada y supone un riesgo para el paciente.

171. Mañana se va a realizar en el hospital una cirugía reconstructiva facial. Se necesitan

varios médicos porque la operación ESTÁ complicada y supone un riesgo para el paciente.

172. Acabo de empezar a ver la última película de Almodóvar y no sé si seguir porque me aburro. En primer lugar, la trama ESTÁ aburrida y, segundo, los protagonistas hacen muy mal papel.

173. No me gustó la película La piel que habito de Almodóvar. En primer lugar, la trama ES aburrida y, segundo, los protagonistas hacen muy mal papel.

174. Acabo de empezar a ver la última película de Almodóvar yno sé si seguir porque me aburro. En primer lugar, la trama ES aburrida y, segundo, los protagonistas hacen muy mal papel.

175. No me gustó la película La piel que habito de Almodóvar. En primer lugar, la trama ESTÁ aburrida y, segundo, los protagonistas hacen muy mal papel.

176. Tengo muchas ganas de leer el próximo capítulo de la novela, me tiene intrigada. La novela cuenta la historia de un secreto familiar y la trama ESTÁ emocionante, cada capítulo engancha.

177. Acabo de leer una novela que sucede a principios del siglo XX y tiene referencias históricas interesantes. La novela cuenta la historia de un secreto familiar y la trama ES emocionante, cada capítulo engancha.

178. Tengo muchas ganas de leer el próximo capítulo de la novela, me tiene intrigada. La novela cuenta la historia de un secreto familiar y la trama ES emocionante, cada capítulo engancha.

179. Acabo de leer una novela que sucede a principlos del siglo XX y tiene referencias históricas interesantes. La novela cuenta la historia de un secreto familiar y la trama ESTÁ emocionante, cada capítulo engancha.

180. El capítulo de la serie de hoy tiene escenas muy buenas y el misterio aún no se ha resuelto. Tienes que estar atento para no perder detalle, la trama ESTÁ intrigante y,

además, los actores hacen un papel magnífico.

181. Hoy en clase hablamos sobre la película Cisne Negro y de cómo te mantiene pendiente en todo momento. Tienes que estar atento para no perder detalle, la trama ES intrigante y, además, los actores hacen un papel magnífico.

182. El capítulo de la serie de hoy tiene escenas muy buenas y el misterio aún no se ha resuelto. Tienes que estar atento para no perder detalle, la trama ES intrigante y, además, los actores hacen un papel magnífico.

183. Hoy en clase hablamos sobre la película Cisne Negro y de cómo te mantiene pendiente durante toda la película. Tienes que estar atento para no perder detalle, la trama ESTÁ intrigante y, además, los actores hacen un papel magnífico.

184. Lucía no quiere ir a la piscina esta tarde porque se quiere quedar en casa para terminar el primer libro de la trilogía Millennium. Me ha dicho que la historia ESTÁ interesante y el misterio no se resuelve hasta el final.

185. Acabo de hablar con Lucía y me ha recomendado leer el primer libro de de la trilogía Millennium durante el verano. Me ha dicho que la historia ES interesante y el misterio no se resuelve hasta el final.

186. Lucía no quiere ir a la piscina esta tarde porque se quiere quedar en casa para terminar el primer libro de la trilogía Millennium. Me ha dicho que la historia ES interesante y el misterio no se resuelve hasta el final.

187. Acabo de hablar con Lucía y me ha recomendado leer el primer libro de de la trilogía Millennium durante el verano. Me ha dicho que la historia ESTÁ interesante y el misterio no se resuelve hasta el final.

188. Ester se va a quedar en casa para terminar de ver la película Mar Adentro , en vez de ir a visitar a sus abuelos. Dice que la historia ESTÁ emocionante y, además, está basada en hechos reales.

189. Ester me ha dicho que debería ir al cine a ver la película Mar Adentro . Dice que la

historia ES emocionante y, además, está basada en hechos reales.

190. Ester se va a quedar en casa para terminar de ver la película Mar Adentro , en vez de ir a visitar a sus abuelos. Dice que la historia ES emocionante y, además, está basada en hechos reales.

191. Ester me ha dicho que debería ir al cine a ver la película Mar Adentro . Dice que la historia ESTÁ emocionante y, además, está basada en hechos reales.

192. Hoy nieva mucho y hay demasiado tráfico en la carretera que lleva a Machu Pichu. Sin duda, el viaje ESTÁ complicado y, además, hay que llegar antes de que anochezca.

193. Tengo miedo de seguir el viaje en bus a Machu Pichu porque hay muchos precipicios en la carretera. Sin duda, el viaje ES complicado y, además, hay que llegar antes de que anochezca.

194. Hoy nieva mucho y hay demasiado tráfico en la carretera que lleva a Machu Pichu. Sin duda, el viaje ES complicado y, además, hay que llegar antes de que anochezca.

195. Tengo miedo de seguir el viaje en bus a Machu Pichu porque hay muchos precipicios en la carretera. Sin duda, el viaje ESTÁ complicado y, además, hay que llegar antes de que anochezca.

196. Manuel no quiere ponerse al teléfono porque no quiere perderse ni un minuto del partido de Nadal en el Roland Garrós. Nadal se encuentra en muy buen forma y el partido ESTÁ emocionante porque puede volver a ganar el torneo.

197. El partido de Roland Garrós entre Nadal y Ferrer de esta noche va a atraer a gente de todas las nacionalidades. Nadal se encuentra en muy buen forma y el partido ES emocionante porque puede volver a ganar el torneo.

198. Manuel no quiere ponderse al teléfono porque no quiere perderse ni un minuto del partido de Nadal en el Roland Garrós. Nadal se encuentra en muy buen forma y el partido ES emocionante porque puede volver a ganar el torneo.

199. El partido de Roland Garrós entre Nadal y Ferrer de esta noche va a atraer a gente de todas las nacionalidades. Nadal se encuentra en muy buen forma y el partido ESTÁ emocionante porque puede volver a ganar el torneo.

200. El paciente ha perdido mucha sangre y la operación aún no ha terminado. Parece que la situación ESTÁ difícil, pero hay que tener esperanzas.

201. El régimen dictatorial de Corea del Norte lleva más de 50 años gobernando. Parece que la situación ES difícil, pero hay que tener esperanzas.

202. El paciente ha perdido mucha sangre y la operación aún no ha terminado. Parece que la situación ES difícil, pero hay que tener esperanzas.

203. El régimen dictatorial de Corea del Norte lleva más de 50 años gobernando. Parece que la situación ESTÁ difícil, pero hay que tener esperanzas.

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