

**Towards a Unified View of the Present Perfect.  
A Comparative Study on Catalan, English and Gĩkũyũ**

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PhD Dissertation

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## Table of contents

Acknowledgements.....	i
Abstract.....	iii
Presentation of the study.....	v
List of abbreviations.....	vii
<b>Chapter 1 Outline of the data and main theories of the present perfect</b>	
1.1 Introduction.....	1
1.2 Working definitions of some basic concepts.....	3
1.2.1 Tense.....	3
1.2.2 Aspect.....	4
1.2.3 <i>Aktionsart</i> .....	5
1.2.4 The notion of the reference time.....	6
1.2.5 The interpretation of the present perfect: tense or aspect?.....	7
1.3 The readings of the present perfect.....	8
1.3.1 The experiential reading.....	10
1.3.2 The universal reading.....	15
1.3.3 The resultative reading.....	19
1.3.4 The recent past reading.....	20
1.3.5 The hodiernal reading.....	20
1.3.6 Summary of section 1.3.....	26
1.4 Dealing with different puzzles.....	27
1.4.1 The present perfect puzzle.....	27
1.4.2 Narrative passages.....	29
1.4.3 Past time adverbials.....	34
1.4.3 Summary of section 1.4.....	35
1.5 The main theories of the perfect.....	35
1.5.1 The Anteriority analysis.....	35
1.5.1.1. From Reichenbah’s theory to Demirdache & Uribe-Etxebarria’s framework.....	38
1.5.2 The Result State analysis.....	44
1.5.3 Extended Now or Perfect Time Span theory.....	48
1.6 Summary of chapter 1.....	52
<b>Chapter 2 The hodiernal reading</b>	
2.1 Introduction.....	55
2.2 Previous approaches.....	58
2.3 Revising the hodiernal reading.....	63
2.3.1 The functional properties of the predicate.....	63
2.3.2. Unmodified present perfect sentences.....	67
2.3.3 The role of temporal modification.....	70
2.3.4 The morphological content of the auxiliary verb.....	71
2.3.5 Summary of section 2.3.....	79
2.4 The contribution of locating time adverbials.....	79
2.4.1 Punctual time adverbials.....	79
2.4.2 <i>Fa X time</i> ‘makes X time’.....	84
2.4.3 Proximate demonstrative + clock-calendar noun.....	89
2.4.4 Summary of section 2.4.....	93
2.5 Deriving the hodiernal reading of the present perfect.....	95
2.5.1 The properties of the perfect time span.....	95
2.5.2 The conceptualization of the present tense.....	102
2.5.3 The meaning of the present perfect in Catalan.....	106
2.5.4 The role of temporal modification (i): <i>a la/les X time</i> ‘in the X time’.....	109

2.5.5 The role of temporal modification (ii): <i>fa X time</i> ‘makes X time’.....	112
2.5.6 The role of temporal modification (iii): proximate demonstratives + calendar noun.....	115
2.6 Summary of chapter 2.....	116
 <b>Chapter 3 The expression of hodiernality in Gikūyū</b>	
3.1 Introduction.....	119
3.2 The hodiernal temporal remoteness distinction.....	121
3.2.1 Past time sphere.....	121
3.2.2 Future time sphere.....	125
3.2.3 Summary of section 3.2.....	126
3.3 The presuppositional semantics of temporal remoteness morphemes.....	127
3.4 Temporal remoteness morphemes and event time in perfect contexts.....	132
3.5 The role of temporal modification in hodiernal perfect contexts.....	137
3.6 The hodiernal TRM in Gikūyū as an extended now marker.....	140
3.6.1 Data in support of the extended now analysis.....	141
3.6.2 A link with the present tense in Catalan and the present progressive in English.....	143
3.6.3 The hodiernal TRM in perfect contexts.....	145
3.6.4 An alternative analysis.....	148
3.7 Summary of the chapter.....	151
 <b>Chapter 4 The universal reading</b>	
4.1 Introduction.....	153
4.2 The functional properties of the predicate.....	156
4.3 Different types of stativity.....	159
4.3.1 Individual-Level and Stage-Level predicates.....	160
4.3.2 Kimian and Davidsonian states.....	163
4.3.3 Summary of section 4.3.....	164
4.4 Types of stativity and the universal reading.....	165
4.4.1 IL/SL states in unmodified present perfect sentences.....	165
4.4.2 Kimian and Davidsonian states in unmodified present perfect sentences.....	169
4.4.3 Summary of section 4.4.....	170
4.5 The role of temporal modifiers.....	170
4.5.1 Unambiguous universal readings.....	173
4.5.2 Time modifiers in initial position.....	174
4.5.3 Summary of section 4.5.....	176
4.6 The universal reading of the present perfect in Catalan.....	176
4.6.1 The functional properties of the predicate.....	177
4.6.2 Unmodified present perfect sentences.....	178
4.6.3 Modified present perfect sentences.....	180
4.6.4 A comparison with the present perfect in Mexican Spanish.....	186
4.6.5 Summary of section 4.6.....	187
4.7 Deriving the universal reading of the present perfect.....	188
4.7.1 The functional properties of the predicate.....	189
4.7.2 The temporal relation between the PTS and the reference time.....	195
4.8 Summary of chapter 4.....	200
 <b>Chapter 5 The grammatical properties of <i>since</i></b>	
5.1 Introduction.....	203
5.2 Grammatical properties of <i>since</i> .....	205
5.2.1 English <i>since</i> -adverbials.....	206
5.2.2 Catalan <i>des de</i> -adverbials.....	208
5.2.3 Summary of section 5.2.....	212
5.3 More relevant cross-linguistic data.....	213

5.3.1 German <i>seit</i> -adverbials .....	213
5.3.2 French <i>depuis</i> -adverbials .....	215
5.3.3 Summary of section 5.3 .....	218
5.4 Spatial uses of <i>des de</i> .....	218
5.4.1 <i>Since</i> -adverbials .....	219
5.4.2 <i>Des de</i> -adverbials .....	221
5.4.3 Summary of section 5.4 .....	227
5.5 The present perfect and <i>des de</i> -paths.....	228
5.5.1 Previous attempts to derive the universal-existential ambiguity with <i>since</i> PPs...	228
5.5.2 <i>Des de</i> -paths in the temporal domain .....	235
5.5.3 Universal and existential readings with <i>des de</i> -paths.....	239
5.5.4 The nature of the right boundary.....	244
5.5.5 The role of <i>Aktionsart</i> .....	250
5.6 Summary of chapter 5.....	252
<b>Conclusion</b> .....	255
<b>References</b> .....	271



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## Abstract

In this thesis, I examine the properties of the Present Perfect (henceforth PrP) across different languages. In particular, I present a comparative study of Catalan, English and Gĩkũyũ, a Bantu language that has ‘graded tenses’. I begin my investigation by examining one of the most striking differences between the uses of the PrP in Catalan and in English, namely, a hodiernal reading of the PrP present in Catalan but not in English. I claim that the main property of the PrP in Catalan is not that it has an extra reading that English does not possess, but rather that hodiernal is a subtype of the existential PrP that allows, in addition, for a temporal modification of the event by punctual time adverbials. I suggest that a progressive meaning of the present tense, i.e., the possibility of locating an event at the utterance time, is connected to the compatibility of the PrP to appear with punctual time adverbials. In particular, the Catalan present can be used to report an ongoing event, but the English present has a habitual interpretation for almost all types of eventualities, apart for states.

I also examine a type of hodiernal reading found in Gĩkũyũ, a language typologically not related to either Catalan or English. Gĩkũyũ has a specific prefix, i.e., a hodiernal temporal remoteness morpheme, which places the eventuality on the day surrounding the utterance time. Within this temporal interval, the location of the eventuality can be fixed on the time axis.

Another major difference between Catalan and English has to do with the universal reading, which is a prototypical reading of the PrP in English. Catalan, however, has other means, apart from the PrP, to obtain a universal meaning, such as, for instance, the present tense or periphrastic temporal constructions (i.e., *portar* ‘carry’ X time + gerund). I claim that the universal meaning is not encoded in the semantics of the perfect per se, but is a reading that is always ensured by adverbial support. To derive a hodiernal and a universal reading, I follow Pancheva & von Stechow’s (2004) weak semantics of the PTS and distinguish between the PTS and the reference time intervals. The temporal relation between the PTS and the reference time in English is that of coextension, whereas in

Catalan can be that of identity or intersection. This latter temporal relation is made explicit via temporal modification.

One type of the temporal adverbial that I study in depth is *since* adverbials. I compare the grammatical properties of English *since*-adverbials, which have been analysed as perfect-level adverbials (Iatridou et al. 2001), with Catalan *des de*-adverbials. I argue against the claim that either the perfect tense or prepositions like *since* are ambiguous between a universal and an existential interpretation. I show that an analysis based on the grammatical properties of the internal structure of the temporal path denoted by *des de* or *since* can contribute to a more fine-grained derivation of universal and existential interpretations of PrP sentences modified by *since*-type of intervals in both languages.

## **Presentation of the study**

The PrP is one of the most complex verbal forms that is still subject to considerable debate. First, there is cross-linguistic variation in the use of this tense between languages and even between languages of the same family, between dialects and regional varieties. Second, there are several readings of the PrP which are difficult to give a unified analysis for. Third, there are still unresolved puzzles such as the incompatibility of the PrP in English with locating time adverbials, the phenomenon known as the *Present Perfect Puzzle* (Klein 1992).

The present dissertation deals with certain aspects of cross-linguistic variation in the uses of the PrP, with a primary focus on Catalan and English. The main question explored in this thesis is how we can account in a uniform way for the cross-linguistic pattern found in Catalan and in English. The thesis aims to provide a unified view of the PrP taking into account various relevant factors in the derivation of the PrP readings in two languages, namely, the present tense, the functional properties of the predicate, and temporal modification.

The structure of the thesis is as follows. In chapter 1, I will introduce and review the main readings and theories of the perfect. I will show that the readings of the PrP cannot be clearly distinguished without further contextual or sentential support. Following Iatridou et al. (2001), I will group the readings in two major groups: the existential and the universal.

I will then examine the hodiernal reading of the PrP in chapter 2, which sets Catalan apart from English. This reading allows for the presence of certain locating time adverbials that can make reference to a time interval with a fixed position on the timeline. I will analyse the hodiernal reading not as a separate reading that English does not have, but as a subtype of the existential PrP. I will adopt a PTS theory (Dowty 1979; McCoard 1978; von Stechow 1999; Iatridou et al. 2001; Pancheva & von Stechow 2004) and assume the split between the PTS and the reference time (Pancheva & von Stechow 2004). I will show that in Catalan the PTS can be equal to or intersect with the reference time. This temporal relation is made explicit by temporal modification (i.e., punctual time adverbials and locating time adverbials headed by proximate demonstratives).

In chapter 3, I will study the case of Gĩkũyũ, a Bantu language, which has a specific hodiernal temporal prefix. Languages such as Catalan or English, by contrast, lack such a morphological marker and, a PrP sentence depends on temporal modification to derive an unambiguous hodiernal reading in Catalan. Following Johnson's (1980) and Hewson and Nurse's (2005) insights, I will consider the possibility of analysing this hodiernal marker as a lexical specification of an Extended Now that asserts a time interval that surrounds the day of the utterance time.

Chapter 4 will be devoted to the universal reading. I will show that the two linguistic factors that have been linked to the universal interpretation: (i) the eventuality holds throughout a time interval and (ii) the event time overlaps with the utterance time are independent factors that do not belong to the semantics of the perfect. I will show that the universal reading in Catalan requires homogeneity, and that, like the hodiernal reading, it is ensured by adverbial support. The temporal relation of intersection between the PTS and the reference time in Catalan will be used to derive the universal reading of the PrP. This temporal relation can account for the specification of the right boundary of the PTS via time adverbials such as *fins fa poc* 'until recently'.

In chapter 5, I will have a closer look at *since*-type of adverbials, which typically appear with the PrP in English. I will provide a contrastive description of the grammatical properties of *since*-type of adverbials between Catalan, English, French and German, focusing on the first two languages. I will show that the interval asserted by *des de* in Catalan as well as *from* in English pattern with the type of path they encode in spatial contexts. As for *since* in English, it is a preposition specialized in temporal uses and it is analysed as a perfect-level adverbial (Dowty 1979; Vlach 1993; Iatridou et al. 2001). I will show that an analysis based on the grammatical properties of the path encoded by *des de*, *from* or *since* can contribute to a more fine-grained derivation of a universal and/or an existential interpretation.

## List of abbreviations

1	First person
2	Second person
3	Third person
ASRT	Assertive
AST-T	Assertion-Time
cl	Clitic
expl	Expletive
E	Reichenbach's Event Time
EVT-T	Event Time
FV	Final Vowel
HOD	Hodiernal
IMM	Immediate
IMP	Imperfective
imp	imperfective
LB	Left Boundary
NGRAE	<i>Nueva Gramática de la Real Academia Española</i>
NRP	Near Past
pl	Plural
PERF	Perfect
PC	<i>Passé Composé</i>
PrP	Present Perfect
PP	Prepositional Phrase
PRS	Present
PRV	Perfective
PST	Past
PST.IMP	Past Imperfective
PST.PRV	Past Perfective
PTS	Perfect Time Span
R	Reichenbach's Reference Time
RB	Right Boundary
refl	Reflexive
REMP	Remote Past
s	Singular
S	Reichenbach's Speech Time
S	Subject agreement prefix (i.e., 3sgS)
sg	singular
SP	Simple Past
TRM	Temporal Remoteness Morpheme
TSit	Time of Situation
TT	Topic Time
TU	Time of Utterance
UTT-T	Utterance Time



## Table of contents

Acknowledgements.....	i
Abstract.....	iii
Presentation of the study.....	v
List of abbreviations.....	vii
<b>Chapter 1 Outline of the data and main theories of the present perfect</b>	
1.1 Introduction.....	1
1.2 Working definitions of some basic concepts.....	3
1.2.1 Tense.....	3
1.2.2 Aspect.....	4
1.2.3 <i>Aktionsart</i> .....	5
1.2.4 The notion of the reference time.....	6
1.2.5 The interpretation of the present perfect: tense or aspect?.....	7
1.3 The readings of the present perfect.....	8
1.3.1 The experiential reading.....	10
1.3.2 The universal reading.....	15
1.3.3 The resultative reading.....	19
1.3.4 The recent past reading.....	20
1.3.5 The hodiernal reading.....	20
1.3.6 Summary of section 1.3.....	26
1.4 Dealing with different puzzles.....	27
1.4.1 The present perfect puzzle.....	27
1.4.2 Narrative passages.....	29
1.4.3 Past time adverbials.....	34
1.4.3 Summary of section 1.4.....	35
1.5 The main theories of the perfect.....	35
1.5.1 The Anteriority analysis.....	35
1.5.1.1. From Reichenbah’s theory to Demirdache & Uribe-Etxebarria’s framework.....	38
1.5.2 The Result State analysis.....	44
1.5.3 Extended Now or Perfect Time Span theory.....	48
1.6 Summary of chapter 1.....	52
<b>Chapter 2 The hodiernal reading</b>	
2.1 Introduction.....	55
2.2 Previous approaches.....	58
2.3 Revising the hodiernal reading.....	63
2.3.1 The functional properties of the predicate.....	63
2.3.2. Unmodified present perfect sentences.....	67
2.3.3 The role of temporal modification.....	70
2.3.4 The morphological content of the auxiliary verb.....	71
2.3.5 Summary of section 2.3.....	79
2.4 The contribution of locating time adverbials.....	79
2.4.1 Punctual time adverbials.....	79
2.4.2 <i>Fa X time</i> ‘makes X time’.....	84
2.4.3 Proximate demonstrative + clock-calendar noun.....	89
2.4.4 Summary of section 2.4.....	93
2.5 Deriving the hodiernal reading of the present perfect.....	95
2.5.1 The properties of the perfect time span.....	95
2.5.2 The conceptualization of the present tense.....	102
2.5.3 The meaning of the present perfect in Catalan.....	106
2.5.4 The role of temporal modification (i): <i>a la/les X time</i> ‘in the X time’.....	109

2.5.5 The role of temporal modification (ii): <i>fa X time</i> ‘makes X time’.....	112
2.5.6 The role of temporal modification (iii): proximate demonstratives + calendar noun.....	115
2.6 Summary of chapter 2.....	116
 <b>Chapter 3 The expression of hodiernality in Gikūyū</b>	
3.1 Introduction.....	119
3.2 The hodiernal temporal remoteness distinction.....	121
3.2.1 Past time sphere.....	121
3.2.2 Future time sphere.....	125
3.2.3 Summary of section 3.2.....	126
3.3 The presuppositional semantics of temporal remoteness morphemes.....	127
3.4 Temporal remoteness morphemes and event time in perfect contexts.....	132
3.5 The role of temporal modification in hodiernal perfect contexts.....	137
3.6 The hodiernal TRM in Gikūyū as an extended now marker.....	140
3.6.1 Data in support of the extended now analysis.....	141
3.6.2 A link with the present tense in Catalan and the present progressive in English.....	143
3.6.3 The hodiernal TRM in perfect contexts.....	145
3.6.4 An alternative analysis.....	148
3.7 Summary of the chapter.....	151
 <b>Chapter 4 The universal reading</b>	
4.1 Introduction.....	153
4.2 The functional properties of the predicate.....	156
4.3 Different types of stativity.....	159
4.3.1 Individual-Level and Stage-Level predicates.....	160
4.3.2 Kimian and Davidsonian states.....	163
4.3.3 Summary of section 4.3.....	164
4.4 Types of stativity and the universal reading.....	165
4.4.1 IL/SL states in unmodified present perfect sentences.....	165
4.4.2 Kimian and Davidsonian states in unmodified present perfect sentences.....	169
4.4.3 Summary of section 4.4.....	170
4.5 The role of temporal modifiers.....	170
4.5.1 Unambiguous universal readings.....	173
4.5.2 Time modifiers in initial position.....	174
4.5.3 Summary of section 4.5.....	176
4.6 The universal reading of the present perfect in Catalan.....	176
4.6.1 The functional properties of the predicate.....	177
4.6.2 Unmodified present perfect sentences.....	178
4.6.3 Modified present perfect sentences.....	180
4.6.4 A comparison with the present perfect in Mexican Spanish.....	186
4.6.5 Summary of section 4.6.....	187
4.7 Deriving the universal reading of the present perfect.....	188
4.7.1 The functional properties of the predicate.....	189
4.7.2 The temporal relation between the PTS and the reference time.....	195
4.8 Summary of chapter 4.....	200
 <b>Chapter 5 The grammatical properties of <i>since</i></b>	
5.1 Introduction.....	203
5.2 Grammatical properties of <i>since</i> .....	205
5.2.1 English <i>since</i> -adverbials.....	206
5.2.2 Catalan <i>des de</i> -adverbials.....	208
5.2.3 Summary of section 5.2.....	212
5.3 More relevant cross-linguistic data.....	213



5.3.1 German <i>seit</i> -adverbials .....	213
5.3.2 French <i>depuis</i> -adverbials .....	215
5.3.3 Summary of section 5.3 .....	218
5.4 Spatial uses of <i>des de</i> .....	218
5.4.1 <i>Since</i> -adverbials .....	219
5.4.2 <i>Des de</i> -adverbials .....	221
5.4.3 Summary of section 5.4 .....	227
5.5 The present perfect and <i>des de</i> -paths.....	228
5.5.1 Previous attempts to derive the universal-existential ambiguity with <i>since</i> PPs...	228
5.5.2 <i>Des de</i> -paths in the temporal domain .....	235
5.5.3 Universal and existential readings with <i>des de</i> -paths.....	239
5.5.4 The nature of the right boundary.....	244
5.5.5 The role of <i>Aktionsart</i> .....	250
5.6 Summary of chapter 5.....	252
<b>Conclusion</b> .....	255
<b>References</b> .....	271



## Chapter 1

### Overview of the data and main theories of the present perfect

#### 1.1 Introduction

The PrP is a complex morpho-syntactic construction built up by an auxiliary (i.e., *have*, *be*) and a past participle, see (1) (from Comrie 1976:107).

- (1) a. La Maria ha arribat.  
the Maria have.3sg arrived  
'Maria has arrived.'

(Catalan)

- b. Ivane e došel  
Ivan be.3sg arrived  
'Ivan has arrived.'

(Bulgarian)

As shown in (1a), there are languages, such as Catalan, which make use of the auxiliary verb *haver* 'have', and others, such as Bulgarian, see (1b), which always use *be*. There are other languages such as Portuguese, which use the form *ter* 'have' (from Giorgi & Pianesi 1997:50).

- (2) Tenho comido as quatro.  
have.1sg eaten at four  
'I took the habit of eating at four.'

(Portuguese)

In some Romance languages, such as French or Italian, there is auxiliary alternation depending on the type of verb present in the sentence. Since Perlmutter (1978) put forth the *Unaccusative Hypothesis* and Burzio's (1986) generalization, the standard assumption has been that, in certain Romance languages, unaccusative verbs

(e.g., *come*) select the auxiliary *be*, while transitive (e.g., *paint*) and unergative (e.g., *run*) verbs select the auxiliary *have*, see (3).

- (3) a. Maria est venue.  
Maria be.3sg come  
'Mary has come / came'
- b. Maria a travaillé.  
Maria have.3sg worked  
'Maria has worked / worked.'

(French)

As Rigau (1997) illustrates, this pattern is followed in some dialects of Catalan such as Alguerese and Rossillonese, see (4) (from Rigau 1997:417).

- (4) a. La mare és venguda.  
the mother be.3sg come  
'The mother has come.'
- b. La mare ha cantat.  
the mother have.3sg sung  
'The mother has sung.'

(Alguerese)

Most of the literature on the perfect have mainly revolved around the nature of the perfect in European languages such as Germanic and Romance languages. In particular, most of the research has stemmed from the main constraints in usage that apply to the English PrP, which cannot be modified by locating time adverbials that do not include the present time in their denotation (Comrie 1976; McCoard 1978; among others). This phenomenon is called the *Present Perfect Puzzle* (Klein 1992:525-546) and it is illustrated in (5).

- (5) a. \*Chris has left York yesterday.  
b. \*Chris has left at six.

This is the reason why I will begin by describing the English data, even though the main focus of this thesis will be on Catalan. The PrP in Catalan as well as in Standard Peninsular Spanish allows for certain locating time adverbials such as punctual time adverbials, see (6a). However, like English, the PrP disallows past time adverbials, see (6b).

- (6) a. Hem anat al mercat a les deu.  
have.1pl gone to.the market in the ten  
'We went to the market at ten.'
- b. \*Hem anat al mercat ahir.  
have.1pl gone to.the market yesterday

In this first chapter, I review the most relevant literature on the PrP and the main theories which have attempted to capture the core meaning of various instantiations of the PrP. Chapter 1 is organised as follows. In §1.2, I define some basic concepts. In §1.3, I describe different readings of the PrP that have been attested and analysed in the literature. I deal with different puzzles in §1.4, and review the main theories of the perfect in §1.5. The chapter is summarised in §1.6.

## **1.2 Working definitions of some basic concepts**

### *1.2.1 Tense*

Ways of encoding the temporal location of a state or an event on the timeline vary across languages. In Romance and Germanic languages, time can be linguistically expressed by tense, which, according to Lyons (1977:677), is a deictic grammatical category that 'grammaticalises the relationship which holds between the time of the situation that is being described and the temporal zero-point of the deictic context'.

Comrie (1985:36) distinguishes absolute tenses, which are defined as tenses that 'take the present moment as their deictic center', i.e., present, past and future, from relative tenses. According to Comrie (1985:56), in relative tenses, 'the reference point for location of a situation is some point in time given by the context, not necessarily the present moment'. Consider examples given in (7).

- (7) a. I went to Paris.  
b. I had left at five.

The past tense in example (7a) instances an absolute tense that locates the eventuality before the present moment, while (7b) illustrates a past perfect, which Comrie (1985) defines as an absolute-relative tense. The reference point of a past perfect tense is in the past, and the described event or state is located prior to this past reference point. As Comrie (1985:65) puts it, this compound tense can be described as ‘a past in the past’.

### 1.2.2 *Aspect*

Aspect is a term that has been used to refer to two different linguistic phenomena: grammatical aspect and lexical aspect.<sup>1</sup> In the present study, the term ‘aspect’ will correspond to the former. In Comrie (1976:52), aspect is defined as ‘different ways of representing the internal temporal constitution of a situation’. There are different formal categories of grammatical aspect, i.e., perfective, imperfective and perfect. An aspect such as imperfective asserts that a situation is ongoing, and the perfective, that a situation is viewed as a whole. In the case of the perfect, though, the aspectual category does not focus on a specific internal temporal component of the event. As Comrie (1976:52) puts it, perfect differs from other aspectual categories such as perfective or imperfective, because it ‘tells us nothing directly about the situation in itself, but rather relates some state to a preceding situation’. It seems that it asserts the present relevance of a past situation. Consider example (8):

- (8) a. I lost my sunglasses.  
b. I have lost my sunglasses.

In contrast to example (8a), the PrP sentence in (8b) can imply that the eventuality, which is placed at some past time before the utterance time, is still relevant, i.e., the situation in which the sunglasses are lost still holds at the utterance time.

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<sup>1</sup> In the literature, other terms such as ‘outer’ and ‘inner’ aspect (Travis 1991; Verkuyl 1993) or ‘viewpoint’ and ‘situation’ aspect (Smith 1991) have also been used to make reference to the concept of grammatical and lexical aspect, respectively.

### 1.2.3 *Aktionsart*

*Aktionsart* refers to the temporal properties of events.<sup>2</sup> In the literature, there have been several proposals that classify eventualities,<sup>3</sup> according to the aspectual classes, such as Vendler (1957), Bach (1981) or Smith (1991), among others.

Vendler (1957) distinguishes four classes: states (e.g., *know*), activities (e.g., *work*), achievements (e.g., *arrive*) and accomplishments (e.g., *build a house*). Bertinetto (2001) assesses this type of eventualities on the basis of the grammatical features [+/- duration], [+/- dynamicity] and [+/- homogeneous]. The feature [+/- duration] refers to the amount of physical time that an eventuality takes. The internal development of an eventuality is encoded by the feature [+/- dynamic]. Dynamic eventualities have a complex internal granularity, i.e., they involve change over time. The grammatical feature [+/- homogeneous] refers to the lack or not of an inherent endpoint of an eventuality. Smith (1991:29) adds another aspectual class, which she calls semelfactives (e.g., *cough*, *knock*), which is characterised by [- duration], [+ dynamicity] and [-homogeneous] features. In this present study, I adopt Vendler's (1957) four aspectual classes of events, which are summarised in (9).

#### (9) Classes of *Aktionsart* and their semantic specification

	Duration	Dynamicity	Homogeneous
Statives	+	-	+
Activities	+	+	+
Achievements	-	+	-
Accomplishments	+	+	-

The grammatical feature of homogeneity can distinguish between two bigger classes of events, namely, atelic (i.e., states and activities) and telic (i.e., achievements and accomplishments) eventualities. Atelic eventualities are homogeneous predicates, which lack an inherent endpoint and have the subinterval property (Bennet and Partee 1972/78:14):

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<sup>2</sup> The temporal properties of events are referred as 'lexical aspect' (Comrie 1976), 'aspectual class' (Dowty 1979), 'eventuality type' (Bach 1981, 1986; Parsons 1990), '*Aktionsart*' (Hinrichs 1985), 'inner aspect' (Travis 1991; Verkuyl 1993), 'situation aspect' (Smith 1991).

<sup>3</sup> The term 'eventuality' refers to all type of aspectual classes (Bach 1981).

- (10) Subinterval verb phrases have the property that if they are the main verb phrase of a sentence which is true at some interval of time I, then the sentence is true at every subinterval of I including every moment of time in I.

Let us consider the following homogeneous predicates, which have the subinterval property:

- (11) a. John was in Boston for two hours.  
b. John walked for two hours.

The stative predicate illustrated in (11a) has the subinterval property, i.e., the eventuality of *being in Boston* is true at every subinterval of the interval of time *for two hours*. Stative predicates have been analysed as predicates that are true at subparts restricted to instants (Dowty 1979). The predicate in (11b) is the activity *walk*, which also has the subinterval property, i.e., the eventuality of *walking* is true at every subinterval of the interval of time *for two hours*. Activity predicates involve a larger time interval than states, and are true at an interval (Taylor 1977; Dowty 1979).

Homogeneity is a property of both verbal and nominal predicates<sup>4</sup>, which is also used to distinguish between mass and count nouns. Mass nouns such as *gold* pattern with atelic predicates like *walk*. Parts of *gold* are still called ‘gold’ and a subinterval of an event of *walking* is still an event of *walking*. By contrast, count nouns pattern with telic predicates such as *write a book*. A part of a *chair* cannot be called a ‘chair’ and the telic eventuality of *writing a book* does not have the subinterval property, i.e., it is not true at every subinterval of a given interval in which the eventuality takes place.

#### 1.2.4 *The notion of the reference time*

As pointed out above, the notion of reference time, i.e., the contextual salient time within which the eventuality is located, is necessary to interpret compound tenses (Reichenbach 1947) and explain the differences which exist, for instance, between PrP and simple past sentences, see (1), among other issues. However, reference time is necessary not only for the interpretation of compound tenses, but also for simple tenses. Consider (12), for example (from Partee 1973:602).

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<sup>4</sup> The homogeneity property in the verbal and nominal domain has been extensively discussed in the literature (see Bach 1986; Hinrichs 1985; Krifka 1989; Jackendoff 1987; Filip 1993, 1999; among others)



(12) I didn't turn off the stove.

Partee's (1973) classic example supports the idea that the reference time is needed in order to interpret a simple past sentence correctly. It is not the case that an individual never turned off the stove before the utterance time or within an unspecified time interval at which he or she did not turn it off. According to Partee (1973:603), the interval refers to a particular definite interval at which the individual did not turn off the stove and 'whose identity is generally clear from the extralinguistic context'. This interval is standardly called 'reference time'.

Another relevant example is found in Ohigara's (2006) approach to tense, adverbials and quantification. According to Ohigara (2006:233), simple past sentences 'in general must involve existential quantification over times even if a particular salient past interval is involved in determining their interpretation'. Consider example (13) (from Ohigara 2006:233).

(13) John: Did you eat lunch?

Bill: Yes, I did.

In example (13), the past event of *eating lunch* is located within some relevant past interval (i.e., within the lunch hour), but, as Ohigara (2006:233) claims, it is 'not required for [John] to use up all of his lunch hour to eat his lunch. He could have eaten a sandwich in 10 minutes within this period, and he can still utter the sentence truthfully'. However, what is still not clear in the literature is how to define either the exact source of this contextually salient interval or the cause of this quantificational force.

### 1.2.5 *The interpretation of the present perfect: tense or aspect?*

The question about whether the English PrP can be defined as an aspect or as a tense has been extensively debated in the literature.<sup>5</sup> Reichenbah (1947) was the first who introduced a temporal framework in which the PrP is characterised as a temporal configuration that dissociates the location of the event with respect to its reference time, in contrast to simple past tenses, whose reference time is cotemporal with the event time:

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<sup>5</sup> See Ritz (2012) for an overview.

- (14) a. Simple past: E,R\_S  
 b. Present Perfect: E\_R,S

The temporal configurations given in (14) make use of a comma and an underscore to represent temporal relations. The comma indicates coincidence of connected time points, and the underscore indicates temporal precedence. The reference time (R) in the simple past is cotemporal with the event time (E), and it precedes the speech time (S), as in (14a). In the PrP, the E is placed before R, which is cotemporal with S, as shown in (14b).

It has been claimed in the literature on the Catalan PrP that, apart from the meaning given in (14b), the compound verbal form can be analysed as a past. Pérez Saldanya (2002:2567) states that the PrP in Catalan can be interpreted, like the periphrastic past, as an absolute tense that denotes anteriority, see (15). The difference between the past and the PrP in (15) has to do with the temporal distance between the described situation and the utterance time, see §1.3.5. As shown in (15), Pérez Saldanya (2002) includes the compound tense in brackets since he claims that the PrP in Catalan can encode both a past and a PrP temporal configuration.

(15)

	<i>Anteriority</i>
<i>Absolute tense</i>	va cantar
	(ha cantat)

### 1.3 The readings of the present perfect

In this section, I will review the main readings of the PrP. If each of the readings of the PrP had a distinct semantic representation, one should be able to find contexts in which one of the readings is not available in unmodified sentences. However, in this section, I will show that this is not the case and that each of them can clearly be distinguished by the contribution of other elements, like adverbials and the context.

There are three readings that have been traditionally posited in the literature on the perfect (Comrie 1976): the universal<sup>6</sup>, the experiential<sup>7</sup> and the resultative. Consider these examples:

- (16) a. I have been to Scotland.  
b. They have always lived in Barcelona.  
c. I have lost my sunglasses.

The experiential PrP in (16a) denotes that the eventuality of *having been to Scotland* holds at some prior time interval, namely, the sentence asserts that the speaker has the experience of *having been to Scotland*. Example (16b) has a universal interpretation, in which the eventuality of *living* holds throughout a time interval that started in the past and continues up to now. The resultative PrP in (16c) describes an event whose result state holds at the utterance time, i.e., the subject's sunglasses are still lost at the utterance time.

The literature on the perfect (Comrie 1976) has also considered the recent past reading as shown in (17).

- (17) The team has just won the match.

Sentence (17) has a recent past meaning which locates the situation just before the utterance time. This last reading, however, is no more analysed as a distinct use (McCoard 1978; Declerck 1991; Iatridou *et al.* 2001; among others).<sup>8</sup>

In Catalan, the readings shown in (16) are also available, i.e., there are instances of an experiential, see (18a), a universal<sup>9</sup>, see (18b), and a resultative reading, see (18c) (examples from Pérez Saldanya 2002:2590-2591).

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<sup>6</sup> The universal perfect is also called the 'perfect of persistent situations' (Comrie 1976; McCoard 1978), the 'up-to-now reading' (Abush & Rooth 1990), or the 'continuative perfect' (Huddleston & Pullum 2002; Portner 2003).

<sup>7</sup> The experiential reading overlaps with what is called 'existential' (Kiparsky 2002; Portner 2003; Iatridou *et al.* 2001).

<sup>8</sup> Following Iatridou *et al.* (2001), I will also group the experiential and the resultative reading under the name of the existential PrP, see §1.5.3.

<sup>9</sup> It is also called *perfect 'inclusiu'* in Catalan (Pérez Saldanya 2002), '*perfecto compuesto continuo*' (or '*perfecto de aspecto continuo*') in Spanish (NGRAE 2009:23.7ñ), etc.

- (18) a. En Pere ha estat a Chicago.  
 the Pere have.3sg been to Chicago  
 ‘Peter has been to Chicago.’
- b. Sempre hem viscut en aquest poble.  
 always have.1pl lived in this town  
 ‘We have always lived in this town.’
- c. En Pere se n’ha anat a Chicago.  
 the Pere refl cl have.3sg gone to Chicago  
 ‘Pere has gone to Chicago.’

The examples illustrated above (i.e., experiential, universal, resultative) have been classified as aspectual readings of the PrP (Pérez Saldanya 2002; Curell 1990, 2002, 2003; Curell & Coll 2007). Catalan has also another reading which English does not have, i.e., the so-called hodiernal<sup>10</sup> reading, which is also available in Standard Peninsular Spanish<sup>11</sup>. Pérez Saldanya (2002:2593) gives the following example in Catalan:

- (19) Hem anat al mercat avui a les deu.  
 have.1pl gone to.the market today in the ten  
 ‘We went to the market today at ten.’

In the following subsections, I will have a closer look at the different readings that I have listed in examples (16)-(19).

### 1.3.1 *The experiential reading*

Comrie (1976:58) claims that the experiential perfect ‘indicates that a given situation has held at least once during some time in the past leading up to the present’, see (20a) and (20b) (= (16a) and (18a), from §1.3).

<sup>10</sup> From latin *hodiernus* ‘fom the day of today’ derived from *hodie* ‘today’ (Dahl 1985; NGRAE 2009).

<sup>11</sup> From now onwards, I am going to discuss Spanish data when necessary. The hodiernal reading has been also attested in Limouzi, an Occitan dialect (Comrie 1985), in the Florentine dialect (Bertinetto 1986:405) and in seventeenth-century French.

- (20) a. They have been to Scotland.  
 b. En Pere ha estat a Chicago.  
 the Pere have.3sg been to Chicago  
 ‘Peter has been to Chicago.’

This reading of the PrP occurs with any kind of *Aktionsart* (Iatridou *et al.* 2001). Telic eventualities reach their inherent endpoint before the reference time, and atelic eventualities, which do not have a natural termination point, occur before the reference time with no implication that it continues at the utterance time.

The experiential perfect does not require adverbial modification, but it can arise with numerically quantified phrases (e.g., *twice*) as in (21), which, according to Mittwoch (2008:229), ‘explicitly refer to a plurality of events’.

- (21) John has been twice to Scotland.

Aspectual adverbs like *already*, *ever*, *yet*, *before*, or *never* also give rise to experiential interpretations, see (22).

- (22) a. John has already been to Scotland.  
 b. John has been to Scotland before.  
 c. Have you ever been to Scotland?  
 d. John hasn’t been to Scotland yet.

The affirmative sentences (22a) and (22b) assert that the subject has actualized the event of *being to Scotland* in a temporal period that reaches up to now. The adverb of quantification *ever* in the question shown in (22c) induces a reading that inquires whether the subject has had the experience of *being in Scotland* on any occasion leading up to now. As for the negative sentence given in (22d), the adverb *yet* asserts that the event has not been actualized in the period leading up to now.

The same applies to Catalan, i.e., numerically quantified phrases (e.g., *dos cops* ‘two times’), aspectual adverbials like *ja* ‘already’ or *encara* ‘yet’ give rise to experiential readings:

- (23) a. En Pere ha estat a Chicago dos cops.  
 the Pere have.3sg been to Chicago two times  
 ‘Peter has been twice to Chicago.’
- b. En Pere ja ha estat a Chicago.  
 the Pere already have.3sg been to Chicago.  
 ‘Peter has already been to Chicago.’
- c. En Pere encara no ha estat a Chicago.  
 the Pere yet not have.3sg been to Chicago.  
 ‘Peter hasn’t been to Chicago yet.’

According to Michaelis (1994) for English, Curell (2002) for Catalan and Laca (2010) for Mexican Spanish, negative PrP sentences such as (23c) can also be interpreted as universal. According to Laca (2010:13), the universal reading ‘for all times in an interval, it is not true that p’ is equivalent to the existential ‘for no time in an interval it is true that p’ due to the interaction of quantifiers with negation. In (23c), the negation of the eventuality can give rise to a universal interpretation, in which ‘for all times in an interval, it is not true that Peter is in Chicago’, or to an existential, in which ‘for no time in an interval, it is true that Peter is in Chicago.’

It seems that intonation also plays a relevant role in the interpretation of PrP sentences. Mittwoch (2008:326) claims that focus on the auxiliary verb has ‘the same effect as the adverb of quantification *once* or *sometimes*’ and gives rise to an experiential reading, see (24) (from Mittwoch 2008:326).

- (24) I HAVE eaten frogs’ legs, but I can’t say I like them.

Mittwoch (2008) also mentions that the repeatability condition (McCawley 1971:82; Inoue 1979:574-585; Dahl 1985:143; Michaelis 1994:138-139; Katz 2003:156-158) favours the experiential reading. It has been claimed in the literature that the experiential reading is subject to a condition that the eventuality has to be repeatable and it has a sense of ‘current possibility’ (McCawley 1971). According to Inoue (1979), this option is related to the fact that the described eventuality can be repeated in the future. However, Katz (2003:149) shows that the repeatability condition is dependent on contextual information and on ‘what the speaker and hearer take to be possible’. Consider example (25) (from Katz 2003:150).

- (25) a. We have been to Paris and Rome.  
b. We went to Paris and Rome.

The PrP sentence illustrated in (25a) is compatible with a situation when the speakers are still travelling around. By contrast, the use of the simple past in (25b) presupposes that the trip is over. However, the sense of ‘current possibility’ is ultimately contextually specified. The use of the PrP in (25a) does not assert that the subject will return to these places, nor does the use of the simple past in (25b) rule out future trips to these cities. Rather the use of the PrP describes that the speaker has the experience of having been to two European cities in a period leading up to now, and the simple past, that these eventualities are located at some time before the utterance time.

The condition of future possibility is related to what Musan (1995, 1997) calls the *lifetime effect*. This linguistic phenomenon states that there is a relation between the temporal location of the subject and the appropriateness of the tense used in the sentence. The literature on the perfect always makes reference to the lifetime effect contrast noted by Chomsky (1970:144) as shown in (26).

- (26) a. \*Einstein has visited Princeton.  
b. Princeton has been visited by Einstein.

The repeatability condition is not met in (26a), because the individual denoted by the subject is no longer alive and, hence, the speaker cannot assume that there is a future visit to Princeton that is currently possible. The use of the PrP would be appropriate in (26a) if Einstein were still alive. As for (26b), the lifetime effect does not arise since the subject is Princeton and it still exists and can be visited.

However, as McCawley (1971), Inoue (1979), Michaelis (1994), among others, suggest, the information structure of a sentence also plays a role in determining the interpretation of a PrP sentence. Consider example (27) (from Michaelis 1994:138).

- (27) How can you say that Princeton is a cultural backwater? EINSTEIN has visited Princeton.

In contrast to (26a), the subject of example (27) is focused and the sentence becomes acceptable. As Michaelis (1994) puts it, (27) may not presuppose that Einstein can still visit Princeton, but it presupposes that Princeton is still visitable.

Inoue (1979) also considers discourse factors under which the use of the PrP is accepted. For Inoue (1979:574), the notion of current relevance is related to the condition of repeatability that concerns only discourse topic.<sup>12</sup> A sentence such as (26a) would be acceptable in a context in which a speaker is talking about memorable occasions in the history of the university of Princeton. Moreover, consider the example shown in (28) (from Inoue 1979:576).

(28) A: Which Nobel laureates have visited Princeton?

B: Let's see, Einstein has, Yukawa has, Friedman has, ...

Sentence (28B) is acceptable in a context in which the discourse topic is 'the Nobel Prize winners visit Princeton'. It is not the case that Einstein or Friedman can still visit Princeton, rather that Nobel laureates can still visit this place.

Interestingly, it seems that there are also instances of experiential readings that are once-only events such as (29) (from Mittwoch 2008:327).

(29) a. John has died.

b. The Prime Minister has held his first press conference.

c. Anne has uttered her first two-word sentence.

Even though the repeatability condition is not satisfied, the use of the PrP is licensed in sentences illustrated in (29).

The experiential interpretation also appears in list-readings (Mittwoch 2008). Crucially, Iatridou (2003:144) claims that, in a dialogue such as (30), the list-reading of the English PrP involves 'descriptions of events whose definiteness/specificity does not normally permit them in the perfect'.

(30) A: What has she done since 1990?

B: Well, she has written this paper, she has assassinated her opponent and she has had the fields destroyed.

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<sup>12</sup> Inoue (1979:574) defines discourse topic as 'a proposition about which the speaker is either providing or requesting new information'.



Mittwoch (2008) also points out that an indefinite temporal specification can license experiential readings as in (31) (from Mittwoch 2008:327).

(31) I have heard him play that piece before.

The temporal adverbial *before* in example (32) asserts that the described eventuality takes place at some unspecified time preceding the utterance time.

In order to see if one reading of the perfect has a distinct semantic representation, we should be able to find characteristics which can only be applied to one specific reading. In §1.3.1, I have outlined the main factors which favour the experiential reading, but, as I will show in the following subsections, there is not a unique unmodified context in which only the experiential, universal or resultative reading emerge. I will continue using the term experiential for illustrative purposes, but this reading is going to be identified as an existential perfect (Iatridou *et al.* 2001), in §1.5.3.

### 1.3.2 *The universal reading*

The universal reading is a prototypical reading of the English PrP which denotes an action which persists throughout a time interval that starts at some point in the past and lasts until the moment of speech (Comrie 1976). It has been claimed in the literature that the universal interpretation of the PrP is obtained with stative predicates and the perfect of the progressive (Dowty 1979; Mittwoch 1988; Vlach 1993; Portner 2003; among others). Although in Iatridou *et al.* (2001), the most characteristic requirement of the universal reading is unboundedness. They claim that a universal reading is obtained when an eventuality is ongoing at an interval and is therefore not asserted to have reached termination. Let us consider (32a) and (32b) (=16b) and (18b), from §1.3).

- (32) a. They have always lived in this town.  
b. Sempre hem viscut en aquest poble.  
always have.1pl lived in this town  
'We have always lived in this town.'

The use of the PrP is required in a sentence modified by the universal adverb of quantification *always*, cf. (32b) and (33).

- (33) a. #They always live in this town.  
b. #Sempre vivim en aquest poble.  
always live.2pl in this town

In other contexts, the universal reading of the PrP is quite marginal. Instead of the PrP, the present simple is preferred in Catalan, see (34a), as well as in Spanish, French, German and Russian (Comrie 1976). In Catalan, there are also temporal constructions such as <*portar* ‘carry’ + gerund><sup>13</sup> illustrated in (34b), which yield a universal interpretation.<sup>14</sup>

- (34) a. Visc a Barcelona des de 2009.  
live in Barcelona from 2009  
‘I have lived in Barcelona since 2009’  
b. Porto quatre anys estudiant anglès.  
carry.1sg four years studying English  
‘I have been studying English for four years.’

The universal reading requires reinforcement by adverbials (Iatridou *et al.* 2001; Hudleston & Pullum 2002; among others). Consider the following unmodified sentences:

- (35) a. He has lived here.  
b. Hem viscut en aquest poble.  
have.1pl lived in this town  
‘We have lived in this town.’

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<sup>13</sup> In Spanish <*llevar* ‘carry’ + gerund> (e.g., *Llevo cuatro años estudiando inglés* ‘I have been studying for four years’) has the same function (García Fernández 2000a; Martínez-Atienza 2006).

<sup>14</sup> I assume Rigau and Soriano’s (2009) claim that <*portar* ‘carry’ + gerund> as well as <*llevar* ‘carry’ + gerund> are personal temporal constructions rather than instances of periphrastic verbal forms. They show several facts that evidence that these constructions cannot be treated as periphrastic constructions, i.e., *portar* or *llevar* ‘carry’ and the non-finite verb do not need to be adjacent, negation can appear with both verbs, etc.

The described eventualities in (35) can have a universal reading in which the eventuality holds throughout an unspecified time interval up to now. However, without any adverbial support, sentences illustrated above are ambiguous. These sentences also have an experiential reading, i.e., the eventuality of *living* in a certain place may hold at some time interval leading up to now. Thus, unequivocal universal readings are only available via adverbial support.

There is some controversy in the literature over whether the universal is encoded in the semantics of the PrP. Mittwoch (1988), Brugger (1997), Iatridou *et al.* (2001), among others, claim that a universal perfect is encoded in the grammar. However, it seems that universal interpretations are mainly dependent on the type of temporal modification.

There are certain adverbials such as *always*, *at least since*, *ever since*, *for XP now* (Iatridou *et al.* 2001), which always give rise to universal interpretations in English, see (32a). In Catalan, there are also adverbials which always yield a universal reading as shown in example (32b) and (36), in which the temporal construction *tot XP que* ‘*all XP that*’ requires universal quantification over times.

- (36) Tot el dia que ha plogut.  
all the day that have.3sg rained  
‘It has been raining all day.’

With certain temporal adverbials, the universal and experiential readings can co-occur in PrP contexts in English (Heny 1982; Richards 1982; Mittwoch 1988; Michaelis 1994; Iatridou *et al.* 2001; among others). Consider examples illustrated in (37) (from Mittwoch 1988:203-207).

- (37) a. Sam has been in Boston since Tuesday.  
b. Sam has been in Boston for 20 minutes.

The PrP sentence in (37a) modified by a *since*-adverbial may allow for an experiential reading, i.e., the eventuality of *being in Boston* may be located at some interval within the frame adverbial encoded by *since Tuesday*, or for a universal reading, i.e., the eventuality stretches from Tuesday up to now. The experiential and universal reading also co-occur in (37b). The experiential reading specifies that the length of the

eventuality that took place at some time prior to the utterance time was twenty minutes, whereas the universal reading states that the eventuality of *being in Boston* obtains for all times within a time span whose lower bound is twenty minutes ago.

As for the case of Spanish, Martínez-Atienza (2006, 2010) and García-Fernández (2000b) claim that the experiential reading is enforced by numerically quantified phrases. It seems that the same applies to Catalan, cf. (38a) and (38b).

- (38) a. He viscut a Boston des de 2000.  
 have.1sg live in Boston from 2000.  
 ‘I have lived in Boston since 2000.’
- b. He viscut a Boston dos cops des de 2000.  
 have.1sg live in Boston two times from 2000.  
 ‘I have lived in Boston twice since 2000.’

In contrast to English, PrP sentences modified by *des de*-adverbials as in (38a) give rise to an unequivocal universal reading. The lower boundary encoded by the *des de*-adverbial (i.e., *2000*) asserts the starting point of the eventuality of *living in Boston* and explicit numerically quantified phrases (i.e., *dos cops* ‘two times’) are required to derive the experiential reading as in (38b).

This subsection has outlined the main properties of the universal reading which is the prototypical reading of the English PrP. Apart from the PrP, Catalan uses the present tense or other temporal constructions like <*portar* ‘carry’ + gerund> to convey this meaning, as was shown in (34). There are no unmodified contexts that clearly encode a universal reading only, see (35). In chapter 4, I will discuss that homogeneity as well as adverbial support are key factors in establishing a universal reading in Catalan. I have also shown that there are PrP contexts in which the universal and experiential readings co-occur in English, as in (37). In chapter 5, I will focus on the grammatical properties of *since*-type of adverbials, which differ across languages, and discuss whether these differences have an effect on the universal/experiential dichotomy.

### 1.3.3 *The resultative reading*

According to Comrie (1976:56), in the perfect of result, ‘a present state is referred to as being the result of some past situation’, that is, it describes the result of a prior action,

which is currently relevant at the utterance time, see (39a) and (39b) (= (16c) and (18c), from §1.3).

- (39) a. I have lost my sunglasses.  
b. En Pere se n' ha anat a Chicago.  
the Pere refl cl have.3sg gone to Chicago  
'Pere has gone to Chicago.'

Like in the case of unmodified PrP sentences, which cannot clearly distinguish experiential from universal readings, see (35), unmodified PrP sentences such as (39a), in an out-of-the-blue context, can be interpreted as experiential (McCawley 1971; Iatridou *et al.* 2001, for English; García Fernández 2006, for Standard Spanish). Hence, (39a) can imply that the glasses are lost at the utterance time and bring out a resultative reading, or assert that the subject has the experience of *having lost* his glasses at some time in the past.

As for example (39b), the reflexive and the clitic *en* in Catalan forces a resultative reading of the achievement predicate, i.e., the sentence implies that the subject is in Chicago at the utterance time. However, without these elements, the sentence *Ha anat a Chicago* 'He has gone to Chicago' can have a resultative or an experiential reading, i.e., the subject has the experience of *having gone to Chicago* some time in his lifespan.

The resultative reading mostly occurs with telic predicates, but atelic eventualities may also give rise to resultative interpretations as pointed out in Michaelis (1994), among others, and illustrated in (40) (from Michaelis 1994:141).

- (40) I have knocked (so someone should be coming, etc.).

In a sentence such as (40), the resultant state is the fact that something must happen after the eventuality of *knocking* takes place. The resultative reading implies that there is someone who should be coming to open the door.

In sum, the data illustrated above show that the result state is not encoded in the perfect and the resultative reading of unmodified PrP sentences is not clearly detectable without further contextual or sentential support. I will group the resultative together

with the experiential reading under the name of existential perfect following Iatridou *et al.* (2001), see §1.5.3 for details.

#### 1.3.4 *The recent past reading*

According to Comrie (1976:60), the perfect of recent past or ‘hot news’ ‘may be used where the present relevance of the past situation referred to is simply one of temporal closeness, i.e. the past situation is very recent’, see (41) (=16d), from §1.3).

(41) The team has just won the match.

It usually co-occurs with adverbials like *recently*, *just*, etc. In fact, as Kiparsky (2002) notes, the difference between the recent past meaning and the experiential disappears when the adverb is removed:

(42) The team has won the match.

Kiparsky (2002) adopts Michaelis’ (1994) proposal and states that the perfect of recent past is a subtype of the resultative perfect, i.e., like in the case of the perfect of result, the perfect of recent past locates an event at a time that is adjacent to the utterance time. However, I have just shown that the resultative is not always clearly detectable without further contextual or sentential support and that the result state is not encoded in the base meaning of the perfect. Hence, I will analyse the recent past not as a subtype of the resultative, but as subtype of the existential interpretation (McCoard 1978; Declerck 1991; Iatridou *et al.* 2001; among others). As I claim in the following subsection, I will also analyse the hodiernal interpretation, which is specific for Catalan, as opposed to English, as a subtype of the existential reading.

#### 1.3.5 *The hodiernal reading*

In contrast to the readings illustrated above, which have been defined as aspectual readings of the PrP, the hodiernal reading has been described as a temporal use of the PrP in Catalan (Pérez Saldanya 2002; Curell 1990, 2002, 2003; Curell & Coll 2007). In the literature, it has also been called a “bad perfect” (Schaden 2007; Laca 2010), because it has been analysed as an ambiguous verbal form between a past and a perfect

interpretation. However, let us have a look at the following examples (from Pérez Saldanya 2002:2593).

- (43) a. Hem anat al mercat avui a les deu.  
have.1pl gone to.the market today in the ten  
'We went to the market today at ten.'
- b. \*Hem anat al mercat ahir al matí.  
have.1pl gone to.the market yesterday in.the morning

In example (43a), the PrP describes the eventuality of *going to the market* that takes place on the same day as the utterance, as specified by the locating time adverbial *avui* 'today'. By contrast, in (43b), the use of the PrP is not licensed with locating time adverbials that refer to the previous day of the utterance as *ahir* 'yesterday', so the sentence is ungrammatical. These examples show that the PrP in Catalan does not behave as a "bad perfect" since it is not ambiguous between a past and a perfect interpretation. If it were the case, then the PrP illustrated in (43b) should be allowed, but it is not in Catalan.

Even though the hodiernal reading is default in Catalan and is used to refer to eventualities that take place on the same day of speaking (Curell 1990, 2003), this use is not clearly detectable without contextual information or adverbial support, like in the case of the other readings of the PrP that I have discussed above. Consider example (44).

- (44) Hem anat al mercat.  
have.1pl gone to.the market  
'We have gone to the market.'

Example (44) does not necessarily describe an eventuality that takes place on the same day of speaking. It is compatible with an experiential interpretation, i.e., the subject has the experience of *having been to the market*, as well as with a resultative interpretation, i.e., a possible result state of *going to the market* implies that now the fridge is full.

The type of adverbials that can give rise to a hodiernal interpretation of the PrP are certain locating time adverbials, as shown in (45).

- (45) a. Ha vingut avui a les tres.  
 have.3sg come today in the three  
 ‘He came at three.’
- b. Ha vingut fa dues hores.  
 have.3sg come make.3sg two hours  
 ‘He came two hours ago.’
- c. Ells han arribat aquest matí.  
 they have.3pl arrived this morning  
 ‘They have arrived/arrived this morning.’

[(45c) may be uttered in the afternoon]

Example (45a) refers to *a les tres* ‘at three’ of the present day. The time adverbial *fa dues hores* ‘make two hours’ in (45b) locates the eventuality two hours before the utterance time, and *aquest matí* ‘this morning’ in (45c) can refer to the same current morning or to the closest morning before the moment of the utterance time.

Interestingly, the PrP must be used in the contexts given above in (45) while the periphrastic past is not acceptable, as shown in (46).

- (46) a. \*Vam anar al mercat avui a les deu.  
 aux.1pl go to.the market today in the ten
- b. \*Vam anar al mercat fa dues hores.  
 aux.1pl go to.the market make.3sg two hours
- c. \*Vam anar al mercat aquest matí.  
 aux.1pl go to.the market this morning

The periphrastic past cannot combine with time adverbials that locate eventualities on the day surrounding the utterance time as in (46a-c). Locating time adverbials such as *avui* ‘today’, *fa dues hores* ‘makes two hours’ or *aquest matí* ‘this morning’ rule out the use of the periphrastic past.

In Catalan, there are also instances of PrP sentences modified by locating temporal adverbials that span the limits of the day of speaking. Consider examples given below.



- (47) a. Han arribat a l' hivern.  
 have.3pl arrived in the winter  
 'They arrived in the winter.'
- b. Ells han arribat aquest cap the setmana.  
 they have.3pl arrived this head of week  
 'They have arrived this morning.'

[(47b) may be uttered on Monday]

The temporal expression *l'hivern* 'the winter' in (47a) can refer to an unspecified winter or to 'the winter of the current year' (i.e., *l'hivern d'enguany* 'the winter of this year'). As for example (47b), it shows that *aquest cap de setmana* 'this weekend' can easily combine with PrP sentences that locate the described eventuality within a time span that may not include the utterance time, i.e., sentence (47b) can be uttered between Monday and Wednesday of the following week.

With past time adverbials, the PrP is ruled out as in (48a) (from Pérez Saldanya 2002:2593), and the use of the periphrastic past is required instead, see (48b).

- (48) a. \*Hem anat al mercat ahir a les deu.  
 have.1pl gone to.the market yesterday in the ten
- b. Vam anar al mercat ahir a les deu.  
 aux.1pl go to.the market yesterday in the ten  
 'We went to the market yesterday at ten.'

Past time adverbials such as *ahir* 'yesterday' locate the described eventuality on the day previous to the utterance time and can only combine with the periphrastic past.

Although the *passé composé*, the PrP in French, admits past time adverbials (i.e., *hier* 'yesterday'), de Swart (2007) argues in favour of a deictic analysis of the *passé composé*, i.e., as a deictic tense that is oriented towards the utterance time, see (49).

- (49) Aujourd'hui j' ai beaucoup travaillé au bureau.  
 today I have.1sg a.lot worked at.the office  
 'I {have worked/worked} hard at the office today.'

(French)

In the case of the *passé simple*, the simple past tense of French, which is mostly used in formal written language, it cannot combine with time adverbials that refer to the day surrounding the utterance time (de Swart 2007), see (50).<sup>15</sup>

- (50) \*J' arrivai aujourd'hui.  
I arrived today  
'I arrived today.'

(French)

Curiously, as Schaden (2009) notes, the restrictions on the PrP are linked to the competition of this tense form with the simple past. In languages such as French, Schaden (2009) shows that there are restrictions on the use of the *passé simple*, which, in contrast to the *passé composé*, is very restricted and is out with deictic locating time adverbials such as *hier* 'yesterday', see (51) (from Schaden 2009:126).

- (51) #Maria arrivai hier.  
Maria arrived yesterday  
'Maria arrived yesterday.'

(French)

It is important to note that in Spanish the use of the past is not as restricted as in Catalan. Even though it is used mostly in pre-hodiernal contexts in Standard Peninsular Spanish, which also has the hodiernal reading of the PrP, the use of the past with deictic time adverbials that denote a present time sphere is not strictly ruled out. Consider example (52).<sup>16</sup>

- (52) Hoy ha venido y luego se ha ido/ fue.  
today have.3sg come and later refl have.3sg left went.3sg  
'Today he came and later he left.'

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<sup>15</sup> Thanks to Gerhard Schaden for bringing this example to my attention. All errors are mine. As Schaden (p.c.) points out, one of the issues with judgements with respect to the *passé simple* is that it is not used in spoken language and judgements are not that clear.

<sup>16</sup> Thanks to Josep Maria Brucart for bringing this example to my attention. All errors are mine. According to him, in a sequence of events such as (52), the eventuality of *coming* in the simple past is ruled out.

In languages such as English, there is nothing that prevents us to locate an eventuality on the same day of speaking as in (53).

- (53) a. I have seen John today.  
 b. I have seen John this morning. [still the current morning]

However, in contrast to past, future or non-finite perfect sentences, PrP sentences in English cannot be modified by locating time adverbials (Comrie 1976; McCoard 1978; among others). As was mentioned above, this phenomenon is known as the *Present Perfect Puzzle* (Klein 1992), cf. (54) and (55) (=5), from §1.1).

- (54) a. Chris had left at six.  
 b. Chris will have left at six.  
 c. Chris must have left at six.
- (55) a. \*Chris has left York yesterday.  
 b. \*Chris has left at six.

The PrP in Catalan cannot appear with future time adverbials as witnessed in (56)<sup>17</sup>. This use has been attested in Spanish (Cartagena 1999). Consider example (57).

- (56) \*Demà he viatjat a Londres.  
 tomorrow have.1sg travelled to London

- (57) La semana que viene he presentado el trabajo.  
 the week that come.3sg have.1sg presented.3sg the work  
 ‘I will have presented the work next week.’

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<sup>17</sup> The compatibility of the PrP with future time adverbials is accepted in very specific contexts in Catalan. Let us consider (i). In this context, someone wants to prepare a party to a friend, but the subject finds out that tomorrow this friend will be already gone. Thanks to Anna Pineda for bringing to my attention this example. All errors are mine.

- (i) A: Demà li preparem una festa sorpresa.  
 tomorrow cl.dat prepare a party surprise  
 ‘Tomorrow we are going to prepare a surprise party to her.’  
 B: No! Que demà la Maria ja se n’ha anat.  
 no that tomorrow the Mary already refl cl. have.3sg left  
 ‘No! Mary will have already left tomorrow!’

Example (57) indicates that the event of presenting the exam will already be accomplished by next month.

In this study, I will also deal with the expression of hodiernality in other typological unrelated languages such as Gikũyũ, a Bantu language, see chapter 3.

- (58) Mwangi nĩekũinĩte. (Hodiernal perfect)  
'Mwangi has danced (within the day).'
- (Gikũyũ)

In example (58), the morpheme *kũ* 'hodiernal' in Gikũyũ asserts that the eventuality of *dancing* is located within the boundaries of 'today'.

### 1.3.6 Summary of section 1.3

In section §1.3, I have introduced the main readings of the PrP attested in English and Catalan, i.e., the experiential, the universal, the resultative, the recent past and the hodiernal. I have shown that these readings are not clearly detectable without further contextual or sentential support. There is some controversy in the literature over whether the experiential, universal, resultative readings can be unified under the term 'existential' perfect, but it seems that none of these readings is encoded in the semantics of the perfect *per se*. The universal reading describes eventualities that hold throughout a time interval that spans up to the moment of the utterance and it is unambiguously obtained with homogeneous predicates and appropriate temporal modification. As for the experiential and resultative readings of the PrP, they describe eventualities that are located at some unspecified time interval that reaches up to now. I have introduced the hodiernal reading and have illustrated that it is not a separate use, which English does not have, see (53). Rather, it is a reading that allows for modification by locating time adverbials that are connected to the present time sphere (i.e., punctual time adverbials, locating time adverbials headed by a proximate demonstrative), see (46). I will discuss the hodiernal reading of the PrP in chapter 2. As shown in (59), I will group the hodiernal together with the experiential and resultative under the name of existential perfects following Iatridou *et al.* (2001), and claim that the main difference that distinguishes the hodiernal reading is due to a possible specification of the temporal modifier on a fixed position on the time line.

- (59) Existential reading
- Experiential
  - Resultative
  - Recent past
  - Hodiernal
- Universal reading

#### 1.4 Dealing with different puzzles

In this section, I will mainly focus on the *Present Perfect Puzzle* (Klein 1992), which is still unresolved, and the use of the PrP in narrative passages. I will show that Catalan is in an intermediate position between English-type and French-type PrP languages, i.e., Catalan PrP is a tense which can only admit locating time adverbials that are connected to the present time sphere. I will also make some observations concerning the use of past time adverbials with the PrP in some English and Spanish varieties, and show that the past and the PrP are two competing tenses. The use of the PrP in these varieties is ultimately linked to the current relevance of the described eventuality at the time of the utterance.

##### 1.4.1 *The present perfect puzzle*

Most standard analyses of the English PrP are based on the ungrammaticality of PrP sentences modified by locating time adverbials as in (55). As I have mentioned above, this phenomenon is called the *Present Perfect Puzzle* (Klein 1992). In this subsection, I will deal with this puzzle and outline some of the solutions to the *Present Perfect Puzzle*, which mainly revolve around the differences in the semantics of the present tense across languages.

According to Klein (1992:544), p(osition)-definiteness is a term that applies to ‘expressions whose lexical content explicitly specifies the position of a time span in relation to the utterance time: it fixes a definite position on the time axis’. The present tense is always p-definite (Klein 1992) because it fixes the position of the Topic Time  $t_0$  (TT $_0$ ), which includes the Time of Utterance (TU). The TT $_0$  in Klein (1992:536) corresponds to the Reference time $_0$ , which constitutes ‘an abbreviation for a TT that includes the TU’ (Klein 1992:536). In English, the present tense has particular constraints in usage which also apply to the PrP, i.e., the *Present Perfect Puzzle* of the

English PrP. In order to solve the puzzle, Klein (1992:546) proposes the *P(osition)-Definiteness Constraint*.<sup>18</sup>

(60) *P-Definiteness Constraint*

In an utterance, the expression of TT and the expression of TSit cannot both be independently p-definite.

According to him, the *P(osition)-definiteness Constraint* is a principle in which the expression of the TT as well as the expression of the TSit cannot both be independently p-definite. The position of the TT is specified by the present tense morpheme, which is p-definite, and, thus, the TSit cannot be modified by p-definite time adverbials such as punctual time adverbials that specify the expression of TSit. Consider once again the examples in (61), which were presented in §1.1 and §1.3.5.

- (61) a. \*Chris has left York yesterday.  
b. \*Chris has left at six.

The ungrammaticality of these sentences is predicted by the *p(osition)-definiteness constraint* (Klein 1992). Klein (1992:543-544) notes that the English PrP includes TU, so that the TT cannot be specified by a past time adverbial like *yesterday* whose lexical meaning is ‘at some time span within the day that precedes the day that includes the utterance time’, see (61a). Klein (1992:546) explains that the TT is explicitly specified by the present tense of the auxiliary verb *have*, which is p-definite and fixes the TT on the time axis, i.e., it is fixed at the TU. That is why the English PrP cannot be further specified by time p-definite adverbials such as *at six*, which modify the TSit, see (61b).

However, Klein’s (1992) *p-definiteness constraint* does not constitute a cross-linguistic principle. Unlike in English, in languages such as German (as well as Dutch, French, Italian, etc.), the PrP is compatible with time adverbials like *at three* or *yesterday* and Klein’s constraint does not predict or explain the grammaticality of examples such as (62) (from Rothstein 2008:67).

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<sup>18</sup>Klein’s (1992) TU, TT and TSit, which are abbreviations for Time of Utterance, the Topic Time and the Time of Situation, correspond to the Utterance time, Reference time and Event time, respectively

(62) Sirgurd ist gestern angekommen.

Sirgurd be.3sg yesterday come

‘Sirgurd came yesterday.’

(German)

Last but not least, in Catalan, the puzzle has a different flavour since the PrP is compatible with certain locating time adverbials, but not with all of them. Thus, punctual time adverbials are licensed in PrP sentences as in (63a), but time adverbials such as *ahir* ‘yesterday’ are not acceptable as in (63b) (=43), from §1.3.5; from Pérez Saldanya 2002:2593).

(63) a. Hem anat al mercat avui a les deu.

have.1pl gone to.the market today in the ten

‘We went to the market today at ten.’

b. \*Hem anat al mercat ahir al matí.

have.1pl gone to.the market yesterday in.the morning

To sum up, English exhibits the *Present Perfect Puzzle* that Klein’s (1992) solves proposing the p-definiteness constraint, which states that the TT and the TSit in English PrP sentences cannot both have a definite position on the time axis. The TT of the English PrP includes the TU, so it is already p-definite and fixed on the time axis, see (61a). The TT cannot be specified by time adverbials that do not include the utterance time in its denotation, see (61b). The puzzle disappears in German-like languages, where, apart from modification by punctual time adverbials, past time adverbials are also compatible with the PrP, see (62). It seems that Catalan is in an intermediate position between the English and German temporal-aspectual system. In the following subsection, I will investigate if this is also the case in the context of narrative passages by looking into the temporal relations between eventualities.

#### 1.4.2 *Narrative passages*

In this subsection, I will consider the main elements that allow for a narrative structure and show that the Catalan PrP is not a tense that can be used in pure narration as the simple past. Rather, in a similar way as in French (see de Swart 2007), the use of the

PrP in narrative passages has the flavour of a diary and patterns with a list-reading of the PrP (see §1.3.1). The progression and temporal sequence of eventualities mainly depend on the properties of the predicate and temporal delimitation (Reinhart 1984; Borik 2006; de Swart 2007; among others).

Let us begin by looking at the French data. De Swart (2007) studies the case of the *passé composé* in French on the basis of its use in *L'étranger*, a novel written by Albert Camus in which he only used this compound tense. De Swart (2007:2282) shows that the *passé composé* has a deictic nature oriented towards the utterance time, and, the compound tense in narrative discourse maintains this deictic dimension and has the flavour of a diary. Her study of the discourse semantics of the *passé composé* in *L'étranger* confirms that the *passé composé* allows for any temporal relation between sentences, i.e., posteriority, simultaneity and inversion. Consider the following examples (from de Swart 2007:2283).

- (64) a. La garde s' est levee et s' est dirigée vers la sortie.  
the nurse refl be.3sg stood.up and refl be.3sg moved towards the exit  
'The nurse stood up and went towards the door.'
- b. Audourd'hui j' ai beaucoup travaillé au bureau.  
today I have.1sg a.lot worked at.the office  
Le patron a été amiable.  
the boss have.3sg been kind  
'I worked hard at the office today. My boss was kind.'
- c. J' ai pris l' autobus à deux heures. Il faisait très chaud.  
I have.1sg caught the bus in two hours it was.3sg very hot  
J'ai mange au restaurant chez Céleste (...). J' ai couru  
I have.1sg eaten at restaurant Céleste I have.1sg run  
pour ne pas manquer le départ.  
for not miss the departure  
'I have caught the two o'clock bus. It was very hot. I ate at Céleste's restaurant. I had to run for the bus.'

(French)

De Swart (2007:2283) explains that there is a temporal relation of posteriority in (64a), i.e., the event of *standing up* precedes the event of *going towards the door*. The



temporal relation of overlap is shown in (64b), in which the event of *working* and *being kind* are coextensive. The temporal relation of inversion is illustrated in (64c), i.e., the eventuality of *eating at Céleste's restaurant* takes place before the subject catches the bus. The relation of inversion is established indirectly via the sentence *I had to run for the bus* (de Swart 2007:2285).

Even though in these examples the *passé composé* is used to report a sequence of events, de Swart (2007) claims that the *passé composé* is not a narrative tense. She shows that the temporal structure is not induced by the tense itself. As has been attested in the literature (Reinhart 1984; Borik 2006; among others) and as de Swart (2007) puts it, the narrative progression is mainly dependent on the properties of the predicate (i.e., telic events introduce a new reference time and allow for the temporal sequencing of events), and temporal delimitation (i.e., the use of time adverbials and temporal connectives). Consider examples in (65a) (from de Swart 2007:2276) and (65b) (from de Swart 2007:2300).

- (65) a. Quand Jean m' a vu, il a eu peur.  
 when Jean refl have.3sg seen he have.3sg had fear  
 'When John saw me, he got frightened.'
- b. A ce moment le concierge m' a dit ...  
 in that moment the caretaker refl.cl have.2sg said  
 'At that point, the caretaker said ... (...)'

(French)

The narrative progression in (65a) is induced by the *quand* 'when' clause, and the connective *a ce moment* 'in that moment' in (65b) is used to introduce the temporal relation of posteriority and move the narrative forward.

The PrP in Catalan is also a deictic tense oriented towards the utterance time and narrative passages are available in the context of a diary like in the case of French:

- (66) Avui he estudiat i he anat al gimnàs.  
 today have.1sg studied and have.1sg gone to.the gym  
 'Today I have studied and I have gone to the gym.'

Rather than pure narration, the sequence illustrated in (66) is a list-reading which enumerates a sequence of eventualities. The reference time does not move forward, and the described eventualities share the same time of reference (i.e., *avui* ‘today’). Hence, it is only world knowledge about the natural order of events that allow us to establish a specific temporal sequence of the eventualities. As illustrated above, it is the contribution of other linguistic factors, such as telicity and delimitedness, which ensures narrative progression:

- (67) Ells han arribat aquest matí, han visitat  
 they have.3pl arrived this morning have.3pl visited  
 la ciutat i després han marxat.  
 the city and later have.3pl left  
 ‘They arrived this morning, visited the city and later they left.’

In example (67), the telic eventuality of *arriving* as well as the temporal connective *després* ‘later’ moves the reference time forward, and, thus, allows for the progression of the story.

As for the temporal relation of inversion, the Catalan translation of example (64c) from *L'étranger* makes use of the PrP as shown in (68).

- (68) He agafat l' autobús a les dues. (...) Com de costum, he dinat  
 have.1sg caught the bus in two hours as of usual have.1sg eaten  
 al restaurant Céleste. (...) He hagut de córrer per no fer tard.  
 at restaurant Céleste have.1sg had of run for no do late  
 ‘I have caught the two o’clock bus. As usual, I ate at Céleste’s restaurant. I had to run for not being late.’

In contrast to the PrP in Catalan and French, the English PrP is more restricted. As shown below, it does not allow locating time adverbials, and it cannot be used for narrative progression. As attested in de Swart (2007), in English, the PrP blocks the possibility of establishing temporal relations between eventualities and hence is incompatible with a narrative structure, see (69) (from de Swart 2007:2276).

- (69) a. \*When John has seen me, he has got/got frightened.  
 b. When John saw me, he got frightened

This subsection has shown that, like the *passé composé* in French, the Catalan PrP has a deictic dimension, and it is oriented towards the utterance time when appears in narrative passages. Narrative progression is achieved via de contribution of different linguistic factors such as telicity and temporal delimitation (Reinhart 1984; Borik 2006; de Swart 2007; among others), rather than the PrP tense itself. Before concluding this section, I will make some observation concerning the compatibility of the PrP with past time adverbials in some English and Spanish varieties.

#### 1.4.3 *Past time adverbials*

In this subsection, I will look at PrP sentences modified by past time adverbials (e.g., *yesterday*) and at the PrP in narrative discourse in some English varieties, in particular, in Australian English (see Engel and Ritz 2000), as well as in some Spanish varieties (NGRAE 2009). In such varieties, sentences with past time adverbials are licensed. However, unlike in French, in these varieties, the PrP and the simple past are still two competing tenses and the choice between one or another depends on the relevance of the eventuality at the utterance time.

Schaden (2009) claims for Spanish, on the basis of the data from the *Corpus de Referencia del Español Actual* (CREA), that examples illustrated in (70) (from Schaden 2009:124) cannot be completely ruled out, although the impossibility to combine PrP sentences with past time adverbials is a strong tendency.

- (70) Don Fulano de Tal y Tal ha muerto ayer, a las seis.  
 Don Fulano de Tal and Tal have.3sg died yesterday at the six.  
 ‘Don Fulano de Tal y Tal died yesterday, at six in the afternoon.’

In Standard Peninsular Spanish, the PrP and the simple past are two competing tenses, and the use of the PrP in such examples describes an eventuality that is still relevant at the utterance time. The choice between a past or a PrP tense depends on the link of the eventuality to the present moment and it is ultimately dependent on idiolectal variation.

In some varieties of Spanish, i.e., in some areas of Madrid and Seville (De Mello 1994), the Canary Islands (Piñero Piñero 2000) and Salamanca (Azpiazu-Torres 2013), the PrP is compatible with past time adverbials as witnessed by (71).

- (71) Luisa ha llegado ayer.  
Luisa have.3sg arrived yesterday  
'Luisa arrived yesterday.'

In the literature, the PrP with past time adverbials has been analysed as an instance of the perfective or aorist use of the PrP (see Serrano 1994; Schwenter 1994; Schwenter & Torres Cacoullos 2008; NGRAE 2009, for Spanish). However, according to Veiga (2012:440), in languages in which the PrP and the SP are available and they are two competing tenses, the choice between one or another does not depend on any specific temporal complement. In these varieties, the PrP is oriented towards the utterance time, and it is used because the described events are still relevant for the speaker.

If we have a look at some English varieties such as Australian English, we can also see that the dividing line between the PrP and the past is not clear-cut. In spoken Australian English, the PrP is compatible with past time adverbials such as *yesterday*, as illustrated in (72). This kind of examples appear in narrative sequences from radio-chat show programmes, police and new media reports (Engel & Ritz 2000:130).

- (72) Police confirm that at 16.30 hours yesterday the body of Ivan Jepp has been located.  
(92.9 FM radio Perth: news, 17 March 2000; cit. in Engela & Ritz 2000:130)

It seems that, like in the case of Spanish, past time adverbials do not entail a perfective interpretation of the PrP. Rather, the choice between a PrP or a simple past, which are still two competing tenses in Australian English, has to do with the relevance or vividness of the reported eventualities.

#### 1.4.4 *Summary of section 1.4*

This section has outlined the main puzzles related to the PrP. First, I have shown that the *Present Perfect Puzzle* (Klein 1992) does not apply cross-linguistically. In

languages such as Catalan, punctual time adverbials are licensed with the PrP, but past time adverbials are ruled out. Even though the PrP in Catalan admits certain type of locating time adverbials, the PrP tense qualifies as a deictic tense that is oriented towards the utterance time. Hence, it cannot qualify for a prototypical narrative tense like the past. I have also considered some data from some Spanish and English varieties and attested that past time adverbials with the PrP are sometimes licensed. In these languages the PrP and the simple past are two competing tenses, and it seems that the choice between the past or the PrP is ultimately linked to idiolectal variation and to an issue of pragmatic relevance. In the following subsection, I will review the main theories of the PrP, which have attempted to capture the nature of the PrP and derive its readings.

### 1.5 The main theories of the perfect

The present section discusses three main general theories that have been developed to analyse the PrP. These are the following: the Anteriority theory, the Result state theory and the Extended Now theory.

#### 1.5.1 *The Anteriority analysis*

The Anteriority analysis constitutes one of the main general frameworks of the PrP.<sup>19</sup> The most representative work of this approach is Reichenbach's (1947) study of English tenses.<sup>20</sup> In this subsection, I will focus on the main characteristics of the PrP and the main factors that distinguish it from the simple past in this approach. However, as has been claimed by Portner (2003), and I will show in this subsection, the anteriority analysis of the PrP cannot fully account for the universal reading or the *Present Perfect Puzzle*.

Reichenbach (1947) proposed a model of the verbal tense system based on three points of time: the Speech time (S), the Event time (E) and the Reference time (R). The notion of R, the temporal point from which the event is viewed, is used to represent complex tenses in English and capture the differences between the simple past and the PrP, among other things, see (73).

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<sup>19</sup> Portner (2003) refers to the Anteriority Theory as the Indefinite Past theory.

<sup>20</sup> There are many authors that have followed Reichenbach (1947), some of them are: Hornstein (1990), Klein (1992, 1994), Comrie (1985), among others.

- (73) a. Simple Past      Mary played chess      E,R\_S  
       b. Present Perfect    Mary has played chess      E\_R,S

The simple past places the E and R before S, see (73a), whereas the PrP in this model is described as a tense that locates the E prior to R, which is cotemporal with S, see (73b). Although most theories still base their models on the relation between these three temporal variables (S, E and R), they are no longer defined as points in time, but treated as intervals as, for instance, in Demirdache & Uribe-Etxebarria's (2000) framework, discussed in §1.5.1.1.

For authors such as Inoue (1979), who also analyses the PrP under an anteriority framework, the past as well as the PrP have the same truth conditions. However, this issue is still under debate. Let us consider Chomsky's (1972) example illustrated again for convenience in (74) (=26a), from §1.3.1).

- (74) \*Einstein has lived in Princeton.

The unmodified PrP sentence in (74) should be compatible with the anteriority interpretation of the PrP, i.e., the event is placed at some past time before the utterance time. However, as has been discussed, example (74) is ungrammatical because it entails that Einstein is still alive. To avoid this entailment, the simple past tense should be used instead, which does not have this 'lifetime effect' that the PrP shows. Whether or not the ungrammaticality of (74) is a matter of truth conditional semantics is debated.

In this study, I will not focus on the question whether the simple past and the PrP are truth conditionally different, but, from the data illustrated above, it seems that the placement of the R time plays a crucial role in the distinction between a PrP and a simple past tense, i.e., in the PrP, the R time is relevant at the utterance time. The main question that arises with respect to the PrP in Catalan, which has been analysed as an ambiguous tense between the temporal representations (73a) and (73b) (Curell & Coll 2007), is whether we also need to rely on the role of R to distinguish a hodiernal reading from the other PrP interpretations. I will develop this issue in chapter 3.

Concerning time adverbials, Reichenbach (1947) states that they always refer to the reference time. However, it appears that they might also modify the event time (Comrie 1985; Hornstein 1990; among others). For instance, consider the following sentence:

(75) John had left at three o'clock.

Within Reichenbach's (1947) system, the temporal structure of the pluperfect is the following one:

(76) E\_R\_S.

The time adverbial *at three o'clock* in (75) is ambiguous between two different interpretations. According to Comrie (1985:66), among others, *at three o'clock* might be 'the reference point prior to which John had left' or 'the time at which John had left'. In the former case, the temporal expression is modifying the reference time whereas in the latter it refers to the event time.

However, as pointed out in de Swart (2007), Reichenbach's (1947) approach cannot explain why the PrP blocks event time modification in (77a), or why it cannot be used in narrative contexts with *when*-clauses (77b) (=5b) and (69a), from §1.1 and §1.4.2, respectively).

- (77) a. \*Chris has left at six.  
b. \*When John has seen me, he has got / got frightened.

Moreover, as Portner (2003) and Bhatt & Pancheva (2005) note, in an anteriority theoretical model, it is difficult to account for the universal reading as in (78) (=16b), from §1.3).

(78) They have always lived in Barcelona.

The schema in (73a), i.e., E precedes R, does not correspond to the definition of the universal interpretation because the E is not prior to R, rather it holds throughout a time interval from its starting point up to R. The role of *Aktionsart* is also a relevant factor that Anteriority theories have to take into account. For instance, the neo-Reichenbach's model developed by Demirdache & Uribe-Etxebarria's (2000, 2002, 2004, 2005, 2007) integrates the role of *Aktionsart* assuming the decomposition of the event time as I explain in the following subsection.

1.5.1.1. *From Reichenbach's theory to Demirdache & Uribe-Etxebarria's framework.*

In the present subsection, I will discuss Demirdache & Uribe-Etxebarria's (2000, 2002, 2004, 2005, 2007) syntactic approach to Tense and Aspect.

In Demirdache & Uribe-Etxebarria's (2000, 2002, 2004, 2005, 2007) proposal, Tense (T<sup>o</sup>) constitutes the head of the Tense Phrase (TP), which takes the Utterance Time (UT-T) as its external argument and the Assertion Time (AST-T)<sup>21</sup> as its internal argument. Aspect (Asp<sup>o</sup>), which constitutes the head of the Aspect Phrase (AspP), takes the AST-T as its external argument and the Event Time (EV-T) as its internal argument.

D&U-E (2000:176) assume, following Hale (1984), that 'spatial and temporal relations can be understood in terms of the location of an entity (the figure) with respect to a place (the ground)'. These spatiotemporal associations are defined in terms of two different topological relations: that of 'central versus noncentral coincidence in the location of the figure with respect to the ground'. The topological relation of [+/- central coincidence] which the spatiotemporal predicates of Tense and Aspect set up between their temporal variables, i.e., between the UT-T (figure) and the AST-T (ground), and the AST-T (figure) and the EV-T (ground), respectively. Three different kinds of relations can be established between these variables: that of inclusion, precedence and subsequence. The corresponding spatiotemporal configurations are schematically represented in (79), the figure is illustrated by slashes (i.e., //) and the ground, by square brackets (i.e., [ ]):

(79)	Central coincidence	[ // // // ]	(Inclusion)
	Noncentral coincidence	[     ] // // //	(Subsequence)
		// // // [     ]	(Precedence)

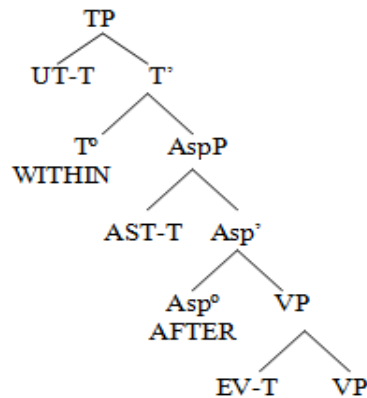
In the case of the PrP, the relation established by Tense is the one of central coincidence. The present tense of the auxiliary (e.g. *has*) is a spatiotemporal predicate WITHIN, which orders the UT-T within the AST-T. Aspect, which is contributed by the past participle (e.g., *drawn*), is a spatiotemporal predicate of noncentral coincidence that orders the AST-T AFTER the EV-T. The temporal configuration is shown in (80b) and (81) (from Demirdache & Uribe-Etxebarria 2005:194).

<sup>21</sup> Demirdache & Uribe-Etxebarria (2000) adopt the Klein's (1994) term Assertion Time (AST-T) which I take to be equivalent to the reference time in the relevant sense.

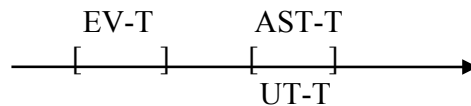


(80) a. Maddi has drawn a house.

b.

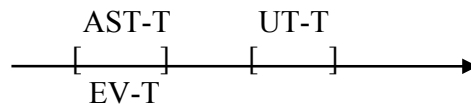


(81)



This configuration contrasts with the simple past tense structure (Demirdache & Uribe-Etxebarria 2000, 2002, 2004, 2005, 2007) where the past time establishes a relation of noncentral coincidence between the UT-T and the AST-T as the AST-T precedes the UT-T. As for the EV-T, it coincides with the AST-T. This temporal structure is shown in (82).

(82) Maddi drew a house.



As we can see, the configuration of the PrP and the simple past tense establishes a temporal relation of noncentral coincidence, although between different arguments. Specifically, in the PrP, a relation of subsequence locates the AST-T interval AFTER the EV-T, which coincides with the UT-T, whereas in the simple past, the AST-T coincides with the EV-T and is located before the UT-T. These structures preserve Reichenbach's original insight in the treatment of these two tenses.

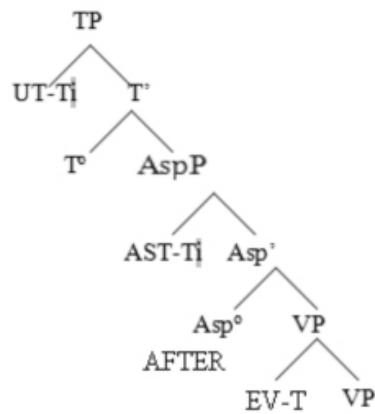
Demirdache & Uribe-Etxebarria (2002) also analyse the *passé composé* in French as a spatiotemporal predicate with the meaning of AFTER. The main difference between the perfect and the past meanings of the *passé composé* in French, is related to

the fact that in each case it orders different temporal variables. Demirdache & Uribe-Etxebarria (2002:142) provide a syntactic analysis for the following data:

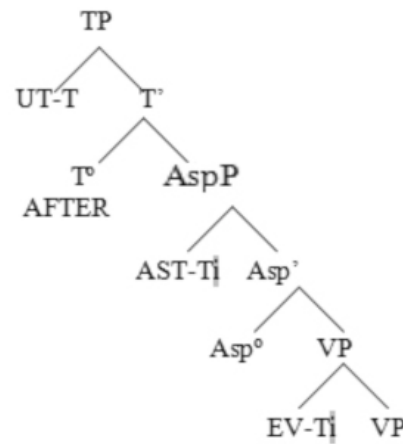
- (83) a. L' avion a atterri maintenant.  
 the plane have.3sg landed now  
 'The plane has landed now.'  
 b. L' avion a atterri hier.  
 the plane have.3sg landed yesterday  
 'The plane landed yesterday.'

(French)

(84) a.



b.



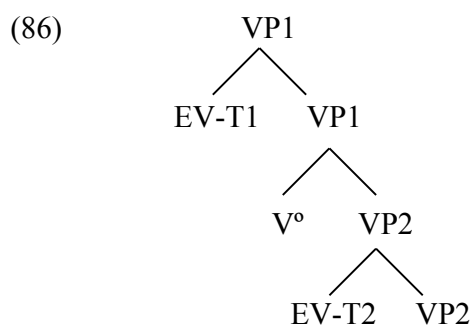
In (84a), the *passé composé* is defined as an aspect that orders the AST-T AFTER the EV-T. The UT-T binds the AST-T since the head of the TP (i.e., T<sup>0</sup>) has no morphological content (D&U-E 2002). The interpretation of a sentence such as (83a) follows from the syntactic analysis in (84a), in which the described event (i.e., the *landing event*) is presented as an event time that takes place before the assertion time, which is cotemporal with the moment of speaking. In (84b), the *passé composé* is analysed as a tense. The head of the TP (i.e., T<sup>0</sup>) orders the UT-T, its external argument, AFTER the AST-T, its internal argument. This AST-T binds the EV-T since the head of the AspP (i.e., Asp<sup>0</sup>) has no morphological content (D&U-E 2002). The analysis of the compound tense in (84b), which corresponds to example (83b), has a perfective interpretation because the AST-T coincides with the interval which defines the EV-T - from its initial to its final boundaries (D&U-E 2002), and it takes place before the

moment of speaking. As we can see in (83), the *passé composé* is analysed as truly ambiguous between a perfect and a past interpretation.

If we now look back at the Catalan data, we can see that we cannot straightforwardly apply Demirdache & Uribe-Etxebarria's (2002) analysis of the French *passé composé* to Catalan. In contrast to French, Catalan does not admit adverbials like *ahir* ('yesterday'). Nevertheless, as illustrated in §1.3.5, the hodiernal use of the PrP is compatible with adverbials which are linked to the utterance time, but they do not necessarily include it in their denotation, cf. (85a) and (85b) (=43), from §1.3.5; from Pérez Saldanya 2002:2593). I will consider these data in chapter 2.

- (85) a. Hem anat al mercat avui a les deu.  
 have.1pl gone to.the market today in the ten  
 'We went to the market today at ten.'
- b. \*Hem anat al mercat ahir al matí.  
 have.1pl gone to.the market yesterday in.the morning

In the neo-Reichenbachian model of Demirdache & Uribe-Etxebarria (2002:135), the authors assume a complex VP structure that decomposes the VP into two subevents: a process and a result state (Zagona 1990, Pustejovsky 1991). Each VP level 'is associated with its own time argument: EV-T1 for the process subevent, EV-T2 for the result state'. The decomposition of this complex VP structure is given in (86).

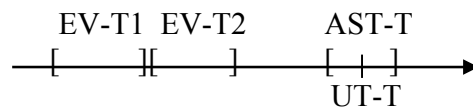


According to Demirdache & Uribe-Etxebarria (2002), each subevent is associated with a temporal argument. The external argument of the VP1, EV-T1, constitutes the time interval that focuses on the process, from its starting point up to its culmination. As for

the external argument of the VP2, the EV-T2 corresponds to the time interval that picks out the resulting state of the process.

The existential reading<sup>22</sup> of the PrP corresponds to the diagram illustrated in (87) (from Demirdache & Uribe-Etxebarria 2002:137):

(87) Existential reading:



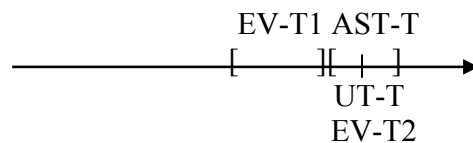
(87) shows that both the temporal argument EV-T1 and EV-T2 denote (parts of) a situation that takes place before the AST-T, which is cotemporal with the utterance time. The PrP sentence illustrated in (88) (from Demirdache & Uribe-Etxebarria 2002:134) corresponds to the diagram shown above:

(88) Sam has broken my computer (twice).

The eventuality of *breaking my computer* takes place at some time before the assertion time, which is cotemporal with the utterance time. The result state of the process of *breaking my computer* does not hold at the UT-T.

As for the resultative and universal reading<sup>23</sup>, Demirdache & Uribe-Etxebarria (2002) propose the following basic schema given in (89).

(89) Resultative/universal reading:



The perfect defines a spatiotemporal predicate Aspect: it orders the AST-T AFTER the EV-T1. The perfect, then, focalises the EV-T2, the resulting state of the process. The present tense, in turn, orders the UT-T within the AST-T, and, hence, the resultative reading induces that the resulting state of a process persists at the utterance time. As for universal perfects, Demirdache & Uribe-Etxebarria (2002:136) propose a schema

<sup>22</sup> The experiential reading is called 'existential' in Demirdache & Uribe-Etxebarria (2002).

<sup>23</sup> Demirdache & Uribe-Etxebarria (2002) follow Smith's (1991) and Kamp & Reyle's (1993) proposal that the resultative and universal readings focus on the present resulting state of a process.

similar to (89): the VP structure is decomposed in two subevents (EV-T1 and EV-T2), but ‘the resulting state starts just after the beginning of the process (and not after its culmination)’. The examples shown in (90) correspond to the diagram shown above in (89) (from Demirdache & Uribe-Etxebarria 2002:134).

- (90) a. Oh! My god! Sam has broken my computer.  
b. Naïma has lived in Cairo for three years (now).

Example (90a) has a resultative reading, whose EV-T2, the resulting state of the culmination of a process holds at the AST-T, which is cotermporal with the utterance time. It follows that the resulting state, i.e., the broken computer, persists at the moment of speaking and it is still broken. As for (90b), the resulting state of stative predicates such as *live* starts at the beginning of the process (i.e., EV-T1).

However, this latter schema can also be applied to sentences such as (91), which can have an existential reading.<sup>24</sup>

- (91) I have tattooed my arm.

As I discussed in §1.3.3, the resultative meaning is not encoded in the semantics of the perfect. In an out-of-the-blue context, example (91) has an existential interpretation, i.e., the subject has tattooed his or her arm at some moment of his or her lifespan, but the resulting state of the event of *tattooing*, namely, the tattoo itself, still exists at the utterance time. This interpretation does not follow from the diagram provided in (87), which corresponds to an existential reading of the PrP, because the AST-T takes place after the EV-T2, the resulting state of the culmination of a process. Rather it is the schema given in (89) that can account for this reading properly, i.e., the resulting state of the culmination of the process of *tattooing* persists at the AST-T, which is cotermporal with the UT-T. This type of example shows that a resultative as well as an existential interpretation can locate the resulting state of the culmination of a process (i.e., EV-T2) at the utterance time.

This section has presented some anteriority theories of the PrP, which have mostly been based on the English data. Demirdache & Uribe-Etxebarria’s (2000, 2002, 2005, 2007) syntactic framework constitutes an improved theory based on

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<sup>24</sup> Thanks to Seth Cable for bringing this example to my attention.

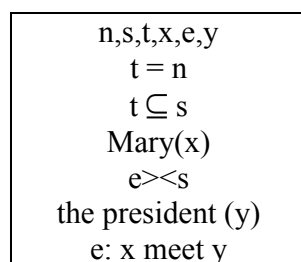
Reichenbach's (1947) well-known model. Demirdache & Uribe-Etxebarria derive the different readings of the PrP via a complex VP structure, which decomposes the VP into two subevents. However, their analysis cannot straightforwardly account for all readings of the PrP such as the hodiernal reading in Catalan, see (85), or existential readings of the PrP that describe events whose resulting state of the culmination of a process still persists at the moment of speaking, see (91). In §1.5.2, I will focus on another influential theory of the perfect, i.e., the Result State theory.

### 1.5.2 The Result State analysis

Authors such as Moens & Steedman (1988), Smith (1991), and Kamp & Ryle (1993), among others, have studied the properties of the perfect in the Result State theory. On this view, the analysis of the PrP mainly focuses on the resultative reading, which is only one of the possible readings associated with the PrP. In this subsection, I will show that this type of theory is too limited to be able to account for other possible readings of the PrP.

The most prominent version of the Resultative State theory is provided in Kamp and Ryle (1993), which has been later adopted in de Swart (1998, 2007). In the semantic framework of Discourse Representation Theory (DRT), Kamp & Reyle (1993) define the perfect as an aspect, which operates on an eventuality  $e$  and introduces the result state  $s$  of that eventuality. The temporal relation between the event time and the result state is that of abutting (i.e.,  $e \gg s$ ), i.e., it is a relation of adjacency in which there is no temporal gap between the event time and the result state. The result state is located in time by the tense operator, i.e., in the case of the PrP, by the present tense of the auxiliary verb, and, thus, it is cotermporal with the utterance time. Kamp & Reyle (1993:573) analyse the following example:

- (92) a. Mary has met the president.  
 b. DRS representation



The figure in (92b) shows the DRT analysis of the PrP sentence illustrated above in (92a). The variables  $t$  and  $n$  are used to denote the location time of the event and the utterance time, respectively. In (92a),  $t$  is cotemporal with  $n$ , i.e., the location time is the same as the utterance time. At the same time, this location time  $t$  contains the resultant state  $s$  of the eventuality  $e$ . The temporal relationship between the  $e$  and  $s$  is that of abutting, i.e., the event of *meeting the president* is immediately followed by a resultant state  $s$ .

However, there are problems with the notion of result state. As Portner (2003), puts it, if the perfect merely asserts the existence of some result state, a simple past sentence such as (93) will also have the same truth-conditions. As in example (92), example (93) also asserts the existence of a result state that holds at any time following the event of *meeting*.

(93) Mary met the president.

Authors such as Moens and Steedman (1988) and Smith (1991), who also analyse the perfect following a result state approach, note this problem and develop a relevant-based result state theory. In this type of theory, the perfect does not merely pick up a result state, but a result state that is relevant at the utterance time. However, as Portner (2003) claims, example (94), provided by McCoard (1978; citing Dietrich 1955), is also inconvenient for these approaches.

(94) ?Gutenberg has discovered the art of printing.

Even though the result state of the event of *Gutenberg discovering the art of printing* is still relevant nowadays, sentence (94) is odd. Smith (1991) relates the result state with the properties of the subject's referent and she claims that the sentence is anomalous because the property of the subject being alive does not hold.

As I have shown above, the resultative reading is not encoded in the semantics of the perfect and there needs to be no result state currently relevant for a sentence to be acceptable in the PrP. Consider the following example illustrated below again:

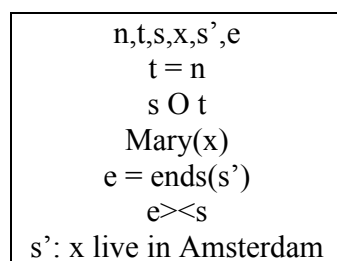
(95) I have lost my sunglasses.

In an out-of-the-blue context, the result state of an event of *losing my glasses* does not necessarily persist at the moment of speaking.

According to Kamp & Ryle (1993), in contrast to telic predicates, whose result state begins when the event reaches its endpoint, the result state of atelic predicates starts when the state begins. Kamp & Reyle (1993:567) note that atelic eventualities, i.e., states and activities, in the context of unmodified PrP sentences mostly yield experiential readings. Consider the following DRT representation (from Kamp & Reyle 1993:580)

(96) a. Mary has lived in Amsterdam.

b. DRS representation



The figure in (96b) shows the DRT analysis of the PrP sentence illustrated above in (98a). The location time of the event (i.e.,  $t$ ) is cotemporal with the utterance time (i.e.,  $n$ ). The temporal relationship between the  $e$  and  $s$  is that of abutting. Kamp & Reyle (1993) introduce a new condition, i.e., the event time ends at  $s'$ . That is, the state  $s$  of *having lived in Amsterdam* results from the termination of the state  $s'$  of *living in Amsterdam* (Kamp & Reyle 1993:567). According to Kamp & Ryle (1993), in a sentence such as (96), the only reading available is an existential reading in which the eventuality during which Mary lived in Amsterdam is located somewhere in the past.

As for sentences such as (96), Kamp & Ryle (1993:579) claim that the perfect gives two different interpretations, i.e., it is ambiguous between an experiential and a universal reading.

(97) Mary has lived in Amsterdam for three years.

However, Hitzeman (1995, 1997a) argues against this view. She claims that it is an uneconomical analysis which cannot explain the derivation of similar readings in other tenses (i.e., in a simple past or a future sentence). Hitzeman (1995:243) provides



the following example.

(98) Martha will be in her office for an hour.

This type of examples show that, apart from the PrP, other tenses such as the future in (98) can bring out universal and existential interpretations. (98) is ambiguous between a reading in which Martha will be in her office for some unspecified hour in the future and another in which she is in the office for the hour beginning at the utterance time. Kamp & Reyle (1993) could only account for these interpretations by claiming that the future is also ambiguous between a universal and an existential reading. However, as Hitzeman (1995, 1997a) shows, it appears that the different interpretations available in (97) and (98) are linked to the type of reading allowed by the interval asserted by *for*. Hitzeman (1995, 1997a) shows that (97) and (98) are ambiguous between a non-position and position definite reading. The former reading asserts a time interval that takes place at some unspecified position on the timeline, whereas the latter, anchors the position of the time adverbial to a deictic centre.

It is also important to note that in recent work by Kamp (2013:1), he notes that pure result state theories have problems in explaining the interpretation of sentences such as (99).

(99) Today Fritz has submitted his paper.

Example (99) is only true if the event of *submitting the paper* takes place within the day of the utterance.<sup>25</sup> According to Kamp (2013), this interpretation clashes with the assumption that the result state *s* of the eventuality is cotermporal with the utterance time and holds at the time *t'* denoted by the time adverbial *today*. Kamp suggests that the temporal relations of inclusion and overlap between the time adverbial *t'* and the result state *s* cannot account for the reading available in (99). The relation of inclusion between the time adverbial and the resulting state (i.e.,  $t' \subseteq s$ ) shows that *s* is located within the day of speaking, but this is contradictory since (99) entails that the event is contained within *t'*. According to Kamp (2013), the relation of overlap (i.e.,  $t' \cap s$ ) is not contradictory, but it does not entail that the event takes place on the day of the utterance

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<sup>25</sup> Kamp (2013) notes that the judgements of a sentence such as (99) is very delicate. For some English speakers (99) can be true in a context in which the event time takes place before today.

time.

Kamp & Reyle (1993:598-601) also claim that the past perfect is ambiguous between a perfect in the past and a past in the past, see (100):

(100) John had left at three o'clock.

As Kamp & Reyle (1993) put it, the ambiguity attributed to the past perfect cannot be extended to other verbal forms which also involve the use of the auxiliary verb *have* in English, i.e., present or future perfect. As has been illustrated before, the PrP in English disallows punctual time adverbials such as *at three o'clock* in (101)

(101) \*John has left at three o'clock.

Kamp & Reyle (1993) claim that the ambiguity of the past perfect can be extended to the PrP in German-type languages, which admit a past interpretation of the PrP. However, this analysis would fail to account for Catalan data, see (85).

In sum, the main contribution of Result State-type analyses hinges on the existence of a result state for an event. However, as was already shown in §1.3.3 for the resultative reading, and has been further illustrated in this subsection, the perfect does not always entail a result state that holds at the utterance time, i.e., telic eventualities in PrP sentences can also admit an experiential reading, see (95). Hitzeman (1995, 1997a) also shows that Kamp & Reyle's (1993) analysis cannot be extended to other tenses (i.e., past or future tenses), see (98). In the following subsection, I will consider another influential theory of the perfect, i.e., the Extended Now or Perfect Time Span theory.

### 1.5.3 *Extended Now or Perfect Time Span theory*

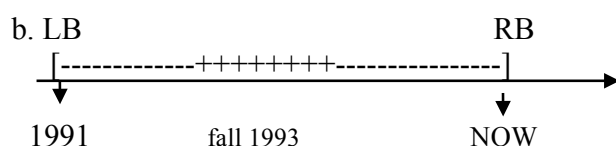
McCoard (1978), see also Bennett & Partee (1978), Dowty (1979), Vlach (1993), von Stechow (1999), advocate the idea that the representation of the perfect crucially includes a temporal interval called Extended Now (XN), which begins at some point in the past and includes the utterance time. The eventuality described by the perfect is located within this XN interval. In this section, I will focus on the main descendants of

this analysis, i.e., Iatridou *et al.*'s (2001) Perfect Time Span (PTS)<sup>26</sup> theory and Pancheva and von Stechow's (2004) analysis. The XN or PTS theory is the only one that straightforwardly accounts for the universal reading and it is also the one that best approaches the *Present Perfect Puzzle* (Portner 2003).

According to Iatridou *et al.* (2001:175), the temporal representation of the PrP crucially includes a PTS interval in/throughout which there is a telic/atelic eventuality.<sup>27</sup> The Left Boundary (LB) of a PTS is set by context or adverbials. The Right Boundary (RB) is set by tense. In PrP sentences, it is set by the present tense of the auxiliary verb *have* and overlaps with the utterance time (McCoard 1978; Dowty 1979; Iatridou *et al.* 2001; among others).

The PTS theory allows us to restrict the period of time by specifying the Left Boundary (LB) of the PTS by context or time adverbials. Iatridou *et al.* (2001:169) give the following example:

(102) a. Since 1991, I have been to Cape Cod only once, namely in the fall of 1993.



The LB of the PTS in example (102a) is specified by the time adverbial *since 1991* and the event time is located in the PTS, specifically, *in the fall of 1993*. The dashed (-) interval in (102b) is associated with the temporal interval settled by the LB, which starts in 1991 and reaches up to now. As for the pluses (++), they graphically locate the event time. By providing this type of examples, Iatridou *et al.* (2001) show that there is not a strict correspondence between the boundaries of the PTS and Reichenbach's temporal E\_R relation. Although the RB may be associated with the reference time, the LB does not correspond to the event time. As said above, it is set by an adverbial or contextually and, as illustrated in (107b), the event time may be located at some point within the PTS (i.e., *in the fall of 1993*).

<sup>26</sup> The PTS is a term introduced in Iatridou *et al.* (2001) for the concept of XN.

<sup>27</sup> Iatridou *et al.* (2001) use the term bounded and unbounded to refer to telic and atelic eventualities, respectively. An eventuality is described as unbounded when it is not asserted to have reached an endpoint and it is bounded when it is asserted to have completed/terminated.





The present section has outlined the main properties of the PTS theory, which shows that the relation E\_R does not model the properties of the PrP properly. The PTS theory can account for the incompatibility of the PrP with past time adverbials (Portner 2003; Pancheva & von Stechow 2004; Rothstein 2008; among others), see (106). I have also shown that the PTS and the Extended Now theory can account for most of the uses of the PrP, including the universal reading and the *Present Perfect Puzzle*. In this work, I will assume a PTS analysis in order to account for the Catalan data.

## 1.6 Summary of Chapter 1

In this chapter, I have described the readings of the PrP and outlined the main general theories of the meaning of the PrP, which have mainly focused on English. I have shown that the readings that have been attested in the literature, i.e., the experiential, the universal, the resultative, the recent past reading and the hodiernal cannot be obtained without contextual or sentential support. The hodiernal reading of the PrP refers to eventualities that are located at some time within the perfect time interval, and, even though there is nothing that forces us to locate an event on the same day as the utterance time in English, the PrP in English disallows modification by punctual time adverbials. This restriction is known as the *Present Perfect Puzzle* (Klein 1992). Even though most of the previous proposals offer an explanation for the incompatibility of the English PrP with past time adverbials, the reason why the PrP cannot be modified by certain type of locating time adverbials such as punctual time adverbials still remains unclear.

The Anteriority theory states that the PrP locates the event prior to the reference time and speech time, which, in turn, are simultaneous. D&U-E's (2000, 2002, 2005, 2007) syntactic framework constitutes an improved theory based on Reichenbach's (1947) well-known and commonly shared intuitions about PrP. However, (neo)-Reichenbachian frameworks cannot account for the hodiernal reading. D&U-E (2002) offer an explanation for the ambiguity available in the French *passé composé*, but such an analysis cannot be applied to the Catalan PrP, because past time adverbials are disallowed, in contrast to French, see (83) and (85).

Resultative State theories are not sufficient to account for all the readings of the PrP, i.e., they are mainly based on the temporal structure of abutting between the eventuality and the result state, see (92), and can only account for resultative readings. Even though the XN or PTS theories mostly concentrate on the universal reading of the

PrP and its interaction with *for* and *since*-adverbials, it is the one that approaches the *Present Perfect Puzzle* best (Portner 2003).

Moreover, PTS accounts, in particular Iatridou *et al.* 2001, derive in a more unified way all the other readings of the PrP, i.e., the experiential, resultative and recent past are grouped under the label of existential perfects, see (105). However, it seems that the main focus of PrP theories until now has been on analyses that account for languages that allow for past time adverbials in PrP contexts (see Pancheva & von Stechow 2004), but what still remains poorly understood is the interaction of the PrP with punctual time adverbials.





## Chapter 2

### The hodiernal reading

#### 2.1 Introduction

Klein (2009:6), following Dahl's (1985) insights, notices that in the analysis of the past tense 'there is not just a relation "before", but relations such as "long before", "shortly before" or "before but on the same day". This latter relation corresponds to the traditional definition of the hodiernal PrP, cf. (1a) and (1b).

- (1) a. Hem anat al mercat a les deu.  
have.1pl gone to.the market in the ten  
'We went to the market at ten.'
- b. \*Vam anar al mercat avui a les deu.  
aux.1pl go to.the market today in the ten

Example (1a) shows that the PrP, in contrast to the periphrastic past illustrated in (1b), allows for modification by deictic locating time adverbials that denote a present-time sphere such as *avui* 'today'. In fact, as was mentioned in §1.3.5, this temporal reading of the PrP stands in a complementary distribution with the periphrastic past, i.e., the former allows for hodiernal readings, whereas the latter is only available in pre-hodiernal contexts.

As I have already shown, the use of the PrP in narrative passages is not a clear-cut empirical test to show that the PrP is a pure narrative tense like the past tense. Similar to de Swart (2007) claims for the *passé composé* in French, the PrP in Catalan also has the flavour of a diary. Consider (2), for example.

- (2) Ells han arribat aquest matí, han visitat la ciutat  
they have.3pl arrived this morning have.3pl visited the city  
i han marxat.  
and have.3pl left  
'They arrived this morning, visited the city and left.'

As was discussed in §1.4.2, narrative progression is ensured by the contribution of the properties of telic predicates (e.g., the telic eventuality *arribar* ‘arrive’ in example (2)) and temporal delimitation (e.g., the presence of the temporal connective *després* ‘later’ in example (2)), rather than by the PrP itself.

In the previous chapter, I also considered the other readings associated with the PrP that are available in Catalan, i.e., an experiential, universal and a resultative reading, see (3a), (3b) and (3c), respectively (=18), from §1.3, examples from Pérez-Saldanya: 2002:2590-2591).

- (3) a. En Pere ha estat a Chicago.  
       the Pere have.3sg been to Chicago  
       ‘Peter has been to Chicago.’
- b. Sempre hem viscut en aquest poble.  
       always have.1pl lived in this town  
       ‘We have always lived in this town.’
- c. En Pere se n’ha anat a Chicago.  
       the Pere refl cl have.3sg gone to Chicago  
       ‘Pere has gone to Chicago.’

The present chapter, however, is devoted to only one of the available readings, namely a hodiernal one exemplified in (1a). I will first show that the current day restriction in the strict sense, i.e., the so-called 24-hour rule (Giorgi & Pianesi 1997; Brugger 2001), or even more subjective notions such as the limits between the cycle of sleep and wakefulness do not always apply to the hodiernal PrP in Catalan. Consider example (4).

- (4) Aquest Nadal he estat a Mèxic.  
       this Christmas have.1sg been to Mexico  
       ‘This Christmas I have been/was in Mexico.’

[may not be Christmas currently]

Example (4) shows that *aquest Nadal* ‘this Christmas’ can easily combine with PrP sentences that locate the described eventuality within a time span that may not include

the utterance time, i.e., sentence (4) can be uttered at the beginning of the month of January and up to three to six months later. Curell (2003) analyses these types of examples as experiential PrP sentences. However, in the present study, I will show that examples such as (4) share relevant similarities with prototypical hodiernal readings of PrP sentences such as (1a), i.e., the temporal expression *a les deu* ‘in the ten’ as well as *aquest Nadal* ‘this Christmas’ can make reference to the ten or a Christmas period closest to the utterance time.

Although there appears to be nothing that prevents us from locating an eventuality on the same day as the day of speaking in English, standard analyses of the English PrP are based on the fact that it disallows modification by locating time adverbials whose denotation does not include the utterance time. This well-known phenomenon is called the *Present Perfect Puzzle* (Klein 1992), see (5) (=5), from §1.1).

- (5) a. \*Chris has left at six.  
b. \*Chris has left York yesterday.

In this chapter, I claim that the hodiernal PrP, which has been traditionally assumed to refer to completed situations that have taken place on the same day as the utterance, is not equivalent to a past interpretation. I show that the nature of termination, which has traditionally defined hodiernal PrP sentences, is not linked to grammatical aspect, but to the aspectual class of the predicate. Moreover, the 24-hour rule (Giorgi & Pianesi 1997; Brugger 2001), which defines the reference time of the hodiernal PrP sentence as an interval that is included in TODAY, is not that strict and it is mainly dependent on the presence of time adverbials or further contextual information. The crucial property of the PrP in Catalan is not that it has an extra reading that English does not allow for, but rather that the PrP in Catalan allows for the presence of certain locating time adverbials (e.g., punctual time adverbials), which can make reference to a specific time interval, i.e., a time interval with a fixed position on the timeline.

As has been claimed in the literature, the *Present Perfect Puzzle* is directly related to the semantics of the present tense (see Klein 1992; Giorgi & Pianesi 1997; Pancheva & von Stechow 2004, among others). I follow these claims and show that the ability of the PrP to be modified by certain locating time adverbials (e.g., punctual time adverbials) is linked to the semantics of the present tense. In particular, I will show that

the availability of the progressive meaning of the present tense is one of the main factors that contribute to the solution of the puzzle. In Catalan, the present can locate an event at the same time as the utterance time, whereas in English the present tense asserts a very delimited time interval, which is identified with a moment (Hallman 2009). The grammatical properties of the present tense are inherited in the PrP across languages and, in contrast to Catalan, the PrP in English denotes a very restricted temporal interval, i.e., an extended now that is coextensive with the reference time.

In the present study, I adopt a PTS theory (Dowty 1979; McCoard 1978; von Stechow 1999; Iatridou *et al.*'s 2001; Pancheva & von Stechow 2004) and assume a split of the PTS and the reference time as in Pancheva & von Stechow (2004) to account for the hodiernal reading of the Catalan PrP. I will show that, in contrast to English, in Catalan, the PTS can overlap with the reference time as witnessed by locating time adverbials. These temporal modifiers assert a temporal interval that intersects with the reference time, but do not necessarily include the utterance time in its denotation.

Chapter 2 is organised as follows. In §2.2, I discuss previous approaches to the hodiernal PrP. I review the crucial properties of the hodiernal reading in §2.3 and the contribution of locating time modifiers in §2.4. In §2.5, I develop a proposal within a PTS theory that I adopt here. Finally, I summarise the Chapter in §2.6.

## **2.2 Previous approaches**

Previous analyses of the hodiernal reading have been developed mostly following Reichenbach's (1947) insights, i.e., there are Reichenbachian analyses which have been applied to Catalan (Curell & Coll 2007; Martínez-Atienza 2008) as well as to Standard Peninsular Spanish (García Fernández 2000a; Brugger 2001; Martínez-Atienza 2006, 2008, 2010; Laca 2010). However, these proposals cannot account for all the linguistic components that contribute to the derivation of the hodiernal reading. Positing additional pragmatic constraints, i.e., the 24 hour-rule, cannot properly account for the hodiernal reading either. In this section, I will show that the expression of hodiernality is concerned with temporal remoteness, rather than pastness or termination. Neither Reichenbachian accounts nor additional pragmatic constraints help to sharpen the contribution of the different linguistic factors that are crucial for the derivation of the hodiernal reading.

As I pointed out in §1.2.1, Pérez Saldanya (2002:2587) postulates that the PrP in Catalan allows for a temporal interpretation, which is comparable to an absolute tense. Like the periphrastic past, the PrP has a perfective interpretation and expresses anteriority with respect to the utterance time. According to him, the main difference with respect to the periphrastic past has to do with the temporal distance between the event time and the utterance time. More specifically, the temporal value of the PrP is taken to be a hodiernal past which is used to refer to completed situations that take place within the same current day in which the sentence is uttered. The aspectual value of the PrP corresponds to the perfect interpretation that it is also available in English and denotes the state of a described situation after the moment of the utterance time, see (3).

On this view, it has been argued for Catalan (Curell 1990, 2002, 2003; Curell & Coll 2007) as well as for Standard Peninsular Spanish (Brugger 2001; Laca 2010) that the PrP is ambiguous between a perfect and a past interpretation. In other words, the PrP is analysed as ambiguous between the Reichenbachian temporal configurations (6a) and (6b). In particular, the data given in (1a) and (2) are PrP sentences which are analysed as hodiernal perfects and are considered to have a past interpretation, see (6a), whereas examples in (3) have a perfect interpretation and refer to eventualities which are relevant at the utterance time, according to the representation in (6b).

- (6) a. Simple Past/ Hodiernal interpretation: E,R\_\_S  
 b. Present Perfect<sup>1</sup>: E\_\_R,S

However, if we assigned the temporal schema E,R\_S to PrP sentences that have a hodiernal reading, we could not formally distinguish between a past and a PrP sentence with a hodiernal interpretation, since both tenses would correspond to the same Reichenbachian schema E,R\_S. This analysis could not account for the incompatibility of the PrP with past temporal modifiers such as *ahir* ‘yesterday’, cf. (7a) and (7b) (=48a) and (48b), from §1.3.5).

- (7) a. \*Hem anat al mercat ahir a les deu.  
 have.1pl gone to.the market yesterday in the ten

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<sup>1</sup> Note, however, that the Reichenbachian schema E\_R,S cannot account for other readings of the PrP such as the universal PrP (Portner 2003), as was already discussed in §1.5.1.

- b. Vam anar al mercat ahir a les deu.  
 aux.1pl go to.the.market yesterday in the ten  
 ‘We went to the market yesterday at ten.’

Time adverbials such as *ahir* ‘yesterday’ exclude the utterance time and can only appear with the periphrastic past in Catalan, see (7b).

Another point that can be raised against Reichenbachian analyses is that even the relation E\_R,S does not always hold for a hodiernal reading. The PrP schema asserts that the event is located at some time before the utterance time, but there is nothing that restricts the temporal distance between the described eventuality and the reference time. It seems that in Catalan, the event time can intersect with the reference time, i.e., the day of speaking. As was illustrated in (1a), the punctual time adverbial *a les deu* ‘in the ten’ modifies the event time of *going to the market*, which is located within the deictic time interval *avui* ‘today’. In addition, as has been mentioned above, the hodiernal PrP traditionally refers to completed situations that occur before the utterance time. This is, in fact, the case of example (1a): the event of *going to the market* has a natural endpoint and has terminated at some point before the utterance time. However, consider sentence (8), for instance. It presents a homogeneous predicate, the state of *being sick* which, unlike (1a), does not have a natural endpoint and can hold at the utterance time, i.e., the individual asserts that he has not been feeling well all day long. This example shows that the anteriority relation (i.e., E\_R) does not always hold and that we have to take into account the role of *Aktionsart*.

- (8) He estat malalt (avui) i no em trobo bé.  
 have.1sg been sick (today) and no refl. feel well  
 ‘I have been sick (today) and I don’t feel well.’

As was discussed in §1.5.1.1, the neo-Reichenbachian framework proposed in Demirdache & Uribe-Etxebarria’s (2000) offers an account on the basis of the interaction of tense, aspect and time adverbials and derives the different readings of the perfect taking into account the *Aktionsart* of the predicate. However, they develop an analysis of the French *passé composé* that cannot be straightforwardly applied to Catalan. The *passé composé* is analysed as an ambiguous tense between a perfect and a past interpretation, see (9) (=83), from §1.5.1.1; from Demirdache & Uribe-Etxebarria 2002:142)

- (9) a. L' avion a atterri maintenant.  
 the plane have.3sg landed now  
 'The plane has landed now.'
- b. L' avion a atterri hier.  
 the plane have.3sg landed yesterday  
 'The plane landed yesterday.'

(French)

In contrast to Catalan, the *passé composé* licenses past time adverbials (i.e., *hier* 'yesterday'), cf. (7a) and (9b).

García Fernández (2000a) and Martínez-Atienza (2006, 2008, 2010), following Klein's (1994) insights, argue that there is yet a different set of temporal structures which have a specific aspectual interpretation for Standard Peninsular Spanish PrP, which according to Martínez-Atienza (2008:212-213), can also be applied to Catalan. The structures they propose are given in (10) (from García Fernández 2000a:221).<sup>2</sup>

- (10) a. S,R,E Present  
 the Situation Time precedes the Topic Time
- b. E\_R,S Antepresent  
 the Situation Time coincides with the Topic Time

(10a) corresponds to a present temporal structure which is interpreted as a perfect. According to García Fernández (2000a), (10a) illustrates the original interpretation of the Latin construction <*habeo* + participle>, i.e., present states, which are the result of past situations. As for (10b), it shows an antepresent temporal structure that is interpreted as a perfective or aorist.

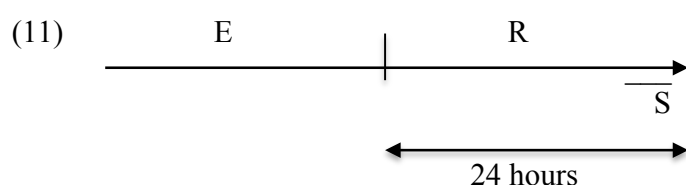
Given these two temporal structures, García Fernández (2000a) and Martínez-Atienza (2006, 2008, 2010) explain why one cannot modify the English PrP with locating time adverbials that do not include the utterance time, i.e., punctual time adverbials. They postulate that the PrP in English corresponds to the temporal configuration shown in (10a) and does not have a use associated with (10b), hence, it cannot be modified by adverbials which locate the situation previously to the utterance time. The problem, however, is that the ambiguity they provide is puzzling since there is

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<sup>2</sup> In Klein's (1994) terminology, the Situation Time is similar to the event time and the Topic Time to the reference time.

no way to conjoin the temporal configuration of a present or a perfect with the semantic interpretation of a perfect or a past, respectively. Moreover, the default meaning of the perfect *per se* is related to the expression of an event, whose occurrence takes place at some time before the utterance time, and a present temporal structure like (10a) does not properly capture the nature of this compound tense.

In the literature, there are also proposals that assume additional pragmatic constraints such as the *24-hour Rule*, which aims at explaining the hodiernal interpretation of the PrP (Giorgi & Pianesi 1997; Brugger 2001). Consider Giorgi & Pianesi's (1997:122) temporal schema (11) and Brugger's (2001:253) Rule in (12).



(12) The 24-hour Rule:

The reference time of a Spanish PrP sentence is an interval that is included in TODAY.

However, it seems that the restriction that has traditionally characterised the hodiernal PrP is too strong. The schema illustrated in (11) measures the 24 hours between the event described by the sentence and *now* (Giorgi & Pianesi 1997). However, the event time intersects with the reference time. For instance, as was illustrated in (1a), *a les deu* ‘in the ten’ modifies the event time, which overlaps with the reference time modified by *avui* ‘today’. As for (12), the *24-hour Rule* states that the reference time is included within the current day, but this schema does not give any particular reference to the constraint on the actual location of the event.<sup>3</sup> As I will show in §2.3.2, it seems that the *24-hour Rule* interpretation is really dependent on the presence of a temporal adverbial and not on the interpretation of the PrP itself.

In sum, I have shown that previous analyses developed within the (neo)-Reichenbachian framework fail to account for the hodiernal interpretation of the PrP. The temporal schema of the past (i.e., E,R\_S) does not properly distinguish a past interpretations from a hodiernal reading since the past tense schema cannot capture the

<sup>3</sup> Thanks to Seth Cable for this comment.



impossibility of modifying PrP sentences with deictic time adverbials whose denotation excludes the utterance time (i.e., *ahir* ‘yesterday’), see (7a). The hodiernal use of the PrP is compatible with deictic adverbials which do not necessarily include the moment of speech, but are somewhat linked to the utterance time, such as punctual time adverbials (i.e., *a les deu* ‘in the ten’), or proximate demonstratives (i.e., *aquest Nadal* ‘this Christmas’). The classical temporal schema of the PrP (i.e., E\_R,S) cannot fully account for this reading either. First, there is nothing that restricts the temporal distance between the event time and the reference time, i.e., in (1a), the event time intersects with the reference time, and the temporal distance between the described event and the utterance time does not exceed the limits of the present day. Second, the temporal relation of anteriority (i.e., E\_R) does not take into account the role of *Aktionsart*, see (8). Moreover, positing additional pragmatic constraints such as the *24 hour-Rule* does not really help to account for the hodiernal interpretation, see (11) and (12). The role of *Aktionsart* as well as the exact temporal relation between the event time and the reference time becomes crucial in the analysis of the hodiernal interpretation. In the following section, I will have a closer look at the linguistic components that give rise to a hodiernal reading and re-assess the main characteristics that bring out such a reading.

### 2.3 Revising the hodiernal reading

In this section, I will re-examine the hodiernal reading of the PrP in Catalan and show that (i) the nature of termination is not linked to outer aspect, but to the aspectual class of the predicate and that (ii) the *24-hour Rule* is mainly dependent on the presence of time adverbials. The crucial difference between the Catalan and the English PrP is not that the former has an extra reading, but rather that it allows for the presence of certain locating time adverbials which can fix the eventuality on the timeline. I follow the claim that the solution of the *Present Perfect Puzzle* is directly related to the semantics of the present tense (see Klein 1992; Giorgi & Pianesi 1997; Pancheva & von Stechow 2004, among others). In particular, I will show that the location of the eventuality on a specific position in PrP contexts is linked with the progressive meaning of the present tense.

#### 2.3.1 *The functional properties of the predicate*

As pointed out in the previous section, the relation of anteriority (i.e., E\_R) does not always hold in PrP sentences, see (8), and the hodiernal reading of the PrP, which has

been traditionally assumed to refer to completed situations that no longer hold at the utterance time, should be redefined. Following the gist of Cipria & Roberts (2000) and Janssen & Borik (2008), I claim that the hodiernal PrP allows for termination, but does not logically entail it. Like other Romance perfective forms (see Cipria & Roberts 2000; Janssen & Borik 2008), the hodiernal PrP is indeterminate with respect to *Aktionsart*, it is neither necessarily telic nor atelic. The termination effect belongs to the domain of the predicate, not to the system of grammatical aspect.

The main property that distinguishes two *Aktionsart* classes, namely atelic and telic eventualities, is the subinterval property (Bennet and Partee 1972/78:14), see (13) (=10), from §1.2.3).

- (13) Subinterval verb phrases have the property that if they are the main verb phrase of a sentence which is true at some interval of time *I*, then the sentence is true at every subinterval of *I* including every moment of time in *I*.

States (i.e., *know*, *love*, *live*, etc.) and activities (i.e., *work*, *run*, *play*, etc.) are atelic eventualities that do not have an inherent endpoint and has the subinterval property. A state such as *know* or an activity like *work*, for instance, have the subinterval property, i.e., if the eventualities of *know* or *work* hold for some time interval, they also hold at any subinterval of that interval. The main difference between the two is that states have the subinterval property down to moments (Taylor 1977; Dowty 1979), whereas activity predicates down to intervals (Dowty 1979). In contrast, telic eventualities (i.e., *write a book*, *build a house*, *arrive*, etc.) have an inherent termination point and do not have the subinterval property. If a telic event holds for a time interval, then it does not hold for any proper subintervals of that interval.

Cipria & Roberts (2000) and Janssen & Borik (2008) study the semantics of the past tense in Romance and show that perfectivity and telicity are two independent systems. Although termination is pragmatically associated with past tenses, it is not logically entailed by these tenses. According to Janssen & Borik (2008:18), the notion of remoteness, that is, the distance between the placement of an event and the utterance time, is not related to termination either. Remoteness merely characterises the placing of an event in the space-time continuum. Cipria & Roberts (2000) formulate the truth conditions of the perfective and imperfective tense/aspect in Spanish and argue that

perfective is indetermined with respect to *Aktionsart*. Cipria & Roberts (2000:305) base their generalization by providing examples such as (14).

- (14) a. Corrió petróleo por las cañerías.  
 flew.3sg oil through the pipes  
 ‘Oil flowed through the pipes.’  
 a. Corrieron 3000 litros de petróleo por las cañerías.  
 flew.3pl 3000 liters of oil through the pipes  
 ‘3000 liters of oil flowed through the pipes.’

(Spanish)

The perfective is compatible with any type of *Aktionsart*. In example (14a), the perfective of the activity predicate *correr* ‘run’ and the mass NP *petróleo* ‘oil’ give rise to an atelic proposition which has the subinterval property, i.e., if it is true at some past interval *i* that oil was flowing, it is also true that oil was flowing at any given subinterval of that interval. The perfective with the measure phrase *3000 litros* ‘3000 liters’ in example (14b) displays a telic reading. The proposition does not have the subinterval property, i.e., only some part of the 3000 liters flowed through the pipes during any subinterval of *i*.

There are proposals in the literature on the perfect that also associate termination with the perfect tense itself (see Kamp & Ryle 1993). As I mentioned in the previous chapter, see §1.5.2, Kamp & Ryle (1993) postulate that the perfect describes a result of termination of the eventuality. Consider again example (15) (=96a), from §1.5.2; from Kamp & Reyle 1993:570)

- (15) Mary has lived in Amsterdam.

By postulating such termination effect, they predict that unmodified PrP sentences entail termination, i.e., in example (15), the state *s* of *having lived in Amsterdam* results through termination of the state *s'* of *Mary living in Amsterdam*. Hence, the perfect entails that Mary does not live in Amsterdam any longer. However, the generalization that unmodified stative perfect sentences entail termination is too strong. Consider the following context (from Borik 2006:135):

- (16) (the conversation takes place in Paris, where Mary is originally from) I know Mary has been in Amsterdam. I don't think she's back yet though, she only comes home for Christmas.

Example (16) shows that the unmodified PrP sentence of *Mary being in Amsterdam* is compatible with the interpretations in which Mary is still in Amsterdam at the utterance time.

Hence, even though past or PrP sentences can be pragmatically associated with termination, completion is a function that belongs to the domain of the predicate (Bertinetto 2001; Cipria & Roberts 2000; Terry 2005; Borik 2006; Janssen & Borik 2008; among others). As Borik (2006:135) puts it, eventive predicates have a natural endpoint, and, thus, entail that the entire event is located before the utterance time. With respect to atelic predicates, the relevant eventualities do not have a natural endpoint and grammatical aspect does not guarantee that eventualities are not going to hold at the utterance time. Consider the following examples, for instance.

- (17) a. I have eaten breakfast. \*In fact, I am still eating breakfast.  
b. I have truly loved John. In fact, I still do.

The event of *eating breakfast* described in (17a) has a natural endpoint and the subject cannot be continuing *eating breakfast* at the utterance time. The proposition in example (17b) involves a homogeneous predicate, which has the subinterval property, that is, the eventuality description is instantiated at every subinterval of a given interval. The event of *loving John* is a situation which held at a time before the utterance time but, in fact, may continue holding at the present moment since the predicate does not have an inherent endpoint and, hence, it does not entail that the event has terminated before the utterance time. The termination is an effect that can be pragmatically inferred. By providing further contextual information, we may obtain a reading where the situation does or does not hold any longer.

In the case of the Catalan PrP, we also find the same effect: the eventive predicate in (18a) entails the termination of the event, whereas the stative predicate in (18b) does not.

- (18) a. He           construit   la    casa. \*De fet,   encara   la            construeixo.  
           have.1sg   built        the   house of   fact   still    cl.3sg   build.3sg
- b. He           estat malalt. De fet,   encara no em trobo   bé.  
           have.1sg   been sick   of   fact   still   no refl. feel   well  
           ‘I have been sick. In fact, I don’t feel well yet.’

The proposition of *building the house* in example (18a) is a telic event that takes place at some time before the utterance and reaches its endpoint before that time. Hence, the interpretation in which the event still holds at the utterance time is not available. As for example (18b), the proposition describes the state of *being sick* which does not have a natural termination, i.e., if the state of *being sick* holds at a particular interval, this does not guarantee that the state terminates within that interval. The fact that the state takes place at some time before the utterance time does not entail that the event time has reached an endpoint at the utterance time, we may only pragmatically infer it.

So far, I have shown that the traditional definition of the hodiernal reading, which has been characterised as a reading that expresses an action that has been completed at some time previous to the utterance time on the day of speaking, is too strong. As seen above, the notion of termination belongs to the domain of the predicate. In the following subsection, I proceed to show that it is not the case that all kinds of unmodified PrP sentences have a hodiernal interpretation by default.

### 2.3.2. *Unmodified present perfect sentences*

As I have shown above, the perfect introduces a delimited interval in which the eventuality involved allows for termination, but does not logically entail it. Termination mainly depends on the role of *Aktionsart* of the predicate. In this section, I examine the readings that are available in unmodified PrP sentences to test whether the hodiernal is the default interpretation as attested in the literature (Curell 1990, 2003). It has been also claimed that specific pragmatic constraints such as the *24-hour Rule* (Giorgi and Pianesi 1997; Brugger 2001), see §2.2, or telicity (Kempas 2006) give rise to hodiernal interpretations. However, I will show that these linguistic factors are not sufficient to account for the availability of the hodiernal reading. In fact, there are no instances of unmodified PrP sentences that unequivocally correspond to a hodiernal reading and it appears that the specific readings of the PrP cannot be clearly distinguished without extra sentential or discourse information.

As was pointed out in §2.2, the PrP does not strictly obey the *24-hour Rule*, i.e., the restriction which constraints the reference time on the same day of speaking (Giorgi & Pianesi 1997; Brugger 2001). Even in unmodified contexts it does not always work. Consider the following example (from Giorgi & Pianesi 1997:122).

- (19) En Joan ha sortit.  
the Joan have.3sg left  
'John has left.'

Without further contextual or sentential information, sentence (19) is confined to a particular singular occasion of the described eventuality that is located at some moment before the utterance time. The achievement predicate *sortir* 'to leave' can refer to a telic event whose result state is adjacent to the utterance time, i.e., it corresponds to a resultative reading. Although this is probably the most salient interpretation, there is no actual constraint on the location of the event, i.e., the event time can take place within the same day of speaking or at some time before. In addition, we cannot rule out other possible interpretations such as the experiential reading. Consider, for instance, a context in which the speaker is talking about holidays. The hearer knows that the speaker has left on holiday some time before the utterance time, but he or she do not remember when. In this context, (19) can be read as an experiential PrP sentence which encodes that the event of *having left* takes place at some unspecified time in the past (i.e., *En Joan ha sortit (de vacances)* 'John has left (on holidays)').<sup>4</sup>

Other authors such as Kempas (2006) link the availability of the hodiernal reading with telicity. He assumes that the *pretérito perfecto compuesto* in Standard Peninsular Spanish has two values, i.e., a hodiernal and a perfect interpretation, and, states that, in unmodified contexts, the lexical meaning of the predicate is relevant for the availability of each interpretation. He assumes the Relevance Theory (Sperber & Wilson 1986) and shows that unmodified PrP cannot be fully interpreted without taking into account extralinguistic factors. Kempas (2006:26) comments on the following unmodified PrP examples:

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<sup>4</sup> Even though I group the experiential and resultative reading as instances of the existential PrP, i.e., both readings describe eventualities that are located at some unspecified time before the utterance time, I use the term 'resultative' and 'experiential' for illustrative purposes.

- (20) a. He            apagado    la    tele.  
           have.1sg    turned.off    the    TV  
           ‘I have turned off the TV’
- b. He            estado    en Canarias.  
           have.1sg    been        in Canary  
           ‘I have been in the Canary Islands.’

(Spanish)

Example (20a) presents the telic eventuality of *turning off the TV*, which may take place on the same day of the utterance. Kempas (2006) notes that extralinguistic factors such as the time of the utterance (i.e., it’s five o’clock) provide additional information which contributes to the inferential process that leads the listener to locate the described event on the same day of speaking. Sentence (20b), by contrast, locates the stative predicate of *having been in the Canary Islands* at some unspecified past time which is unlikely to occur on the day of speaking. Kempas (2006) provides the following context. If sentence (20b) is uttered by a Scandinavian speaker who is tanned, the listener can easily infer that he has come back from the Canary Islands, and that he has probably stayed for one or two weeks. It seems harder to interpret that the speaker was in the Canary Islands the same day of speaking, i.e., it is difficult to get tan in one day. However, like in the case of the example given in (19), without considering this extralinguistic information, we cannot rule out other possible interpretations. Example (20a) can be uttered in a context in which a family left for a long weekend and someone is wondering if all the equipment has been turned off. As for (20b), we can think of a business trip to the Canary Islands for a meeting of a couple of hours. There is no specific rule which forces us to locate the described stative predicate before the day of the utterance time., i.e., *He estado en Canarias hoy* ‘I have been to the Canary Islands today’.

In sum, uttered out of the blue, unmodified PrP sentences are underspecified with respect to the exact location of the described event. The data illustrated above supports the idea that there is no specific rule which forces us to locate the event described by unmodified PrP sentences on the same day as the day of speaking without further sentential or contextual information. Even the corresponding English sentences shown in (19) and (20) can report on events that take place on the same day of the

utterance. Moreover, if the hodiernal PrP were a distinct semantic use, we would not expect that unmodified PrP sentences in out of the blue contexts would have more than one reading. It seems that there is one unique common meaning and the discourse and sentential adverbials bring out the different readings of the PrP. In the following section, I will specifically focus on the role of temporal modification.

### 2.3.3 *The role of temporal modification*

So far, I have shown that the definition of the hodiernal reading cannot merely be restricted to the location of completed eventualities on the same day of the utterance for the following two reasons. (i) Termination belongs to the domain of the aspectual class of the predicate, (ii) the inclusion of the described eventuality within the day when the utterance is made is mainly dependent upon additional contextual or sentential information. In this section, I will show that the hodiernal reading in Catalan always arises with the presence of certain time adverbials which make reference to a specific time interval, i.e., a time interval with a fixed position on the time axis.

To confirm that certain deictic time adverbials in PrP sentences allow for the derivation of unambiguous hodiernal readings, let's consider the examples illustrated in (21).

- (21) a. Hem anat al mercat avui.  
 have.1pl gone to.the market today  
 'We {have gone/went} to the market today.'
- b. Hem anat al mercat a les deu.  
 have.1pl gone to.the market in the ten  
 'We went to the market at ten.'
- c. Ha arribat fa una hora.  
 have.3sg arrived makes an hour  
 'He arrived one hour ago.'
- d. He treballat aquest matí.  
 have.1sg worked this morning  
 'I {have worked/worked} this morning.'

The frame adverbial *avui* 'today' in (21a) specifies a perfect time interval that refers to the same day as the utterance. The punctual time adverbial *a les deu* 'at ten' in (21b)



can be interpreted deictically and fix the location of the event of *going to the market* at a specific time, i.e., at the most recent ten before the utterance. The temporal locating adverbial *fa una hora* ‘one hour ago’ in (21c) defines the location of the event time with respect to the utterance time. In (21d), the locating time adverbial headed by a proximate demonstrative and a calendar noun (i.e., *aquest matí* ‘this morning’) can refer to the same current morning or the closest morning before the utterance time. Crucially, all these locating time adverbials can make reference to a specific time interval, which is fixed at the position closest to utterance time.

Thus, (21) illustrates that the contribution of locating temporal adverbials of different kinds is crucial for the availability of the hodiernal interpretation of the PrP in Catalan. The hodiernal interpretation is obtained by locating the predicate on a specific time interval (i.e., *avui* ‘today’, *a les deu* ‘at ten’, *fa una hora* ‘one hour ago’, *aquest matí* ‘this morning’). Without these adverbials, as was discussed in the previous section (see, in particular, examples (15) and (20)), the hodiernal reading does not have to arise. Thus, we can conclude that the hodiernal reading is a result of a presence of adverbial elements and not a special case of the PrP in Catalan and similar languages. Before concluding this section, I will consider the meaning of the present tense of the auxiliary verb, which seems to play a crucial role in the explanation of the *Present Perfect Puzzle* (Klein 1992).

#### 2.3.4 *The morphological content of the auxiliary verb*

Klein (1992), Giorgi and Pianesi (1997), Pancheva and von Stechow (2004), among others, have claimed that the semantics of the present tense is one of the main components to the solution for the *Present Perfect Puzzle*. This section aims to test this hypothesis taking into account the meaning of the present tense in Catalan and comparing it to Scandinavian languages such as Swedish. It seems that cross-linguistic differences in the meaning and uses of the present tense that have been previously considered in the literature, which are mainly related to the compatibility of the present tense with future time adverbials (see Pancheva & von Stechow 2004), are not sufficient to account for the *Present Perfect Puzzle*. I will show that there are other factors such as the progressive meaning of the present tense, which can shed more light on the puzzle.

As was outlined in §1.4.1, in order to solve the *Present Perfect Puzzle* of the English PrP, Klein (1992:546) proposes the *P(osition)-Definiteness Constraint*. In other words, he assumes that the present tense is always p-definite in English, and, hence, in

the context of the PrP, the reference time, which is coextensive with the utterance time, is always p-definite. The event time and the reference time cannot be p-definite at the same time, so the event time cannot be modified by position-definite adverbials such as punctual time adverbials. However, Klein's (1992) *p-definiteness constraint* does not constitute a cross-linguistic principle since it does not predict the grammaticality of examples such as (21b) or (21c), for example. In Catalan, like in English, adverbials that refer to the day before the utterance time (i.e., *ahir* 'yesterday') are disallowed in PrP sentences, but punctual time adverbials that modify the expression of the event time can have a fixed position on the time axis.

It seems logical to suggest that the difference between English and Catalan is rooted in the properties of the present tense, because the conceptualization of the present tense differs across languages. In fact, authors such as Giorgi & Pianesi (1997), Portner (2003), Pancheva and von Stechow (2004), among others, have argued that the present tense is different across languages.

For instance, Pancheva & von Stechow's (2004) framework is based on the differences between the German and English present tense. In contrast to English, the PrP in German is compatible with time adverbials like *at three* or *yesterday* as in (22) (=62), from §1.4.1, cited in Rothstein 2008:67).

- (22) Sirgurd ist gestern angekommen.  
 Sirgurd be.3sg yesterday come  
 'Sirgurd came yesterday.'

(German)

Pancheva & von Stechow's (2004) analysis aims at explaining the semantics of the English and German PrP on the basis of the compatibility of future time adverbials with the present tense as shown in (23) (=10a) and (11a), from Pancheva & von Stechow 2004).

- (23) a. Fritz ist in 10 Tagen krank.  
 Fritz be.3sg in 10 days sick  
 'Fritz will be sick in 10 days.'  
 b. #Fred is sick in ten days.

(German)

The examples illustrated above show that future time adverbials are compatible with the present tense in German, but not in English, cf. (23a) and (23b). According to Pancheva & von Stechow (2004), the present tense introduces a time interval that is coextensive with the utterance time and, hence, disallows future time adverbials as in (23b). As for the present tense in German, which allows for future time adverbials, they claim that it introduces a time interval that can overlap or follow the speech time.

Scandinavian languages and Romance languages such as Catalan provide evidence against the idea that future time adverbials with the present tense might help to solve the *Present Perfect Puzzle*. Let us look first at the case of Swedish, which has already been mentioned by Rothstein (2008) and Larsson (2009).<sup>5</sup> Consider the examples (24) (from Giorgi & Pianesi 1997:87) and (25).

- (24) \*Johan har slutat klockan fyra.  
 Johan have.3sg finished o'clock four  
 'Johan finished at four.'

(Swedish)

- (25) Johan åker till Paris nästa år.  
 Johan drive.3sg to Paris next year  
 'Johan will drive to Paris next year.'

(Swedish)

Like in English, the *Present Perfect Puzzle* also applies to Swedish. Example (24) shows that the PrP in conjunction with the punctual time adverbial *klockan fyra* 'at four o'clock' is unable to locate the event time on a specific position the timeline. On the other hand, like in German, there is no morphological future tense. In (25), futurity is expressed periphrastically by means of the present tense and a future time adverbial (i.e., *nästa år* 'next year').<sup>6</sup>

If we now look at Catalan, it was shown in (21) that the PrP is compatible with locating time adverbials that do not include the utterance time in its denotation. However, unlike in German, the future orientation of the present tense is ruled out, as in

<sup>5</sup> Mendia, Poole & Somerday (2014) have also provided similar data for the case of Norwegian. They show that the present tense in Norwegian can be used with future adverbials like in German. However, like in English, the PrP in Norwegian shows the *Present Perfect Puzzle*, and it cannot be modified by locating time adverbials. In this study, I only consider Swedish, and leave Norwegian and Danish for future research.

<sup>6</sup> In Swedish, there is a range of auxiliary verbs that can also be used to express futurity, such as *ska* 'shall', *komma* 'come', and *tänka* 'think'.

English. The future interpretation is only available with planned situations or events that are expected, cf. (26a) and (26b) (from Pérez-Saldanya 2002:2620).

- (26) a. El meu germà es casa demà.  
the my brother cl. marry.3sg tomorrow  
'My brother is going to get married tomorrow.'
- b. ?Demà plou.  
tomorrow rain.3sg  
'Tomorrow it will rain.'

In (26a), it is planned/expected that the eventuality of *marrying* will take place on the day following the utterance time. However, this is not the case in (26b), where the described event of *raining* is not fully predictable, and, the present tense should not be used. The sentence is only acceptable if the subject is sure that the eventuality of *raining* is going to take place on the following day, i.e., *Demà segur que plou* 'Tomorrow sure that rains'.

Apart from the compatibility of future time adverbials with the present tense, there are other factors of the meaning of the present tense that are relevant for the properties of the PrP, but are not taken into account in Pancheva & von Stechow (2004). As Pérez-Saldanya (2002) points out, the present tense in Catalan can express simultaneity with respect to the moment of the speech act or with respect to a time interval that includes the utterance time. This property of the present tense in Catalan allows for a progressive interpretation. Consider the context in (27) (from Pérez-Saldanya 2002:2618).

- (27) Context: speaker A asks speaker C about what speaker B is doing at the moment and speaker C replies that B is working.

Ara treballa. ¡No el molestis!  
now work.1sg no obj.3sg annoy  
'He is working now. Don't annoy him!'

The eventuality of *working* in the present tense in (27) can be located at the utterance time. In contrast to Catalan, this interpretation is not available in English:

(28) I work now.

The eventive predicate illustrated in (28) has a habitual interpretation, i.e., the subject is a worker and he is currently employed.

Interestingly, the present tense in Swedish, which allows for future time adverbials as in German, also allows for a progressive interpretation, see (29) (from Lundquist 2012:28).

(29) Vi spelar fotboll.  
we play.2pl football  
'We are playing football.'

(Swedish)

As shown in (28), the English present does not licence such a reading and cannot be grouped together with Catalan or Swedish. It seems that the constraints of the semantics of the present tense in English are much stricter than in Catalan, Swedish, German or French, which can locate an event at the utterance time. English does not pattern with these languages since its present tense asserts a limited time span that is restricted to an instant, i.e., it can only be identified with the moment *now*. Eventive predicates such as (28) require progressive morphology to be able to be located at the utterance time.

The conceptualization of the present tense as a limited time span in English has empirical consequences. According to Smith (1990), the properties of the present tense are inherited in constructions that contain a present reference time. Hence, if the meaning of the present tense in English is inherited in the present tense of the auxiliary verb of the compound verbal form, then it follows that the reference time in English PrP sentences encodes a time interval that is coextensive with the moment *now*. To check this, let us first look at prepositional phrases headed by *since*. According to Smith (1990:154), there are languages that have 'present constructions that state a bound on an interval including the present', and sentences modified by temporal adverbials headed by the preposition *since* and *until* may state such a bound. Consider the examples modified by *since*-adverbials in (30).

- (30) a. \*John is in Amherst since January.  
 b. John has been in Amherst since January.

(30a) shows that temporal constructions modified by *since*-adverbials, which state a bound on an interval that contains the present moment, cannot combine with the present tense. As said above, the present in English is conceived as a limited span that can only be identified with *now*. However, time intervals encoded by *since* set up a larger time span that contains the utterance time and cannot be identified with just a moment. They require the PrP instead, as shown in (30b), which encodes a larger time interval that includes the present moment and through which the eventuality holds.<sup>7</sup>

In contrast to English, languages such as Catalan and Swedish admit both the present tense and the PrP as in (31) and (32) (from Elsness 1997:13).

- (31) En Joan viu / ha viscut a Barcelona des del 2000.  
 the Joan live.3sg have.3sg lived in Barcelona from.the.2000.  
 ‘Joan has lived in Barcelona since 2000.’

- (32) Han bor/ har bott i Sverige sedan 1987  
 he live.3sg have.3sg lived in Sweden since 1987.  
 ‘He has lived in Sweden since 1987.’

(Swedish)

As sketched above, the present tense in Catalan and Swedish involves a time interval larger than a moment, it can locate an eventuality at the utterance time and can combine with *since*-adverbials as in (31) and (32), which set a bound on a time interval that includes the present.

Let us consider now punctual time adverbials in PrP sentences. The PrP in English cannot locate the event time on a specific position on the time line. Consider examples in (33).

- (33) a. John {\*has called/called} me today at five.  
 b. He {\*has come/came} two hours ago.

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<sup>7</sup> The differences between stative and eventive predicates in the context of PrP sentences are relevant for the derivation of the universal reading with *since* PPs. This issue is discussed in chapter 4.

Example (33a) shows that the punctual time adverbial *at five* cannot define a bound of the interval encoded by the perfect. The PrP in English is unable to locate a boundary of a time interval when the delimiter does not contain the moment *now*. The PrP modified by the deictic prepositional phrase *XP ago* in (33b) is also ruled out. The preposition *ago* is derived from the past participle of the verb *to go* (i.e., from Old English *āgān*) and is lexically specified as a past time adverbial so that it cannot state a bound on the time interval encoded by the PrP, which requires the inclusion of the present moment.

In languages such as Catalan, the present tense is not as constrained as in English and encodes a larger time interval in which the event time can be located at the utterance time as in (27). Moreover, the event time can also be fixed on the time axis as shown again in (34) (= (21b-c), from §2.3.3).

- (34) a. Hem anat al mercat a les deu.  
       have.1pl gone to.the market in the ten  
       ‘We went to the market at ten.’
- b. Ha arribat fa una hora.  
       have.3sg arrived makes an hour  
       ‘He arrived one hour ago.’

The punctual time adverbial in (34a) places the described eventuality of *going to the market* on a fixed position, i.e., today at ten o’clock. As for (34b), *fa una hora* ‘makes one hour’ places the event time one hour before the utterance time.

As for Swedish, the fact that the event time can intersect with the reference time in the present tense in Swedish is relevant for explaining examples such as (35), which are marginally possible. Even though the PrP in general disallows modification by punctual time adverbials, see (24), it seems that the PrP modified by a punctual time adverbial in conjunction with deictic locating time adverbials like *idag* ‘today’, which require the PrP in Swedish, are sort of ok. Consider (35) (from Rothstein 2008:71).<sup>8</sup>

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<sup>8</sup> Thanks for the comments given by Lundquist Björn, Östen Dahl, and other native speakers on the Swedish data, all remaining errors are mine. According to a native speaker, example (35) is more acceptable with other type of verbs, such as *Idag han har slutat klockan 12* ‘Today he finished at 12’ or *Idag har jag varit hos tandläkaren klockan 9* ‘Today I have been to the dentist at 9’. The use of the simple past is also possible *Idag var jag hos tandläkaren klockan 9* ‘Today I was at the dentist at 9’.

- (35) ?? Idag har jag stigit upp klockan 12.  
 today have.1sg I gone up clock.the 12  
 ‘Today I got up at 12.’

As the present tense in Swedish can locate an event time at the utterance time, in PrP sentences such as (35), the event time can be fixed on a time frame specified by *idag* ‘today’ that includes the present.<sup>9</sup> It seems that the Swedish PrP allows for a hodiernal interpretation with preset-sphere time adverbials (e.g., *idag*).

In this subsection, I have suggested that, apart from the ability of present tense to have future orientation, there are other components of the meaning of the present tense that allow us to give a more straightforward explanation to the *Present Perfect Puzzle*. In Catalan and Swedish, the present tense allows a progressive interpretation, see (27) and (29). By contrast, the present tense in English is defined as a limited time span that cannot locate the event time at the utterance time. Eventive predicates as in (28) require progressive morphology to refer to an ongoing situation. This conceptualization of the present tense has empirical consequences in PrP sentences. In English, the PrP encodes a time interval that can only state a bound on an interval that contains the utterance time as in (30b), and sentences modified by punctual time adverbials, which specify the event time on a moment different than *now* are ruled out, see (33). This is not the case in Catalan and Swedish, where the event time in present tense sentences can intersect with the utterance time. In Catalan, in PrP sentences modified by punctual time adverbials, the event time can intersect with the reference time and the punctual time adverbial can locate the described event on a fixed position on the timeline, see (34). Although Swedish also shows the *Present Perfect Puzzle*, the use of the PrP with punctual time adverbials is marginally acceptable with the presence of additional deictic adverbials such as *today* in contrast to what is expected, see (35).

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<sup>9</sup> According to Bjørn Lundquist (p.c), examples like *Johan har slutat klockan fyra idag* ‘Intended: Johan has finished at four today’ are sort of ok in Swedish, but not great. Bjørn Lundquist suggests that these examples require a special reading. They can imply a reading in which Johan’s work has certain shifts, for example, one that ends at 3 and one that ends at 4. The temporal adverbs just label the different shifts. The example could be paraphrased as something like: ‘John has worked/done the 4 o’clock shift today’.



### 2.3.5 *Summary of section 2.3*

If the hodiernal PrP were a distinct semantic use, we would not expect that unmodified PrP sentences in out-of-the-blue contexts could have more than one reading, but they do. Even in English, unmodified PrP can have the so-called hodiernal reading only because there is nothing that prevents us from placing an eventuality on the same day of speaking. In this section, I have shown that the contribution of temporal adverbials of different kinds is crucial for an unequivocal hodiernal reading of the PrP. I have considered that the possibility of fixing the eventuality on time in PrP sentences is linked to the present tense, in particular, to the progressive meaning of the present tense. A closer look into the meaning of locating time adverbials and their interaction with the PrP in §2.4 reveals that we really have to take into account the semantics of time adverbials to provide a better explanation of the hodiernal reading.

## 2.4 **The contribution of locating time adverbials**

In the previous section, I have shown that the conceptualization of the present tense is different across languages. The main differences have to do with (i) the acceptability of future time adverbials (see Pancheva & von Stechow 2004) and (ii) the availability of locating an event at the same time as the utterance time. In this section, I will show that languages such as Catalan, whose present tense allows for (ii), can also locate an event on a fixed position in the context of PrP sentences. In particular, I will consider certain locating time adverbials in Catalan, i.e., punctual time adverbials and temporal modifiers headed by proximate demonstratives, which can give rise to unequivocal hodiernal readings.

### 2.4.1 *Punctual time adverbials*

As has been outlined before, the *Present Perfect Puzzle* (Klein 1992), i.e., the restriction which the English PrP shows with respect to locating time adverbials, has a different flavour in Romance languages such as Catalan. In this subsection, I will show that there are relevant differences between punctual time adverbials such as *a les deu* in Catalan and adverbials such as *at ten* in English. Crucially, it is not the case that English blocks modification of the event time, rather the deictic interpretation of time adverbials such as *at ten* is dependend on verbal deixis and, in combination with the English PrP, it cannot be interpreted deictically with respect to the utterance time. The semantic

composition of time adverbials like *a les deu* ‘in the ten’ seem to follow the schema “the X of a Y”, which allows them to be interpreted indexically with the PrP in languages such as Catalan.

Most standard analyses are based on the ungrammaticality judgments in (36) (= (5a), from §2.1, from Klein 1992:525-546).<sup>10</sup>

(36) \*Chris has left at six.

According to de Swart (2007) and Brugger (2001), the PrP in English blocks any modification of the event time.

However, rather than the unavailability of event time modification in general, it seems that the punctual time adverbial in example (36) disallows a position definite reading. Hitzeman (1995, 1997a) makes a distinction between non-position definite and position-definite readings to account for deictic and non-deictic readings, respectively.<sup>11</sup> In particular, she claims that position-definite readings of temporal adverbials fix the event time, which is adjacent to the reference time. For the PrP sentences in English, Hitzeman (1995, 1997a) shows that punctual time adverbials cannot be fixed on a definite position and be interpreted indexically with respect to the utterance time. Consider the examples given in Hitzeman (1995:242).

(37) a. Chris has left at midnight.  
b. John has been in the bathtub until noon.

Sentence (37a) means that *Chris has left at midnight on some past occasion*. Like in the case of the punctual time adverbial *at midnight*, the position of the durational time adverbial *until noon* in (37b), which states a bound on an interval including the present, refers to some past *noon*, i.e., the sentence can be paraphrased as follows: *John has been in the bathtub until noon before*.

Hitzeman (1995, 1997a) argues that preposed time adverbials always yield a position-definite reading, and examples such as (38) show that in this position, *at*

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<sup>10</sup> De Swart (2007:2274) notes that there are English varieties that allow for the modification by punctual time adverbials.

<sup>11</sup> Hitzeman (1995) also uses the term “R-dependent” for the deictic interpretation of time adverbials.

*midnight* as well as *until noon* cannot fix the location of the eventuality on the time line (from Hitzeman 1995:242).

- (38) a. #At midnight Chris has left.  
b. #Until noon John has been in the bathtub.

She explains the unavailability of sentences such as (38) in terms of time deixis, its interaction with time adverbials and Reichenbach's treatment of tense. A position-definite reading of time adverbials fixes the event time. In the context of PrP sentences in English, the event time ends at the reference time, which is coextensive with the utterance time. Hence, if position-definite readings were available, the eventuality located at *midnight* would be coextensive with the utterance time. However, this reading is pragmatically odd, i.e., time referring expressions such as *midnight* cannot refer to the utterance time, and the use of the indexical *now* is required instead.

Even though definite interpretations are the most salient readings of preposed time adverbials, we cannot rule out non-position-definite readings which refer to some unspecified noon before the utterance time in preposed positions. Consider the context provided in (39).<sup>12</sup>

- (39) Context: the workers of a company have to complete a survey. There are two different surveys: one for workers who have a noon shift and another for the ones who have a midnight shift. John is usually on a midnight shift, but someone remembers that he has been on a noon shift some time before.

At noon John has worked.

In this context, preposed locating time adverbials such as *at noon* in (39) is located on an unspecified position on the time line, i.e., at some unspecified noon before the utterance time.

In Catalan, position definite readings are available in PrP contexts even without the presence of additional temporal modifiers. Consider the sentences illustrated in (40).

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<sup>12</sup> Thanks to Seth Cable for commenting on this example. All remaining errors are mine.

- (40) a. Ha marxat al migdia.  
 have.3sg left in.the noon  
 ‘He left at noon.’
- b. Al migdia ha marxat.  
 in.the noon have.3sg left  
 ‘At noon he left.’

In Catalan, punctual time adverbials can be interpreted indexically in preposed and postposed positions, i.e., PrP sentences in (40) can be uttered in the afternoon of the current day and place the eventuality of *leaving* at the *noon* most recent before the utterance time.

The semantic composition of prepositional phrases such as *al migdia* ‘in the noon’ in Catalan differs substantially from time adverbials such as *at three* in English. It seems that the denotation of locating time adverbials in (40) follow the schema “the X of a Y”, i.e., *el migdia d’un dia* ‘the noon of a day’. The empirical evidence comes from data illustrated in (41) where complex temporal constructions are placing the eventuality on a specific moment within an explicit larger time interval:

- (41) Ha marxat a les deu d’avui.  
 have.3sg left in the ten of today  
 ‘He left today at ten.’

Example (41) makes an explicit reference to the current time unit, i.e., *avui* ‘today’. The temporal referring expression *a les deu d’avui* ‘in the noon of today’ fixes the eventuality on the same day as the day of the utterance time.

We can also find PrP sentences modified by punctual time adverbials that refer to intervals that go over the limits of the day of speaking. For example, *a la primavera* in (42) can make reference to some unspecific past spring or to the spring of the current year.

- (42) a. Les persones que han nascut a la primavera són molt alegres.  
 the people that have.3pl born in the spring are very cheerful  
 ‘People who have been born in the spring are very cheerful.’

- b. Un projecte que va començar a la primavera de 2013  
 a project that aux.3sg start in the spring of 2013  
 s' ha acabat a la primavera d'enguany.  
 cl. have.3sg finished in the spring of this.year  
 'A project that started in the spring of 2013 finished in the spring of this year.'

(Google search: *entredosmons.blogspot*)

The temporal expression *a la primavera* 'in the spring' in (42a) encodes a time interval that makes reference to 'the spring of any year'. By contrast, in (42b), the locating time adverbial refers to 'the spring of the current year', i.e., *a la primavera d'enguany* 'the spring of the current year'. Example (42b) is felicitous if it is uttered within the spring of the current time unit.

It is also possible to find similar constructions in English, which are compatible with the PrP (from Declerck *et al.* 2006:592):

- (43) This has never happened in the past.

In example (43), the time adverbial *in the past* denotes an unrestricted temporal interval that extends from some unspecified time before the utterance time up to now. However, in contrast to temporal expressions such as *in the past*, the presence of *in the morning* in (44) only allows for non-position-definite interpretations, i.e., they refer to some unspecified morning of a past day.

- (44) I have played in the morning.

As a corollary summary, apart from the nature of the PrP in different languages, there are also relevant differences in the semantic composition of punctual time adverbials that contribute to the availability of the hodiernal interpretation, for instance, in Catalan. Time adverbials such as *at three* are non-deictic time adverbials, whose interpretation is mainly dependent on verbal deixis. In English, the PrP is unable to

locate the eventuality on a fixed position with punctual time adverbials, see (36) and (44). In Catalan, position-definite readings are possible even without the presence of further adverbial support. The punctual time adverbial *al migdia* ‘in the noon’ follows the schema “the X of a Y”, which can be interpreted indexically in PrP contexts, and the specification of the current time unit can be omitted or given explicitly as in (41). In the following subsection, I will describe the properties of another type of punctual time adverbial compatible with the PrP in Catalan.

#### 2.4.2 *Fa X time* ‘makes X time’

Locating time adverbials headed by *fa X time* ‘makes X time’ are deictic time adverbials, which calculates the location of the event time with respect to the utterance time. In a preposed position, this temporal construction can appear followed by a constituent headed by *que* ‘that’, which allows for temporal measures that extend beyond the limits of the current day. In this section, I will provide an explanation to account for the differences between these two types of constructions in syntactic terms.

The locating time adverbial headed by the impersonal verb *fa* ‘makes’ can combine with the present, perfect and periphrastic past, as in (45) (from Solà i Pujols 2002: 2885-2886):<sup>13</sup>

- (45) a. Treballa aquí fa dos anys.  
       work.3sg here make.3sg two years  
       ‘She has been working here for two years.’
- b. Ha vingut fa dues hores.  
       have.3sg come make.3sg two hours  
       ‘He came two hours ago.’
- c. Va néixer fa dos anys  
       aux.3sg born make.3sg two years  
       ‘He was born two years ago.’

The finite verb *fa* ‘makes’ identifies the moment of the utterance as the point from which one has to count backwards. The temporal distance is expressed by a numerically

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<sup>13</sup> As Solà i Pujols (2002:2885-86), puts it, the imperfective form *feia* ‘made.impf’ has an anaphoric character and can combine with the imperfective (i.e., *Treballava aquí feia una setmana* ‘She worked.impf here made.impf one week’) or past perfect (i.e., *Havia vingut feia dues hores* ‘She had come made.impf two hours).

quantified phrase, which measures the time interval between the utterance time and the event time.

According to Solà i Pujols (2002), the temporal expression *fa X time* ‘makes XP’ can denote a punctual or a durational time interval, and is equivalent in interpretation to *des de fa X time* ‘from makes XP’ since it measures the event time interval. I claim that it is not the case that *fa X time* ‘makes XP’ can have a punctual or durational interpretation, rather, the time adverbial always measures the distance between the utterance time and the event time. In the case of example (45a), the present tense allows for a progressive interpretation and the measure phrase calculates the temporal extension of the eventuality, which begins two years from now and still holds at the utterance time.

It seems that the use of the periphrastic past is required with the presence of temporal measures that extend beyond the limits of the day of speaking, cf. (46a) and (46b). The same applies to Standard Peninsular Spanish (see García Fernández 2000a:157).

- (46) a. \*Ha           vingut   fa           dos dies/ una setmana.  
           have.3sg   come    make.3sg two days one week  
       b. Va           venir   fa           dos dies/ una setmana.  
           aux.3sg come   make.3sg two days one week  
           ‘He came {two days/one week} ago.’

It is important to note that a sentence such as (46a) is ungrammatical in an out-of-the-blue context, but there are contexts in which the PrP could be accepted among Catalan and Spanish speakers. Crucially, it seems that these contexts require the location of both the event time and the utterance time within a temporal frame specified by a time adverbial or context.<sup>14</sup> Imagine that someone had surgery two days ago and the subject is still in hospital. In this context, you could utter a sentence such as *L’han operat fa dos*

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<sup>14</sup> According to Antonio Fábregas (p.c), the PrP could fix the event time on a time that goes over the limits of the day of the utterance when there is a temporal frame provided that includes both the event time and the utterance time. For example, in a context in which a family spends the summer in the south of Spain every year, but they arrive on different dates every year, they can utter a sentence like *Este año hemos llegado hace solo dos semanas, pero el año pasado ya estábamos aquí a principios de junio* ‘Intended: This year we have arrived only two weeks ago, but last year we were already here by the beginning of June’. The temporal frame specified by *este año* ‘this year’ includes both the event time and the utterance time and could license the use of the PrP in conjunction with *hace dos semanas* ‘makes two weeks’.

*dies* ‘Intended: They have operated him two days ago’. The event time located two days ago and the utterance time are included in the temporal frame provided by the context.

This locating time adverbial can also be preceded by *ara* ‘now’, *avui* ‘today’, *ahir* ‘yesterday’ or *demà* ‘tomorrow’. Consider first examples illustrated in (47).

- (47) a. Estudia aquí ara fa dos anys.  
 study.3sg here now make.3sg two years  
 ‘He has been studying here for two years now.’
- b. Ha vingut ara fa dues hores.  
 have.3sg came now make.3sg two hours  
 ‘Now it has been two hours since he came.’
- c. Va néixer avui fa dos anys.  
 aux.3sg born today make.3sg two years  
 ‘Today it has been two years since he was born.’

In (47c), the locating time adverbial *avui* ‘today’ does not directly modify the periphrastic past tense *va néixer* ‘was born’. In fact, this observation has already been made in Rigau (2000). She shows that, in French, the temporal expression *dans quelques jours* ‘in some days’ in examples such as (48) is not directly connected to the main predicate of the clause (from Rigau 2000:8).

- (48) a. Jean est parti il y aura trois mois dans quelques jours.  
 Jean be.3sg left expl. cl. have.fut.3sg three months in some days  
 ‘In a few days, it will be three months since Jean left.’
- b. \*Jean est parti dans quelques jours.  
 Jean be.3sg left in some days

(French)

The temporal phrase *dans quelques jours* ‘in some days’ is not licensed when it occurs alone with the past tense as (48b) shows. According to Rigau (2000), it is the complex temporal phrase in (48a) which globally expresses a past meaning. This is also the case of the locating time adverbial in (47c). The time adverbial *avui* ‘today’ is not a mere temporal adjunct that specifies the main predicate of the clause, rather it is computed together with the locative phrase headed by *fa* ‘makes’.



Locating time adverbial *ahir va fer XP* ‘yesterday made XP’, cf. (49a) and (49b), or *demà farà XP* ‘tomorrow will make XP’, cf. (50a) and (50b), block the use of the PrP.

- (49) a. \*Ha vingut ahir va fer una setmana.  
 have.3sg come yesterday aux.3sg make one week  
 ‘In a few days, it will be three months since Jean left.’  
 b. Va venir ahir va fer una setmana.  
 aux.3sg come yesterday aux.3sg make one week  
 ‘He arrived one week ago yesterday.’
- (50) a. \*Ha vingut demà farà una setmana.  
 have.3sg come tomorrow will.make.3sg one week  
 b. Va venir demà farà una setmana.  
 aux.3sg come tomorrow will.make.3sg one week  
 ‘I arrived one week ago tomorrow.’

These locating time adverbials disallow the use of the PrP because the point from which one has to count backwards is located on the day before the utterance time (i.e., *yesterday*) in (49a), or on the day following the utterance time (i.e., *tomorrow*) in (50a). The PrP is restricted to hodiernal contexts and the use of the periphrastic past, which is used in prehodiernal contexts, is required instead, see (49b) and (50b). The deictic character in these examples is indirectly mediated via the presence of *ahir* ‘yesterday’ and *demà* ‘tomorrow’.

The locating time adverbials illustrated in (45) can also appear topicalized in a preposed position:

- (51) Context: ¿Què ha passat fa dues hores? (‘What happened two hours ago?’)  
 Fa dues hores, ha arribat.  
 make.3sg two hours have.3sg arrived  
 ‘Two hours ago, he arrived.’

The example given in (51) can be uttered in a context in which the speaker does not know that the subject has already arrived.

The same temporal construction can appear in initial position followed by a clause headed by *que* ‘that’ as a focus, if it expresses new information, see (52). In contrast to examples shown in (46), this type of temporal construction can place the described eventuality on a fixed position, which does not necessarily have to be located within the current day of the utterance time.

- (52) Fa            {una hora / dos dies} que ha            arribat.  
           make.3sg    one hour / two days that have.3sg arrived  
           ‘He arrived one hour ago.’

In example (52), the listener already knows that the subject has arrived but the temporal distance between the described eventuality and the utterance time is the new information.

Even though the exact analysis of this construction is still under debate (Rigau 2000, 2001a; Fábregas 2014; Brucart 2015; among others), according to Solà (2002:2887), the syntax of the temporal construction shown in (52) is more complex. Consider the following syntactic schemas given below.

- (53) a. [[ha arribat] [fa una hora]]  
       b. [fa una hora [que ha arribat]]

The locating time adverbial *fa una hora* ‘makes one hour’ is an adjunct that modifies the verbal predicate *ha arribat* ‘has arrived’ in (53a). However, in (53b), *fa una hora* ‘makes one hour’ is the main clause of a complex sentence.<sup>15</sup> The temporal interval encoded by *fa dos dies que ha arribat* ‘makes two days that has arrived’ measures the temporal distance between the starting point of an event encoded by the subordinate clause and the utterance time, which is set up by the present tense of the finite verb *fa* ‘makes’. Fábregas (2014) claims that *que* ‘that’, which is analysed as a temporal-aspectual marker in Rigau (2000, 2001a), anchors a measure phrase to the starting point of an event.

I claim that the difference of the placement of the anchoring site between both types of constructions allows us to explain the reason why sentences such as (52) allow

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<sup>15</sup> The function of the subordinate clause in this construction is still under debate, i.e., it has been analysed as a relative clause or as the subject of the sentence. I will not look into the details in this study.

for measure phrases that extend beyond the limits of the day of speaking. In sentences such as (45b), whose syntactic structure corresponds to (53a), the locating time adverbial is anchored to the utterance time and restricts the location of the eventuality and, thus, the PrP is only compatible with those temporal constructions that fix the eventuality within the same day as the utterance time. By contrast, in (52), *fa una hora* ‘makes one hour’ is the main clause of the complex sentence, which is not dependent on the subordinate clause *que ha arribat* ‘that has arrived’, so that it does not have to restrict the reference time of the PrP sentence. The subordinate clause sets up the anchor of a temporal interval, which is measured by *fa X time* ‘makes X time’ and stretches up to the utterance time.

As a collorary summary, I have shown that there are two different syntactic temporal constructions headed by the impersonal verb *fa* ‘makes’ that set up the anchoring in different ways. (i) The locating temporal phrase *fa X time* ‘makes X time’ is a deictic temporal adverbial that is anchored to the utterance time and retrospectively calculates a point, where the eventuality holds. As for (ii) *fa X time que* ‘makes X time that’, it is a temporal interval whose starting point is given by the subordinate clause and which sets up the anchor of the measure phrase that stretches up to the utterance time. The former temporal construction modifies the PrP sentence, as in (45b), and it only allows to locate events that take place on the day of speaking in PrP sentences. The *fa X time* ‘makes X time’ shown in (52) constitutes the main clause of a subordinate sentence, so that it does not need to restrict the interval encoded by the perfect. The following subsection centers on the properties of locating time adverbials headed by a proximate demonstrative in the context of PrP sentences.

#### 2.4.3 Proximate demonstrative + clock-calendar noun

This subsection describes the characteristics of PrP sentences with locating time adverbials headed by a deictic demonstrative (i.e., *aquest*, *-a*, *-s*, *-es* ‘this / these’), which expresses immediate proximity with respect to the speaker, and a cyclic calendar noun (i.e., *matí* ‘morning’, *mes* ‘month’, *Nadal* ‘Christmas’, etc.). This class of expressions combine with PrP sentences in Catalan and can specify a time interval that makes reference to the most closely located moment of the day, week, month or year before the utterance time. By contrast, these cyclic calendar expressions in combination with the PrP in English are available only if the reference time of the PrP, which is coextensive with the utterance time, is contained in the denotation of the adverbial.

As has been pointed out above, a PrP sentence can appear modified by a locating time adverbial headed by a proximate demonstrative and combined with a clock-calendar expression. It is important to note that the periphrastic past in Catalan rules out the presence of this type of demonstrative that expresses immediate proximity with respect to the utterance time, cf. (54a) (=21d), from §2.3.3) and (54b).

- (54) a. He           treballat    aquest   matí.  
           have.1sg   worked    this     morning  
           ‘I {have worked/worked} this morning.’
- b. \* Vaig     treballar   aquest   matí.  
           aux.1sg work       this     morning

The locating time adverbial *aquest matí* ‘this morning’ can be uttered within the morning of the same day of speaking or later on, i.e., at five o’clock in the afternoon of the current day. Curell (2003) shows that the proximity expressed by the demonstrative suffices for the requirement of the PrP. She shows that even with the locating time interval such as *aquest mes d’agost que acabem de passar* ‘this month of August that we have just passed’, the periphrastic past is ruled out (from Curell 2003:40):<sup>16</sup>

- (55) a. \*Aquest mes   d’ agost   que acabem   de passar va       ser   tràgic  
           this     month of Augustthat finish.2pl of pass   aux.3sg be   tragic  
           per a Colòmbia.  
           for to Colombia
- a. Aquest   mes   d’ agost   que acabem   de passar ha       estat tràgic  
           this     month of Augustthat finish.2pl of pass   have.3sg been tragic  
           per a Colòmbia.  
           for to Colombia  
           ‘This month of August that we have just passed was tragic for Colombia.’

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<sup>16</sup> There is variation among speakers, and it seems that, in certain contexts (e.g., in the presence of *passat* ‘past’), the proximate demonstrative can occur with the periphrastic past (e.g., *Aquest mes passat vam vendre molts vestits* ‘This past month we sold a lot of dresses.’).

The past tense is available in combination with anaphoric demonstratives (i.e., *aquell*, *-a*, *-s*, *-es* ‘that/those’), which express temporal remoteness with respect to the speaker:<sup>17</sup>

- (56) a. \*He           treballat aquell    matí.  
           have.1sg worked that        morning  
       b. Vaig        treballar aquelll   matí.  
           aux.1pl work    that        morning  
           ‘I worked that morning.’

Hence, it seems that the contribution of the type of demonstrative is crucial for the availability of the PrP, i.e., the PrP is always available with proximate demonstratives. Moreover, as has been illustrated above, a closer look at the relevant data reveals that external-mind constraints such as the 24-hour rule or other more subjective divisions like the cycle of sleep and wakefulness, which have traditionally characterised the hodiernal PrP are too strong. Consider again example (57) given in Curell (2003:37).

- (57) Aquesta nit    m’    he            trobat    malament.  
       this    night cl.    have.1sg    felt        ill  
       ‘I felt ill tonight.’

[it may be uttered in the morning]

As Curell (2003) shows, the speaker understands the moment after he goes to sleep as part of the current day. However, I claim that, even though there is a psychological dividing line that help us to define the current time unit (i.e., *today*), the hodiernal reading in sentences such as (57) is obtained via the contribution of the locating time adverbial, i.e., the presence of the deictic demonstrative can specify a time interval which refers to the closest night before the utterance time.

This view allows us to explain the availability of the PrP in examples such as (58) (I repeat (4) from §2.1 as (58a)).

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<sup>17</sup> In Spanish, it corresponds to the third grade of demonstrative. The second grade of demonstrative is available in Spanish (i.e., *ese*, *-a*, *-os*, *-as* ‘that/those’). This class also exists in Catalan (i.e., *aqueix*, *-a*, *-os*, *-es* ‘that/those’), but they are not used in spoken language nowadays.

- (58) a. Aquest Nadal he estat a Mèxic.  
 this Christmas have.1sg been to Mexico  
 ‘This Christmas I was in Mexico.’
- b. Aquest mes d’agost que acabem de passar hem anat de vacances.  
 this month of August that finish.2pl of pass have.2pl gone of holiday  
 ‘This month of August that we have just passed we went on holiday.’
- c. Aquest cap de setmana hem anat al museu Dalí.  
 this head of week have.2pl gone to.the museum Dalí  
 ‘We went to the Dalí museum this weekend.’

These examples have been traditionally analysed as experiential perfects. The prototypical experiential reading arises if the denotation of the locating time adverbial includes the utterance time, i.e., the described eventualities take place within the same Christmas, the same August or the same weekend, respectively. The locating time adverbials in (54a) and (57) easily combine with PrP sentences, which describe eventualities located within a specific temporal frame, which may not include the utterance time. As Curell (1990:119) notes for the case of *aquest {mes / any}* ‘this {month / year}’, these locating time adverbials can be uttered in the middle or at the end of the same delimited temporal period, month or week as well as at the beginning of the following month or week. The time adverbials *aquest Nadal* ‘this Christmas’, *aquest agost* ‘this August’ and *aquest cap de setmana* ‘this weekend’ illustrated in (58) can make reference, like in the case of (54a) and (57), to the closest Christmas, August, and weekend before the utterance time.

In contrast to Catalan, locating time adverbials headed by a proximate demonstrative in Standard Peninsular Spanish can be combined with both the PrP and the SP, cf. (59a) and (59b). In both cases, the sentence can refer to a period of time that excludes the moment of the utterance time.

- (59) a. Vi a María este junio. [may not be June currently]  
 see.1sg to Mary this June  
 ‘I saw Mary this June.’

- b. He visto a María este junio. [may not be June currently]  
 see.1sg seen to Mary this June  
 ‘I saw Mary this June.’

Adopting Declerck *et al.*'s (2006) terminology, the group of deictic time adverbials that give rise to hodiernal interpretations in English (i.e., *today* or *this morning*) are definite multiple-zone time adverbials, i.e., they have a fixed reference time and can focus on different time zones. Let's consider example (60):

- (60) a. I have seen him this morning. [still this morning]  
 b. I saw him this morning. [not already morning; or yes]  
 c. I will see him this morning. [not already morning; or yes]

Time adverbials headed by deictic demonstratives and a calendar noun can combine with the PrP, SP or future tense, i.e., they are frame adverbials that specify a time span with different zones.

According to Quirk *et al.* (1985:195), the choice between the simple past and the PrP depends on whether a present or past time orientation is intended. Some of these temporal expressions that are compatible with both the SP and the PrP involve a change of meaning in English, depending on which tense form they occur with. When the utterance time is included within the denotation of *this morning*, it refers to the current morning. However, if this expression is combined with the simple past, it can be related to the same morning as well as to the previous one, cf. (60a) and (60b).

Comrie (1985:33) states that ‘some speakers allow collocation of the perfect time adverbials locating the situation in a time segment in the very recent past, for example earlier on the day in which the speech situation takes place, i.e. *I have seen him this morning*, said during the afternoon (i.e. when this morning refers to a time period already in the past)’. The author posits an interesting problem that shows that, even for languages such as English, it seems that a hodiernal reading is possible. For these speakers, the immediate proximity with respect to the speaker encoded by the demonstrative suffices to license the PrP.

This subsection has shown that, in contrast to Standard Peninsular Spanish or English, in Catalan proximate demonstratives can appear with the PrP and generally disallow the use of the past. The contribution of deictic demonstratives is crucial for the

availability of hodiernal readings, i.e., these temporal expressions can make reference to a specific time interval most recently past before the utterance time. Having pointed out the main contrasts between Catalan and English that PrP sentences with locating time adverbials show, I summarize the data that I have introduced so far in the following subsection.

#### 2.4.4 *Summary of section 2.4*

In the preceding subsections, I have explored in detail the contribution of temporal adverbials of different kinds, which is crucial for unequivocal hodiernal interpretations of the PrP. This section has particularly focused on punctual time adverbials. In Catalan, punctual time adverbials (i.e., *a les deu* ‘in the ten’) can make reference to *a les deu d’avui* ‘in the ten of today’ or *a les deu d’un dia* ‘at the ten of a day’, see (41). Punctual time adverbials such as *at three* in English can also have deictic and anaphoric interpretations. However, their meaning is really dependent on the tense of the verbal predicate of the sentence, and, in PrP sentences, *at six* or *at midnight*, see (36) and (37a), cannot state a bound on the time interval encoded by the PrP, which contains the utterance time.

The hodiernal reading in Catalan also arises with deictic locating time adverbials such as *fa X time* ‘makes XP (that)’, see (45b), which measure the extension of the reference time with respect to the deictic center (i.e., the utterance time). In fact, this adverbial can also be preceded by *ara* ‘now’ as in (47b). In PrP contexts, this locating time adverbial specifies the location of the eventuality within the same day as the utterance time.

Temporal expressions headed by a deictic proximate demonstrative and a calendar noun can express simultaneity or anteriority with PrP sentences, i.e., a time interval such as *aquest matí* ‘this morning’ in (54a) can make reference to the same morning or to the morning preceding the utterance time. In English, this type of adverbial in combination with the PrP always expresses simultaneity, and the time adverbial contains the utterance time (i.e., *today* or *this morning*) as in (60a). Taking into account all the relevant data, it seems that the PrP in Catalan can locate the eventuality in time within a specified time interval, which surrounds the day of the utterance time. The limits of such a temporal span are not strictly delimited to the day of speaking, we have shown that it can be extended to the current or most recent night,



Christmas, month or weekend before the utterance time, see (57) and (58). I will examine in more detail the semantics of the PrP in Catalan in §2.5.

## **2.5 Deriving the hodiernal reading of the present perfect**

As was discussed in §2.2, there are authors who have claimed that the PrP is ambiguous between a perfect and a past interpretation in languages such as Catalan (see Curell 1990, 2002, 2003; Curell & Coll 2007; Martínez-Atienza 2008). There have been also attempts to show that the PrP blocks any modification of the event time in English (see Brugger 2001; de Swart 2007; among others), or that the option of modifying the PrP with locating time adverbials is linked to the meaning of the present tense (see Klein 1992; Giorgi & Pianesi 1997; Pancheva & von Stechow 2004). In this section, I will take into account the progressive meaning of the present tense. As was shown in §2.3.4, the ability of the present tense to locate an eventuality at the utterance time in Catalan is directly connected to the possibility of fixing the event time on a fixed position in PrP sentences. I will assume the theory of the Perfect Time Span (PTS) (McCoard 1978; Dowty 1979; Iatridou *et al.* 2001; Pancheva and von Stechow 2004; Rathert 2003; Rothstein 2008; among others) to show that the hodiernal reading of the PrP in Catalan is not a separate semantic reading of the PrP since both existential and hodiernal readings pattern alike, i.e., the eventuality is properly included within the boundaries of the PTS interval. However, unlike in English, the PTS in Catalan does not always equal the reference time. To account for this empirical fact, I will assume Pancheva & von Stechow's (2004) split between the PTS and the reference time and show that the temporal relation between the PTS and the reference time in Catalan can be that of identity or overlap.

### *2.5.1 The properties of the perfect time span*

The properties of the PTS have been mainly examined in Iatridou *et al.* (2001), for the case of English, and in Pancheva & von Stechow (2004), to account for the German data. I will review these proposals and discuss some problematic questions that remain unresolved, which prevents a possibility to account for the nature of the PrP in other languages such as Catalan. In particular, I will focus on the way in which the PTS relates to the reference time across theories and consider the topological relation of identity, abutting and precedence between the PTS and the reference time. The temporal

relation between the PTS and the reference time which has been proposed for the case of English is that of identity (cf. Iatridou *et al.* 2001; Pancheva & von Stechow), i.e., the PTS and the reference time are equal. Rathert (2003) has proposed an alternative relation for German which is the relation of abutting, i.e., the PTS is immediately adjacent to the reference time. However, this topological relation cannot fully account for the past time adverbials (Rothstein 2008). Pancheva & von Stechow (2004) and Rothstein (2008) split the PTS and the reference time in two different intervals to be able to account for the German data and argue that the PTS can precede the reference time.

As already pointed out in §1.5.3, in Iatridou *et al.*'s (2001) PTS account, the PTS and the reference time are not analysed as different time intervals. Thus, in English, the right boundary of the PTS is coextensive with the reference time, which equals the utterance time, and this property of the PTS can account for the unacceptability of locating time adverbials whose denotation does not include the utterance time as witnessed by examples in (61) (=5b), from §2.1, from Klein 1992:525)

(61) \*Chris has left York yesterday.

The literature on the semantics of the perfect has already considered the empirical consequences of positing different types of topological relations between the PTS and the reference time for some languages such as German. Instead of coextension, Rathert (2003) makes use of the topological relation of abutting between the PTS and the reference time in her analysis of the PTS in German.

(62)  $[[\text{PERFECT}]] = \lambda p_{(it)} . \lambda t_{(i)} . \exists t'_{(i)} [t' > t \ \& \ p(t')]$

She proposes that the perfect encodes a PTS, which establishes an abutting relation with the reference time, which is cotemporal with the utterance time. In other words, the right boundary of the PTS is adjacent to the reference time.<sup>18</sup>

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<sup>18</sup> For the above notation:  $t$  = reference time;  $t'$  = PTS. Subscripts denote a type of variable, that is, the subscript  $_{(it)}$  stands for a function from intervals  $_{(i)}$  to truth values  $_{(t)}$  and the subscript  $_{(i)}$ , for temporal intervals.

However, Rothstein (2008) notes that Rathert's (2003) abutting topological relation between the PTS and the reference time in German predicts some wrong readings. Consider the following example (from Rothstein 2008:56):

- (63) Véronique hat immer in Frankreich gewohnt.  
 Véronique have.3sg always in France lived  
 1999 ist sie nach Deutschland gezogen.  
 1999 is she to Germany moved  
 'Véronique always lived in France. In 1999, she moved to Germany.'  
 (German)

The semantics proposed in Rathert (2003) cannot derive the reading available in (63). The PTS does not clearly abut the reference time. Rather, the PTS precedes the reference time in (63), i.e., the event time of *living in France* holds throughout the PTS, which ends in 1999, a time interval that entirely precedes the present reference time.

The temporal relation of abutting cannot fully account for the properties of the PTS in Catalan either. Even though the PTS should always be located in an adjacent position with respect to the reference time, it can be preceded by a certain lapse of time from the moment of speaking. This temporal distance is made explicit when the PrP is modified by a punctual time adverbial such as *a les deu* 'in the ten'. Consider the example shown in (64) (=21b), from §2.3.3).

- (64) Hem anat al mercat a les deu.  
 have.1pl gone to.the market in the ten  
 'We went to the market at ten.'

If the temporal relation between the PTS and the reference time were that of abutting, the time adverbial *a les deu* 'in the ten' in (64), for example, would be immediately adjacent to the reference time, which is cotermporal with the utterance time. However, even though the locating time adverbial *a les deu* 'in the ten' refers to the closest ten before the utterance time, the relation between the time interval in which the event time is located and the utterance time is not that of adjacency, rather it allows for a certain lapse of time since examples such as (64) can be uttered in the afternoon or night of the same day of speaking.

Given the cross-linguistic pattern between English and German, cf. (61) and (63), Pancheva & von Stechow's (2004) analyse the reference time and the PTS as different type of time intervals and assume a weak semantics of the PTS, which 'may precede or partially overlap with the reference time, or it may entirely precede it' (=8), from Pancheva & von Stechow 2004). This observation is captured by the denotation of the perfect given in (65).<sup>19</sup>

$$(65) \quad [[\text{PERFECT}]] = \lambda p_{(it)}. \lambda t_{(i)}. \exists t'_{(i)} [t' \leq t \ \& \ p(t')] \\ (t' \leq t \text{ iff there is no } t'' \subset t', \text{ s.t. } t'' > t)$$

According to Pancheva & von Stechow (2004), the PTS may precede or overlap the reference time if and only if there is no subinterval within the PTS such that it follows the reference time.

Pancheva & von Stechow's (2004) analysis is based on the differences between the English and German present tense. Consider example (66) (=23), from §2.3.4, = (10a) and (11b) from Pancheva & von Stechow 2004).

- (66) a. Fritz ist in 10 Tagen krank.  
       Fritz be.3sg in 10 days sick  
       'Fritz will be sick in 10 days.'  
       b. # Fred is sick in ten days. (German)

The differences in the meaning of the present tense given in Pancheva & von Stechow (2004) are illustrated in (67) (=9), from Pancheva & von Stechow 2004).<sup>20</sup>

- (67) a. [[PRESENT]] =  $\lambda p_{(it)}. \lambda t_{1(i)} [t_1 = t_c \ \& \ p(t_1)]$  [English]  
       b. [[PRESENT]] =  $\lambda p_{(it)}. \lambda t_{1(i)} [t_1 \geq t_c \ \& \ p(t_1)]$  [German]  
       where  $t' \geq t$  iff there is no  $t'' \subset t'$ , such that  $t'' < t$

In English, as shown in (67a), the present tense introduces a reference time interval that equals the utterance time and, hence, disallows future time adverbials as in (66b). As for

<sup>19</sup> For the above notation:  $t$  = reference time;  $t'$  = PTS.

<sup>20</sup> For the above notations:  $t_1$  = reference time;  $t_c$  = utterance time.

the present tense in German, see (66a), it allows for future time adverbials, which follows from the representation in (67b): in German, the present tense introduces a reference time interval that overlaps or follows the speech time if and only if there is no subinterval contained in the reference time such that it precedes the utterance time.

The denotations of the [[PRESENT PERFECT]] provided by Pancheva & von Stechow (2004) for English and German are shown in (68) (=16), from Pancheva & von Stechow 2004).<sup>21</sup>

$$(68) \quad [[\text{PRESENT}_1 \circ \text{PERFECT}]] = \lambda p \text{PRES}_1 \lambda t_1 \exists t_2 [t_2 \leq t_1 \ \& \ p(t_2)] =$$

$$\text{a. } =\lambda p \exists t_1 [t_1 = t_c \ \& \ \exists t_2 [t_2 \leq t_1 \ \& \ p(t_2)]] = \lambda p \exists t_2 [t_2 \leq t_c \ \& \ p(t_2)] \quad [\text{English}]$$

$$\text{b. } =\lambda p \exists t_1 [t_1 \geq t_c \ \& \ \exists t_2 [t_2 \leq t_1 \ \& \ p(t_2)]] \quad [\text{German}]$$

In English, the reference time and the utterance time are coextensive in the present tense, and, in the PrP, the semantics of the present tense is inherited and the perfect relates the PTS directly to the utterance time, see (68a). In German, the PTS encoded by the PrP does not need to overlap with the utterance time, because, in contrast to English, the reference time in the denotation of the present tense can follow or overlap the utterance time.

The past tense in English is more specified and competes with the PrP, which has weaker restrictions, cf. (68a) and (69) (=15), from Pancheva & von Stechow 2004).

$$(69) \quad [[\text{PAST}_1]] = \lambda p \exists t_1 [t_1 < t_c \ \& \ p(t_1)] \quad [\text{English}]$$

According to (69), the past tense in English denotes an interval that precedes the utterance time, whereas, as shown above, the PrP denotes an interval that does not extend beyond the utterance time. Pancheva & von Stechow propose that, as a result of grammatical competition between the past tense and the PrP in English, the meaning of the PRESENT PERFECT is strengthened, when the PrP is the value of Tense. The representation in (70) (=17), from Pancheva & von Stechow 2004).

$$(70) \quad [[\text{PRESENT}_1 \circ \text{PERFECT}]] = \lambda p \exists t_1 [t_1 = t_c \ \& \ \exists t_2 [t_2 \sqcap t_1 \ \& \ p(t_2)]]$$

(strengthened) where  $t \sqcap t'$  iff  $t \cap t' \neq \emptyset$  and there is no  $t'' \subset t$ , such that  $t'' > t'$

<sup>21</sup> For the above notations:  $t_1$  = reference time;  $t_2$  = PTS;  $t_c$  = utterance time.

Since present makes the reference time coextensive with the utterance time, the relation  $t_2 < t_1$  is out by strengthening and the PTS overlaps with the reference time, which is directly related to the utterance time. The relation of overlap between the PTS and the reference time holds if and only if there is no subinterval contained in the PTS such that it follows the reference time. Thus, as Pancheva & von Stechow (2004) put it, the lexical semantics of the PERFECT does not denote that the PTS has to overlap with the reference time. Rather, this temporal relation is obtained by strengthening, i.e., the meaning of the PrP in English is more restricted when it competes with the past tense. As a result of this competition, the relation of precedence between the PTS and the reference time is out in English. As for German, the PrP and the past do not compete. Hence, when the PRESENT PERFECT is the value of Tense, its meaning is not strengthened. The PrP encode a PTS that may precede the utterance time, and, as a result, it can be modified by past time adverbials such as *yesterday*.

Pancheva & von Stechow (2004) also claim that, in English, the PrP competes with the present as well. As a result of this competition, the meaning of PrP is strengthened such that the PTS may not completely coincide with the utterance time. Rather, some part of the PTS must precede the utterance time. Consider the following example.

- (71) a. He is at home.  
       b. He has been at home.

The present tense in (71a) denotes that the eventuality of being at home is coextensive with the utterance time, i.e., the present tense entails that the event time holds at the utterance time. By contrast, in the case of the PrP sentence in (71b), only the right boundary of the PTS encoded by the perfect is coextensive with the utterance time, but some part of the PTS may precede the utterance time, i.e., the eventuality *be at home* is not necessarily obtained only at the utterance time.

However, the account provided in Pancheva & von Stechow (2004) cannot be applied cross-linguistically without any modification. As was illustrated in §2.3.4, Swedish exhibits the *Present Perfect Puzzle*, but it contrasts with English in that the present tense allows for future time adverbials, see (72a-b) (= (24) and (25), from §2.3.4).

- (72) a. \*Johan hat slutat clockan fyra.  
 Johan have.3sg finished o'clock four  
 'Johan finished at four.'
- b. Johan åker till Paris nästa år.  
 Johan drives to Paris next year  
 'Johan will drive to Paris next year.'

(Swedish)

Like in English, (72a) shows that the PrP in Swedish disallows modification by locating time adverbials that do not include the utterance time in its denotation. However, the meaning of present admits future time adverbials and is not as restricted as in languages such as English whose present tense is always non-future. Pancheva & von Stechow's (2004) show that the PTS in English directly relates the utterance time, because the temporal relation between the reference time and the utterance time in the present tense is that of identity in English. However, this explanation cannot account for the incompatibility of locating time adverbials in (72a), because the present tense allows for future time adverbials, as in German.

The status of the PrP in Catalan seems to be between the English and the German-type perfect, i.e., it allows for locating time adverbials whose denotation does not necessarily include the utterance time, but does not allow for adverbials referring to the past. Note the grammaticality of examples such as (73a), which can locate the event at the ten of the current day, but the unacceptability of sentences such as (73) (=43), from §1.3.5).

- (73) a. Hem anat al mercat avui a les deu.  
 have.1pl gone to.the market today in the ten  
 'We went to the market today at ten.'
- b. \*Hem anat al mercat ahir al matí.  
 have.1pl gone to.the market yesterday in.the morning

However, it seems that sentences such as (73a) in Catalan are not ultimately linked to the possibility of future adverbial modification in the present tense since in Catalan, like in English, the present tense cannot be used to express future eventualities. Rather, it is

used in contexts that make reference to future planned eventualities as in (74) (=26a), from §2.3.4):

- (74) El meu germà es casa demà.  
the my brother cl. marry.3sg tomorrow  
'My brother is going to get married tomorrow.'

After applying the hypothesis put forward in Pancheva & von Stechow (2004) to Catalan and Swedish, I have provided empirical evidence that shows that there can be no direct connection between the compatibility of locating time adverbials with the PrP and future time adverbials in the present tense. As shown above, Catalan and Swedish differ with respect to the future time reference of the present tense form, but both languages have the *Present Perfect Puzzle*.

In this section, I have examined the main empirical consequences that the topological relations of coextension, abutting and precedence between the PTS and the reference time have in languages such as English and German. However, it seems that none of them can fully explain the behaviour of the Catalan PrP. In Catalan, past time adverbials are disallowed, but there are certain locating time adverbials compatible with the PrP, i.e., punctual time adverbials. I have suggested that future readings of the present tense is not the main factor that can contribute to the solution of the *Present Perfect Puzzle*. In §2.3.4, I pointed out that the progressive meaning of the present tense seems to be more directly linked to the solution of this puzzle. In the following subsection, I will further discuss the relevance of the conceptualization of the present tense.

### 2.5.2 *The conceptualization of the present tense*

In this subsection, I will show that the differences in the conceptualization of the present tense across languages have consequences for the available meanings of the present tense. As was shown in §2.3.4, it appears that the progressive meaning of the present tense is directly linked to the ability of the PrP to fix an event on the timeline. In languages such as Catalan, the event time can be located at the utterance time in the present tense. Similarly, in PrP sentences, the described eventuality can also be fixed on the time axis.



In contrast to English, the present tense in Catalan admits a progressive interpretation, cf. (75a) (=27), from §2.3.4, from Pérez-Saldanya 2002:2618) and (75b).

(75) Context: speaker A asks speaker C about what speaker B is doing at the moment and speaker C replies that B is working.

- a. Ara treballa. ¡No el molestis!  
now work.1sg no obj.3sg annoy  
'He is working now. Don't annoy him!'
- b. He is working now.

The eventuality of *working* in the present tense in (75a) can be located at the utterance time, whereas in English, the location of an event at the utterance time requires progressive morphology, see (75b). In languages such as Swedish as well as German and French, an ongoing interpretation is also available in the present tense, see (76) (=29), from §2.3.4, from Lundquist 2012:28).

(76) Vi spelar fotboll.  
we play.2pl football  
'We are playing football.'

(Swedish)

The English present tense asserts a very limited span, a narrow time span (Smith 1990), which does not involve an extended time interval other than the present moment. It is assumed that the present moment is conceptualized as a moment (Hallman 2009), i.e., as a temporal point that can be identified with the indexical temporal referring expression *now*. According to Hallman (2009), stative eventualities, unlike eventive predicates, can be identified with the moment *now*. Compare (77a) and (77b) (from Smith 1990:240).<sup>22</sup>

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<sup>22</sup> The historical present and the performative use of the present tense are derived uses of the present tense, which are not taken into account because they are not relevant for my present purposes.

- (77) a. Mary knows Greek.  
 b. Mary plays tennis.

The stative predicate *know Greek* in (77a) has the subinterval property and is true down to moments (Taylor 1977; Dowty 1979), i.e., it is true at every instant. The present tense in English asserts a temporal point, and such a temporal point can be identified with an instant of *knowing Greek* in (77a), which entails that the subject knows Greek at the utterance time. This interpretation is not available in (77b). The activity predicate of *playing tennis* is a homogeneous predicate, which has the subinterval property. However, the eventive predicate cannot be identified with the temporal moment encoded by the present tense, since eventive predicates are true down to intervals, i.e., they are sets of small intervals rather than instants. An instant of *playing tennis* in (77b) cannot be identified with the whole eventuality. In the present tense, eventive predicates only allow for a habitual interpretation.

As shown in (77b), the English present does not license an ongoing interpretation and cannot be grouped together with Catalan or Swedish. It seems that the constraints of the semantics of the present tense in English are much stricter than in Catalan, Swedish, German or French, which can locate an event at the utterance time. English does not pattern with these languages since its present tense asserts a limited time span that is restricted to an instant, i.e., it can only be identified with the moment *now*.

The classical analysis of the progressive (Bennet & Partee 1972; among others) presupposes a change of relation between the E(vent) and the R(eference) time. The E interval is normally contained in the R time, but in the progressive, R is contained in the E interval:

$$(78) \quad [E]_R \rightarrow [R]_E$$

The generalization, hence, seems to be that, in English, the E time can intersect with S only if R is contained in the E interval, see (75b), whereas in languages such as Catalan or Swedish where progressive is one of the possible meanings of the present tense, it is not a necessary condition to have R time contained in the E interval.

As was shown in §2.3.4, the different conceptualization of the present tense across languages has relevant empirical consequences in temporal constructions that include the present reference time. In this chapter, the main focus is on PrP sentences

modified by punctual time adverbials. Consider examples in (79) (= (40a) and (45c), respectively, from §2.4).

- (79) a. Ha            marxat al            migdia.  
          have.3sg left        in.the        noon  
          ‘He left at noon.’
- b. Ha            vingut fa            dues hores.  
          have.3sg come        make.3sg two hours  
          ‘He came two hours ago.’

Like in the case of the present tense in Catalan, where the event time can be located at the utterance time as in (75a). The punctual time adverbial *al migdia* ‘at noon’ and *fa dues hores* ‘makes two hours’ in (79) can fix the location of the event time on the timeline.

In contrast to Catalan, in English, the event in the present tense cannot intersect with the utterance time. The present tense encodes a very restricted time span, which is identified with a momentaneous instant (i.e., a temporal point *now*). This is inherited in the PrP, which encodes an extended now interval that equals the reference time, and only allows temporal constructions that state a bound on an interval including the present moment, cf. (80a) (= (5a), from §2.1, from Klein 1992:546) and (80b) (= (30b), from §2.3.4).

- (80) a. \*Chris has left at six.  
      b. John has been in Amherst since January.

Locating the eventuality on a specific position is impossible with punctual time adverbials such as *at six* in English just like it is impossible to locate an eventuality at the utterance time in the present tense. (80a) only allows for a reading in which the subject *has left at six* at least once on some past occasion. In (80a), the punctual time adverbial cannot anchor the eventuality to a deictic centre (i.e., the utterance time). As stated above, the present tense is a limited time span and the PrP inherits this meaning in English. Within such a delimited time span, the event time cannot appear with punctual time adverbials, which do not include the utterance in its denotation. As shown in (80b), the PrP in English can be modified by temporal constructions such as *since* adverbials,

which set up a boundary (i.e., *January* specifies the left boundary) on a time interval that includes the present moment (i.e., the right boundary is encoded by the present tense).

In this subsection, I have shown that the ongoing interpretation of the present tense is connected to the possibility of locating an eventuality on a fixed position. The present tense in languages such as Catalan is not as constrained as in English, and the described eventuality can intersect with the utterance time, cf. (75a) and (75b). The properties of the present tense are inherited in the PrP. As illustrated in (79), punctual time adverbials can fix the position of the event time in PrP sentences in Catalan. However, this is disallowed in English, see (80a). It appears that, in contrast to English, the Catalan present does allow for an ongoing interpretation of eventualities that hold of intervals or instances. Considering these empirical facts, I will propose a formal representation of the meaning of the PrP in Catalan in the following subsection.

### 2.5.3 *The meaning of the present perfect in Catalan*

Taking into account the meaning of the present tense outlined above, and assuming a split of the PTS and the reference time (Pancheva & von Stechow 2004; Rathert 2003; Rothstein 2008; among others), I will derive the meaning of the PrP in Catalan. I will show that the temporal relation between the PTS and the reference time can be identity or overlap. A temporal relation of overlap is also used in Cable (2013) to analyse the hodiernal prefix in Gikūyū<sup>23</sup>. The hodiernal reading is obtained via the contribution of certain locating time adverbials that specify a PTS that intersects with the reference time, but do not necessarily include the utterance time.

I assume a tense-aspect architecture similar to the one proposed in Pancheva and von Stechow, see (81) (=3), from Pancheva & von Stechow 2004):

(81) [TP Tense [PerfP Perfect [AspP Viewpoint-Aspect [vP Aktionsart ]]]]

I assume that tenses are partial identity function over times, and serve to introduce presuppositions regarding the referent of the tense itself (Partee 1973; Heim 1994; Heim & Kratzer 1998; Schlenker 1999; among others). Following Kratzer (1998), tenses

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<sup>23</sup> I will discuss the Gikūyū data and the analysis provided in Cable (2013) in chapter 3. At this point, I follow Cable (2013) in the use of the temporal relation of overlap, which can also be used to capture the hodiernal reading of the PrP in Catalan.

restrict the location of the reference time relative to the utterance time.<sup>24</sup> The Perfect Phrase (PerfP) relates the PTS and the reference time. Composed with a PerfP, the Viewpoint aspects temporally situate the event time relative to the PTS.  $\nu$ Ps denote predicates of eventualities.

In Catalan, the present tense introduces a reference time which contains the utterance time and no part of the reference time can follow it. Consider the denotation of the present tense:<sup>25</sup>

$$(82) \quad [[\text{PRESENT}]] = \lambda P_{(it)}.\lambda t_{(i)} [t_c \subseteq t \ \& \ P(t)] \ \& \ \neg \exists t' [t' \subseteq t \ \& \ t' > t_c]$$

The present tense denotes an identity function over times, which restricts  $t$  to times that contain  $t_c$ . Like in English, there is no subinterval contained in  $t$  such that it can go beyond  $t_c$ . As the reader might recall, the future time adverbials are only accepted if the event is planned or expected. However, this is not a problem for the present formalization, because what is evaluated in such sentences is the temporal location of a plan or an expectation. According to Copley (2002), the time at which a plan is asserted to hold is constrained by tense.<sup>26</sup>

As seen above for the case of English and German, the temporal relation between the the PTS and the reference time varies across languages. I have illustrated that the temporal relation of coextension, abutting or precedence between the PTS and the reference time cannot fully explain the behaviour of the PrP in Catalan. Unlike in the case of the English PrP, whose PTS directly relates to the utterance time, the PTS in Catalan does not necessarily include the utterance time, but, at the same time, it cannot completely precede the reference time as in German. After testing different type of temporal relations, I claim that the temporal relation between the PTS and the reference time in Catalan can be identity or overlap. Consider the formal denotation of the PrP in (83).<sup>27</sup>

$$(83) \quad [[\text{PERFECT AspP}]]: \lambda t \exists t_1 [t_1 \sqsubseteq t] \ \& \ \text{AspP}$$

where  $t_1 \sqsubseteq t$  iff there is no  $t'$  s.t.  $t' \subset t_1 \ \& \ t' > t$

<sup>24</sup> Embedded tenses are not directly interpreted relative to the utterance time (Pancheva and von Stechow 2004).

<sup>25</sup> For the above notations:  $t_c$  = utterance time;  $t$  = reference time.

<sup>26</sup> Apart from tense, high adverbials can also constrain the time at which a plan holds (Copley 2002).

<sup>27</sup> For the above notations:  $t_c$  = utterance time;  $t_1$  = reference time;  $t_2$  = PTS.

The perfect introduces a  $t_1$ , which is a PTS that may be equal or overlap with the reference time  $t$ . The perfect applies to an AspP, and the event time and the lexical predicate are contained within this AspP. This temporal relation holds if and only if there is no subinterval within the PTS such that it follows the reference time. The meaning of PRESENT ° PERFECT in Catalan is given in (84).

$$(84) \quad [[\text{PRESENT}_1 \circ \text{PERFECT}]] = \lambda P \lambda t [t_c \subseteq t \ \& \ P(t)] \ \& \ \neg \exists t' [t' \subseteq t \ \& \ t' > t_c]$$

$$(\lambda t \exists t_1 [t_1 \sqcap t] \ \& \ \text{AspP}) \Rightarrow$$

$$\lambda t [t_c \subseteq t \ \& \ (\lambda t \exists t_1 [t_1 \sqcap t] \ \& \ \text{AspP})(t) \ \& \ \neg \exists t' [t' \subseteq t \ \& \ t' > t_c]] \Rightarrow$$

$$\lambda t [t_c \subseteq t \ \& \ \exists t_1 [t_1 \sqcap t] \ \& \ \text{AspP} \ \& \ \neg \exists t' [t' \subseteq t \ \& \ t' > t_c]] \Rightarrow$$

$$\lambda t \exists t_1 [t_c \subseteq t \ \& \ t_1 \sqcap t \ \& \ \neg \exists t' [t' \subseteq t \ \& \ t' > t_c]] \ \& \ \text{AspP}]$$

In Catalan, the PTS can overlap with the reference time, which contains the utterance time. This temporal relation of overlap holds if and only if there is no subinterval contained in the reference time such that it follows the utterance time. Recall that the reference time is set up by the present tense of the auxiliary verb and it cannot expand beyond the utterance time, see (82). As shown above, in Catalan the present tense only admits future time adverbials with future planned eventualities.<sup>28</sup>

The temporal relation of overlap between the PTS and the reference time is made explicit by time adverbials. Consider the examples illustrated in (85).

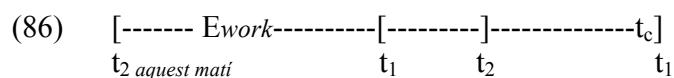
- (85) a. He           treballat.   [unrestricted PTS from some past leading up to now]  
           have.1sg   worked  
           ‘I have worked.’
- b. He           treballat aquest   matí.   [PTS restricted to the closest morning]  
           have.1sg   worked this        morning  
           ‘I worked this morning.’

The semantics of the PrP given in (85) allows us to derive the hodiernal reading as a subcase of the existential PrP, rather than as a separate semantic use. The hodiernal reading of the PrP in (85b) entails the existential PrP in (85a), and the time adverbial

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<sup>28</sup> Thanks to Olga Borik and Hamida Demirdache for relevant comments. All remaining errors are mine.

specifies the PTS, which can overlap with the reference time. The proximate demonstrative *aquest mati* ‘this morning’ in (85b) can refer to the closest morning before the utterance time. The following temporal schema illustrates the reading of the PrP in (85b):



In this subsection, I have shown that languages differ with respect to the way in which the PTS relates to the reference time. The reference time is set up by tense, i.e., in the case of the PrP, by the present tense of the auxiliary verb. I have claimed that the temporal relation between the PTS and the reference time in PrP contexts is that of overlap. The PTS may overlap with the reference time interval, but it does not necessarily contain the utterance time. As I will further show in the following sections, this temporal relation is made explicit via temporal modification. I will first consider the role of punctual time averbials in §2.5.4 and §2.5.5, and the role of proximate demonstratives in §2.5.6.

#### 2.5.4 *The role of temporal modification (i): a la/les X time ‘in the X time’*

In the following sections, I will derive the hodiernal reading without the need of positing that it is a separate reading of the PrP. Rather, I will show that it is a subcase of the existential PrP, which allows for the restriction of the PTS to a specific temporal interval that intersects the reference time via temporal modification. However, the domain of the reference time needs to be constrained to be able to explain why eventualities that take place long time before the day of the utterance time are ruled out in PrP contexts. In Catalan, the PrP and the past stand in a complementary distribution, i.e., the latter verbal form cannot be used to refer to events that take place on the day of the utterance, and this is relegated to the PrP. As was shown in §2.4.1, punctual time adverbials have a semantics similar to “the X of a Y” and, in PrP sentences, they can be interpreted indexically and refer to “the X time of the current day”. As shown above, the location of the event time on a fixed position in PrP sentences is linked with the semantics of the present tense, in particular, with the progressive meaning of the present tense.

In Catalan, the PrP as well as the periphrastic past are productive verbal forms. However, they do not compete with each other as the PrP and the past do in the case of English since they cannot be used in the same contexts. Rather, they stand in complementary distribution. The periphrastic past is restricted to pre-hodiernal contexts, i.e., eventualities that take place before today, and the reference time of the PrP can be specialised to hodiernal contexts, cf. (87a) and (87b) (=1a) and (1b), from §2.1):

- (87) a. Hem anat al mercat a les deu.  
 have.1pl gone to.the market in the ten  
 ‘We went to the market at ten.’  
 b. \*Vam anar al mercat avui a les deu.  
 aux.1pl go to.the market today in the ten

The PrP sentence in (87a) illustrates an existential reading of the PrP, which is specialised to hodiernal contexts. As shown in (87b), the periphrastic past is ruled out when the temporal distance between the event time and the utterance time exceeds the limits of the day of speaking.

As I pointed out in §2.4.1, the denotation of the punctual time adverbial *a les deu* ‘in the ten’ in (87a) follows the schema ‘the X of a Y’, i.e., ‘the ten of a day’. In fact, we can find examples which lexically specify the time unit in which the event is located as in (88) (=41), from §2.4.1).

- (88) Ha marxat a les deu d’ avui.  
 have.3sg left in the ten of today  
 ‘He left today at ten.’

I follow Hitzeman’s (1997a) suggestion that this type of determiner phrases have the semantics similar to ‘the X of a Y’ in sentences such as (89) (from Hitzeman 1997a:98).

- (89) John lived in Boston during the summer.

She uses this schema to account for the readings available in (89). According to Hitzeman (1997a), the expression of *the summer* allows both position definite and non-position definite readings, i.e., it can make reference to some unspecified summer to the



summer of the current year. She notes that the definite determiner also conveys a construction such as “the X of a Y” in other contexts as in (90) (data from Poesio 1994; cited in Hitzeman 1997a:98).

(90) I got these data from the student of a linguist.

The schema “the X of a Y” in (90) also allows two different readings, i.e., it can make reference to a particular student, or to some unknown student.

Considering the semantics of punctual time adverbials outlined above, and the fact that the PrP and the periphrastic past are in complementary distribution, let us consider the formal representation given in (91), which corresponds to the interpretation of sentence (87a).

(91)  $[_{TP} [_{PRESENT_1} PERFECT] [_{PerfP} avui [_{AspP} PERFECTIVE [_{vP} nosaltres$   
 $anar\ al\ mercat\ a\ les\ deu] = \lambda t \exists t_1 [t_c \subseteq t \ \& \ t_1 \sqcap t \ \& \ t_1 \subseteq avui \ \& \ \exists e [ \tau(e) \subset t_1$   
 $\ \& \ anar(nosaltres,al\ mercat,e) \ \& \ a\ les\ deu(e)]]]$

As (91) shows, the event time is contained within the PTS (i.e.,  $t_1$ ), which intersects the reference time (i.e.,  $t$ ). The PrP in (87a) stands in a complementary distribution with the periphrastic past, and the PTS encoded by the PrP is restricted to the day of the utterance, whose specification can be lexically obtained via the locating time adverbial *avui* ‘today’. The position of the event time is fixed on the timeline, i.e., on the closest ten o’clock before the utterance time.

Summarizing, I have empirically motivated the claim that the temporal location of an eventuality in PrP sentences modified by punctual time adverbials requires (i) the intersection of the PTS with the reference time, and (ii) the semantics of expressions such as “the X of a Y”. As shown in (87), the PrP stands in complementary distribution with the periphrastic past, and the suggestion that punctual time adverbials follow the temporal schema “the time of a day” allows us to interpret a PrP sentence indexically, i.e., it asserts an interval that fixes the event on the day of the utterance time. In fact, this temporal configuration can be lexically specified as in (88). In the following subsection, I will derive the reading of PrP modified by *fa* ‘makes’ XP adverbials.

### 2.5.5 *The role of temporal modification (ii): fa X time ‘makes X time’*

Like punctual time adverbials illustrated above, locating time adverbials headed by the finite impersonal verb *fa X time* ‘makes X time’ can also locate the eventuality within the day surrounding the utterance time in PrP sentences. In this section, I will mainly focus on how the relation between this temporal locating adverbial and the PrP is established. I will show that *fa X time* ‘makes X time’ projects a temporal interval that is anchored to the utterance time and calculates retrospectively the location of the event time.

As I pointed out in §2.4.2, the periphrastic past and the PrP stand in complementary distribution and the latter cannot be used when the location of the eventuality surrounds the limits of the present day, cf. (92a) and (92b).

- (92) a. Ha        vingut (ara) fa        dues hores.  
         have.3sg come now make.3sg two hours  
         ‘He came two hours ago.’
- b. \*Va        venir     (ara) fa dues hores.  
         aux.3sg come now makes two hours  
         ‘He came two hours ago.’

The event time of *arriving* in (92a) is located by a two-hour long interval. When the placement of the described event does not surpass the limits of the day of speaking, the periphrastic past is ruled out, see (92b).

According to Rigau (2000, 2001a), the finite verbal form *fa* ‘makes’ expresses a relation of contiguity between a spatiotemporal element (e.g., *hi* ‘locative clitic’, *ara* ‘now’ in the examples below) and an entity (e.g., *fred* ‘cold’, *deu anys* ‘ten years’). Consider example (93) (from Rigau 2000:9).

- (93) a. Hi     fa        fred.  
         cl. make.3sg cold  
         ‘It is cold.’
- b. Ara fa        deu anys.  
         now make.3sg ten years  
         ‘It has been ten years now.’

The locative clitic is used in languages such as French or Occitan to express spatial and temporal location as shown in (94) (from Rigau 2001a:314).

- (94) Il y a deux jours (de cela).  
 expl. cl. have.3sg two days from this  
 ‘It was two days ago.’

(French)

The finite verb *a* ‘have’ expresses a relation between the spatiotemporal element *y* and a temporal entity (i.e., two days). Rigau (2000, 2001a) postulates that in other Romance temporal constructions, this spatiotemporal element is a phonologically empty pronoun (i.e., a covert clitic <Y>). This is the case in languages such as Catalan. As shown in (93), this clitic is used to express spatial location, but it is a covert element in temporal constructions.

According to Rigau (2000, 2001a), this clitic can be doubled. She provides empirical evidence from the spatial domain. In the locative sentence in (95) (from Rigau 2000:7), the locative subject clitic *hi* is doubled by the location of the prepositional phrase *a la nevera* ‘in the fridge’.

- (95) Hi ha vi fresc a la nevera.  
 cl. have.3sg wine cool in the fridge  
 ‘There is some cool wine in the fridge.’

As for the covert spatiotemporal pronoun, Rigau (2001) shows that it can be doubled by elements expressing temporal reference (e.g., *ara* ‘now’) in (96a) or by calendar expressions (e.g., *el 7 de setembre* ‘the 7 of September’) as in (96b).

- (96) a. Ara fa quatre anys.  
 now make.3sg four years  
 ‘It has been four years now.’

[[ara <Y>] [fa [deu anys]]]

- b. El 7 de setembre va fer quatre anys.  
 the 7 of September aux.3sg make four years.  
 ‘On the 7th September it was four days.’

[[el 7 de setembre <Y>] [va fer [quatre anys]]]

The locating time adverbial headed by *fa X time* ‘makes X time’ is analysed as phrases with a prepositional status (Rigau 2000, 2001a). She assumes that there is a covert central coincidence preposition<sup>29</sup> in sentences such as (96a). Her analysis is sketched in the following syntactic structure (from Rigau 2001a:318):

(97) [PP [P e] [[DP/PP ara [DP <Y>]] [fa [quatre anys]]]]

Temporal locating phrases such as *ara fa quatre anys* ‘now makes ten years’ are PPs that have a covert central coincidence preposition, which is the head of the temporal phrase. The verb *fa* ‘makes’ relates the spatiotemporal pronoun <Y>, which is specified by the time adverbial *avui*, with a measure phrase, i.e., a four-year long period.

For my present purposes, what really matters is how the relation between the locating time adverbial and the PrP is established to determine which is the anchoring that restricts the reference time of a sentence modified by a locating time adverbial headed by *fa* ‘makes’. I have shown that the anchor is set up by the tense of the impersonal verb, and it can also be mediated by inherent deictic locative adverbials (e.g., *ara* ‘now’) or calendaric expressions (e.g., *el 7 de setembre* ‘the 7 of September’). In PrP sentences, the measure phrase is anchored by the present tense of the verb *fa* ‘makes’ and only admits referential expressions that refer to the present moment *now* (e.g., *ara* ‘now’), as in (92a), where the locating time adverbial (*ara*) *fa dues hores* measures a two-hour long interval with respect to the utterance time.

In this subsection, I have shown that the locating temporal phrase *fa X time* ‘makes X time’ is a locating time adverbial that is anchored to the utterance time and calculates retrospectively a point. Following Rigau (2000, 2001a), I have shown that *fa* ‘makes’ expresses a relation between a spatiotemporal element (i.e., <y>) and a temporal entity (i.e. X time). This spatiotemporal entity can be specified by deictic

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<sup>29</sup> Haley & Keyser (1997) define a preposition of central coincidence as a preposition that expresses a relation whereby some entity (i.e., figure) is associated or in contact with another entity (i.e., ground).

complements such as *ara* ‘now’. Before concluding, I will consider the role of proximate demonstratives.

### 2.5.6 *The role of temporal modification (iii): proximate demonstrative + calendar noun*

In this section, I will focus on temporal expressions headed by proximate demonstrative phrases in Catalan and their compatibility with the PrP. As Curell (2003) posits, the proximity conveyed by the proximate demonstrative suffices for the requirement of the PrP. As shown above, the PrP in Catalan can specify a PTS that overlaps with the reference time, see (84). This temporal relation between the PTS and the reference time can be used to derive the existential interpretation of PrP sentences modified by proximate demonstratives, which assert a time interval that do not necessarily include the utterance time.

As was pointed out in §2.4.3, proximate demonstratives in Catalan require the use of the PrP, cf. (98a) and (98b) (=54), from §2.4.3).

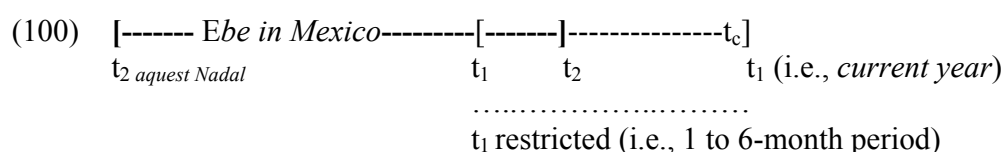
- (98) a. He           treballat    aquest   matí.  
           have.1sg   worked    this     morning  
           ‘I {have worked/worked} this morning.’
- b. \* Vaig        treballar   aquest   matí.  
           aux.1sg   work       this     morning

Interestingly, there are other PrP sentences modified by proximate demonstratives that can surpass the limits of the day of speaking, see (99) (=58), §2.4.3).

- (99) a. Aquest Nadal    he           estat a Mèxic.  
           this     Christmas   have.1sg   been to Mexico  
           ‘This Christmas I was in Mexico.’
- b. Aquest mes   d’agost   que acabem de passar hem   anat   de vacances.  
           this     month of August that finish.2pl of pass   have.2pl gone of holiday  
           ‘This month of August that we have just passed we went on holiday.’

- c. Aquest cap de setmana hem anat al museu Dalí.  
 this head of week have.2pl gone to.the museum Dalí  
 ‘We went to the Dalí museum this weekend.’

Sentences in (99) can be uttered at the beginning of the following year, month or week. As in (98a), the utterance time may not be included in the denotation of the locating time adverbial, i.e., it may be the closest *Nadal* ‘Christmas’, *mes d’agost* ‘month of August’ or *cap de setmana* ‘weekend’ before the utterance time. The temporal distance between the utterance time and the event time is also pragmatically constrained and varies among speakers, but it is usually half of the week for intervals that refer to days of the week (i.e., *cap de setmana* ‘weekend’), between one-month up to a 3 or 6-month period for intervals that refer to months or different periods of the year (i.e., *aquest mes d’agost* ‘this month of august’, *aquest Nadal* ‘this Christmas’). The following schema illustrates the temporal composition of (99a).



In (100), the reference time refers to the current year. The PTS specified by the locating time adverbial headed by the proximate demonstrative overlaps the reference time, and the temporal distance between the utterance time and the PTS cannot exceed more than half of a year.

In this section, I have shown that the temporal relation of overlap between the PTS and the reference time can also be used to derive the existential reading of a PrP sentence modified by a proximate demonstrative, which can make reference to the closest part of the day, day of the week or month or period of the year before the utterance time as in (99).

## 2.6 Summary of chapter 2

In conclusion, I would like to briefly summarize the important points that have been made in chapter 2. I have re-examined the hodiernal PrP in Catalan, which has been traditionally defined as a reading that places completed situations on the same day as

the utterance. The literature has generally assumed that the PrP in Catalan is ambiguous between a hodiernal past (i.e., E,R\_S) and perfect (i.e., E\_R,S) interpretation (Curell 1990, 2002, 2003; Curell & Coll 2007; Pérez Saldanya 2002), but the former temporal schema cannot explain the impossibility of modifying PrP sentences by past time adverbials, see (7a). Moreover, the relation E\_R does not always hold in the PrP: there are eventualities which are included within the denotation of the time adverbial and not all kinds of predicates reach an endpoint before the utterance time, see (8). The nature of the event termination is not linked to tense, but to the aspectual function of the predicate (Iatridou *et al.* 2001; Janssen & Borik 2008; among others): eventive predicates reach an endpoint, whereas stative predicates lack such inherent termination and we can only pragmatically imply that the situation does not hold at the utterance time.

This chapter also provides empirical support against the external 24-hour Rule (Giorgi & Pianesi 1997; Brugger 2001; among others) in absence, see (19) and (20), as well as in presence of time adverbials, see (58), and shows that this constraint is mainly dependent on the presence of explicit temporal modification. Crucially, I claim that PrP sentences may be interpreted as hodiernal when they appear with time adverbials that assert a time interval that surrounds the day of the utterance and has a fixed position on the time axis.

I have adopted a PTS theory (Dowty 1979; McCoard 1978; Iatridou *et al.*'s 2001) and assumed a split between the PTS and the reference time (Pancheva & von Stechow 2004; Rathert 2004) to account for the hodiernal reading of the Catalan PrP. I have applied the typological relation of overlapping between the PTS and the reference time to show that the perfect time interval in Catalan requires a delimited temporal interval that can overlap with the reference time, see (84). I have claimed that such a temporal relation is connected to the progressive meaning of the present tense in Catalan, i.e., the event time can intersect with the utterance time. This semantics of the present tense is inherited in the PrP, where the PTS intersects with the reference time. This temporal relation of overlap is made explicit via the presence of time adverbials which restrict the location of the event time on a fixed position that does not necessarily include the utterance time, i.e., punctual time adverbials, see (21b) and (21c), or time adverbials headed by a demonstrative, see (21d).

The temporal relation of overlap between the PTS and the reference time allows us to derive the hodiernal reading of the PrP not as a separate reading of the PrP, but

rather as a subcase of the existential. In Catalan, punctual time adverbials such as *a les tres* follow the schema “the X of a Y” and allow for an indexical interpretation. In combination with the PrP, the punctual time adverbial can fix an eventuality on the timeline, i.e., *a les tres d’avui* ‘in the three of today’. As for the temporal adverbial *fa X time* ‘makes X time’, it locates the event time by measuring the temporal distance with respect to the utterance time. The location of the event modified by punctual time adverbials cannot go beyond the limits of the day of speaking, because the PrP stands in a complimentary distribution with the periphrastic past form, and the latter verbal form is non-deictic and is used to describe events located before the day that contains the utterance time. I have also shown that the temporal relation of overlap between the PTS and the reference time allows us to derive the existential readings of PrP sentences modified by proximate demonstratives that appear with the PrP and refer to different days of the week or months or calendar periods of the years.





As witnessed in (1) and (2), Gĩkũyũ has morphemes that encode different type of temporal remoteness. The hodiernal<sup>3</sup> marker *kũ* asserts an interval that specifies the current day of speaking.<sup>4</sup> The same marker is used in the past and in the future sphere, see (1a) and (2a). The near marker *ra* specifies that the location of the eventuality is one day away from the deictic centre. As for the near prefix *rĩ*, Barlow (1951:131) defines it as an indefinite near future that ‘may be applied either to the day of speaking or beyond it’. The remote marker *ā* asserts that the temporal distance from the deictic center is more than one day away in the past domain and the remote future prefix *ka* is used to locate eventualities that take place some time after the day of speaking.

In this chapter, I will provide an informal description of the hodiernal meaning in Gĩkũyũ. In particular, I will focus on perfect contexts and show that are relevant similarities with the hodiernal reading of the PrP in Catalan, cf. (3a) and (3b) (=1a), from §2.1).

- |     |   |  |
|-----|---|--|
| (3) | a. Mwangi nĩekũinĩte.<br>‘Mwangi has danced (within the day).’      | [Hodiernal perfect, Gĩkũyũ]                |
|     | b. Hem anat al mercat a les deu.<br>‘We went to the market at ten.’ | [Hodiernal reading of the PrP,<br>Catalan] |

In example (3a), the morpheme *kũ* in Gĩkũyũ asserts an interval that is anchored to the utterance time and refers to the same day as the utterance time. This marker locates the eventuality of *dancing* within the boundaries of ‘today’. A similar interpretation is achieved in (3b), i.e., the described eventuality of *going to the market* may occur today at ten. However, languages such as Catalan lack a formal category that encodes the expression of hodiernality such as in Gĩkũyũ. Rather, PrP sentences strictly rely on a temporal expression (i.e., *a les deu* ‘in the ten’) to convey a hodiernal reading.

In the present study, I follow Cable (2013) in the definition of a hodiernal formal marker in Gĩkũyũ as an instance of a Temporal Remoteness Morpheme (TRM), instead of a tense. In particular, I will provide an informal description of the hodiernal TRM in the temporal-aspectual system of Gĩkũyũ. According to Cable (2013), TRMs in Gĩkũyũ

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<sup>3</sup> The literature has also referred to this distinction as ‘immediate’ (Barlow 1951; Gecaga & Kirkaly-Willis 1955; Johnson 1977, 1981) or ‘current’ (Johnson 1980; Mugane 1997; Cable 2013). I adopt Dahl’s (1985) term, which is also used in Nurse (2003, 2008) and Botne (2012), for unification purposes.

<sup>4</sup> The marker *gũ* is the voiced form of *kũ*.

are in the middle ground between tenses and temporal frame adverbials (i.e., *today*, *yesterday*, *tomorrow*, etc.). In a way akin to tenses, which denote partial identity functions over times, Cable shows that TRMs also denote partial identity functions but on events, rather than times. The denotation of the partial identity function serves to introduce a presupposition concerning the location of the event time. I will test the hypothesis put forward in Cable (2013) that TRMs are modifiers of the event time and give an alternative explanation that shows that the hodiernal TRM can also be analysed as the lexical specification of an extended now marker.

The chapter is organized as follows. In §3.2, I provide an informal description of the hodiernal morpheme in the temporal-aspectual system in Gĩkũyũ. In §3.3, I introduce Cable's (2013) semantic analysis of temporal remoteness morphemes in Gĩkũyũ. I then focus on perfect contexts in §3.4 and test the hypothesis put forward in Cable (2013) that temporal remoteness morphemes are event time modifiers. In §3.5, I investigate the role of temporal modification. I discuss a possible alternative analysis of TRMs in §3.6. The last section §3.7 summarises the main results.

### **3.2 The hodiernal temporal remoteness distinction**

As has been introduced above, TRMs in Gĩkũyũ express a three-way contrast between hodiernal, near, and remote forms. In this section, I focus on the hodiernal TRM *kũ*, which locates the eventuality within the day surrounding the utterance time. I have already shown that the same morphological form *kũ* is used in the past and in the future, see (1a) and (2a). As Hewson & Nurse (2005) and Cable (2013) put it, this is a clear evidence that *kũ* is not a proper tense marker. I will first provide an informal description of the past contexts in which the hodiernal TRM is used, see §3.2.1, and then describe the future contexts that can make use of such a TRM, see §3.2.2.

#### *3.2.1 Past time sphere*

In the past time sphere, the hodiernal TRM appears in combination with an imperfective past, a perfective past and a perfect. It is important to notice that the marker *kũ* is not explicit in past perfective verbal forms. In this subsection, I will discuss an analysis of the past perfective form that has been proposed in the literature on the Gĩkũyũ tense and aspect system (see Johnson 1977, 1980, 1981; Mugane 1997; Cable 2013). It has been

defined as a ‘zero tense’ perfective verbal form (Johnson 1977, 1980, 1981), and analysed as a verbal form with a null prefix (Cable 2013).

Verbs in Gĩkũyũ have a very complex morphology, which has an agglutinative structure involving both prefixes and suffixes. According to the morphological decomposition provided in Cable (2013), a verb form contains an assertive prefix (i.e., *nĩ*) if a sentence is an assertion, a subject agreement prefix (i.e., S), a TRM, a verbal root, and an aspectual suffix.<sup>5</sup>

(4) *nĩ* + S + TRM + verbal root + temporal-aspectual suffix

In the domain of the past time sphere, we can find examples of a hodiernal past imperfective (IMP), see (5a), a hodiernal past perfective (PRV), see (5b), and a hodiernal perfect (PERF), see (5c) (from Cable 2013:223-227):<sup>6</sup>

- (5) a. Mwangi *nĩekũinaga*. [Hodiernal past imperfective]  
 Mwangi *nĩ-a-kũ-in-aga*  
 Mwangi ASRT-3sgS-HOD-dance-PST.IMP  
 ‘Mwangi was dancing (within the day).’
- b. Mwangi *nĩainire*. [Hodiernal past perfective]  
 Mwangi *nĩ-a-∅-in-ire*  
 Mwangi ASRT-3sgS-HOD-dance-PST.PRV  
 ‘Mwangi danced (within the day).’
- c. Mwangi *nĩekũinĩte*. [Hodiernal perfect]  
 Mwangi *nĩ-a-kũ-in-ĩte*  
 Mwangi ASRT-3sgS-HOD-dance-PERF  
 ‘Mwangi has/had danced (within the day).’

Note that the hodiernal TRM does not appear in past perfective contexts as shown in (5b). Mugane (1997) and Cable (2013) assume that the hodiernal TRM in perfective contexts is realised as a null prefix. In previous proposals, Johnson (1977, 1980, 1981) analyses the Gĩkũyũ verb paradigm and claims that the hodiernal perfective verb form does not exist as such, rather the hodiernal perfective is denoted by a so-called ‘zero

<sup>5</sup> The temporal-aspectual suffix can be further decomposed into the proper aspect morpheme and the final vowel (see Johnson 1977, 1980, 1981), i.e., *ag-a* ‘imperfective-final vowel’. In this study, I simplify the morphological decomposition and make use of the term ‘final vowel’ only when strictly necessary.

<sup>6</sup> Cable (2013) analyses the suffix *-aga* as a ‘past imperfective’ marker, but Johnson (1977, 1980, 1981) refers to it as an ‘imperfective’ aspect suffix. Cable (2013) analyses *-ire* as a ‘past perfective’ marker, but Johnson (1977, 1980, 1981) refers to it as a ‘perfective’ aspectual suffix.

tense’ form. According to Johnson (1977, 1980, 1981), ‘zero tense’ verbal forms are also found with the imperfective and perfect suffixes. Consider the examples in (6) (from Johnson 1977:27, 1980:273, 1981:162).

- |     |  |                           |
|-----|--|---------------------------|
| (6) | a. a-hanyũk-aga<br>3sgS-run-IMP<br>‘He runs.’                        | [Zero tense imperfective] |
|     | b. a-hanyũk-ire<br>3sgS-run-PRV<br>‘He ran (earlier today).’         | [Zero tense perfective]   |
|     | c. a-hanyũk-ĩte<br>3sgS-run-PERF<br>‘He has run (some time before).’ | [Zero tense perfect]      |

Examples given in (6) lack a specific TRM and the suffix encodes a proper aspectual interpretation, i.e., imperfective, perfective, perfect. Example (6a) has a habitual or generic reading, i.e., it is appropriate in a context in which the subject is a runner.<sup>7</sup> As for (6b), it is interpreted as in (5b), i.e., the described eventuality takes place at some time earlier today. In (6c), the lack of the TRM in the perfect sentence denotes that the eventuality has taken place at some unspecified time in the past.<sup>8</sup> Even though there is not specific TRM in examples shown above, the temporal interval encoded in (6b) has a hodiernal interpretation. However, it remains unclear whether we need to assume that the past perfective has a null hodiernal prefix (see Cable 2013) or it is rather a ‘zero tense’ verb form (see Johnson 1977, 1980, 1981) that is specialized for hodiernal perfective contexts.

There is also a verb form which Cable (2013) defines as an immediate past perfective (IMM.PST.PRV).<sup>9</sup> This verb form describes situations that have ‘just’ occurred, like the perfect of recent past in languages such as English. Consider the following example (from Cable 2013:228).

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<sup>7</sup> Cable (2013:225) analyses the suffix *-aga* in (6a) as a ‘generic-habitual’ suffix, which is an homophone to the ‘past imperfective’ suffix in (5a).

<sup>8</sup> Johnson (1980, 1981) defines (6a) and (6c) as a ‘long imperfective’ and ‘long perfect’, respectively. The situation described in both sentences occurs at some unspecified time relative to the utterance time.

<sup>9</sup> In Johnson (1980, 1981), the immediate past perfective corresponds to the ‘short perfect’ form. The described event time takes place some short time before the moment of speaking.

- (7) Mwangi nĩāina. [Immediate past perfective]  
 Mwangi nĩ-a-a-in-a  
 Mwangi ASRT-3sgS-IMM.PST.PRV-dance-FV  
 ‘Mwangi (just) danced.’

As I pointed out in footnote 3, the temporal-aspectual suffix can be further decomposed into a proper suffix that encodes temporal-aspectual features and a final vowel. In (7), there is no specific temporal-aspectual suffix, *-a* is just a Final Vowel (FV) (Johnson 1977, 1980, 1981; Cable 2013). The long vowel *ā* in (7) is homophonous to the remote prefix available in past contexts, see (1c), but they are analysed as distinct types of TRMs in Cable (2013), i.e., in (7), the TRM encodes an immediate past (Johnson 1977, 1980, 1981; Cable 2013). Cable also analyses a present imperfective<sup>10</sup> (PRS.IMP). Consider example (8a).<sup>11</sup>

- (8) Mwangi nĩaraina. [Present imperfective]  
 Mwangi nĩ-a-ra-in-a  
 Mwangi ASRT-3sgS-PRS.IMP-dance-FV  
 ‘Mwangi is dancing.’

According to Cable (2013), the present imperfective is encoded by the TRM *ra*, which is homophonous to the near TRM used to derive the near past perfective, near past imperfective and near perfect verbal forms, see (9) (from Cable 2013:223-).

- (9) a. Mwangi nĩarainire. [Near past perfective]  
 Mwangi nĩ-a-ra- in-ire  
 Mwangi ASRT-3sgS-NRP-dance-PST.PRV  
 ‘Mwangi danced (before today, but recently).’
- b. Mwangi nĩarainaga. [Near past imperfective]  
 Mwangi nĩ-a-ra- in-aga  
 Mwangi ASRT-3sgS-NRP-dance-PST.IMP  
 ‘Mwangi was dancing (before today, but recently).’
- c. Mwangi nĩarainĩte [Near perfect]  
 Mwangi nĩ-a-ra- in-ĩte  
 Mwangi ASRT-3sgS-NRP- dance-PERF  
 ‘Mwangi has danced (before today, but recently).’

<sup>10</sup> The present progressive meaning of the present is called ‘present imperfective’ in Cable (2013).

<sup>11</sup> In Johnson (1977, 1980, 1981), sentence (8) corresponds to the ‘short imperfective’ verbal form, which describes an event time that occurs at some short time with respect to the utterance time. In fact, it is in progress at the utterance time.

Cable (2013:231) follows Johnson (1977, 1980, 1981) and assumes that the marker *ra* in (8) is a distinct marker from the near TRM. Cable assumes that the prefix *ra* in contexts such as (8) does not denote temporal remoteness as others TRMs. Rather, it encodes tense and aspect, i.e., the temporal feature [present] and the aspectual feature [imperfective].

### 3.2.2 *Future time sphere*

In the future time sphere, the inflectional paradigm of Gikūyū does not exhibit any aspect distinctions at all (Johnson 1977, 1980, 1981). In this subsection, I will review the uses of the hodiernal TRM in future contexts. I will show that the interpretation of the hodiernal TRM in future contexts is not restricted to the same day of speaking, because there are contexts that make use of such a TRM and refer to scheduled or planned events that do not necessarily take place on the same day as the utterance time.

In the future time sphere, a hodiernal meaning<sup>12</sup> is encoded by the TRM *kū*, see (10) (from Cable 2013:228):

- (10) Mwangi nīekūina. [Hodiernal future]  
 Mwangi nī-a-kū-∅-in-a  
 Mwangi ASRT-3sgS-HOD-FUT-dance-FV  
 ‘Mwangi will dance (within the day).’

Mugane (1997) claims that this TRM can encode a hodiernal past as in (5b) as well as a hodiernal future as in (10). However, Cable (2013) does not assume that TRM are proper tense markers and he claims that neither the past meaning of (5b) or the future meaning of (10) can be contributed by the TRM prefix alone. In (5b), it is asserted by the past imperfective temporal-aspectual suffix (i.e., *ire*), and, in (10), Cable (2013) assumes that there is a null prefix that encodes the feature ‘future’.

Interestingly, the hodiernal future also has another reading which makes reference to planned or scheduled events that do not necessarily take place on the same day of speaking (from Cable 2013:229). Consider sentence (11).

<sup>12</sup> In Johnson (1977), it is also called ‘Extended Present’.

- (11) Mwangi n̄iekũthoma. [Hodiernal future for plans]  
 Mwangi n̄i-a-kũ-Ø-thom-a  
 Mwangi ASRT-3sgS-HOD-FUT-go.to.school-FV  
 ‘Mwangi will go to school. / Mwangi is going to school.’

According to Cable (2013), example (11) is reported to be felicitous in a context where a church congregation has saved enough money to send Mwangi to school, even if his schooling does not take place on the day of the utterance. The English translation will be equivalent to a present continuous, i.e., *Mwangi is going to school*, which corresponds to a planned event. Cable (2013) assumes that the hodiernal TRM in sentences such as (10) and (11) are ambiguous between a hodiernal future interpretation and a planned event.

It is worth noting that Barlow (1951:43) points out that examples such as (10) can also be used to express an action in progress,<sup>13</sup> even though nowadays the use of the prefix *ra* is more prevalent in these contexts (Barlow 1951:130). Cable (2013) mentions that Barlow’s research was conducted between 1914 and 1934 and it seems that the TRM *ku* was used for present progressive as well as hodiernal future contexts up to the middle of the twentieth century. According to Cable (2013), it seems that the status of the present progressive use is retained in the futurate reading available in (10) and (11), because these readings have a meaning akin to the future reading of the progressive form in English (Cable 2013).

### 3.2.3. Summary of section 3.2

The Gĩkũyũ verb system has a very complex inflectional paradigm, and, in this chapter, I specifically focus on the nature of the hodiernal TRM in perfect contexts. In this first introductory section, the aim has not been to illustrate all the categories of the tense-aspect-mood system of Gĩkũyũ, but to provide an informal description of the main contexts in which the use of the hodiernal TRM *kũ* is available following the work of Johnson (1977, 1980, 1981) and Cable (2013). The following table summarises the main results so far:

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<sup>13</sup> Bastin (1969) shows that, across Bantu languages, the verbal constructions with *kũ* mostly refer to the present progressive.

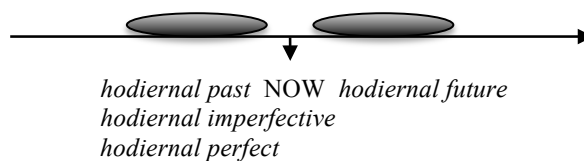


(12) The hodiernal verbal paradigm

Final vowel	Perfective	Imperfective	Perfect
	<i>nīainire</i> 'he danced (within the day)'	<i>nīainaga</i> 'he habitually dances'	<i>nīainīte</i> 'he has danced (some time before)'
<i>nīekūina</i> 'he will dance (within the day; or soon)	----	<i>nīekūinaga</i> 'he was dancing (within the day)'	<i>nīekūinīte</i> 'he has danced (within the day)'

The hodiernal TRM is used to mark imperfective, perfective and perfect situations, see (5a-c), as well as eventualities that take place within the same day or soon in the future, see (10) and (11). Taking into account the data illustrated so far, the temporal schema of the hodiernal TRM corresponds to the following diagram, see (13).

(13) Hodiernal time unit



### 3.3 The presuppositional semantics of temporal remoteness morphemes

Cable (2013) claims that TRMs share properties of tenses and time adverbials. In a similar way like tenses, which denote partial identity functions over times, Cable (2013) shows that TRMs also denote partial identity functions but on events, rather than times. The partial identity function serves to introduce presuppositions concerning the location of the event time. In this section, I will outline the main empirical evidence provided in Cable (2013) that comes from contexts in which the speaker is (partially) ignorant about the exact location of the event time.

Cable (2013) follows the semantics literature on tense that assumes that tenses are analysed as pronouns which refer to times (Partee 1973, 1984; Heim 1994; Abusch 1997; Kratzer 1998; Schlenker 2004; among others). Consider the denotation of the present tense, for instance.

- (14) a.  $[[T_i]]^{g,t} = g(i)$   
 b.  $[[\text{present}]]^{g,t} = [\lambda t' : t \subseteq t' . t']$

(14a) shows that Tense bears, like any pronoun, and index  $i$ . The interpretation of the index is dependent on an assignment function  $g$  and an evaluation time  $t$ , which corresponds to the utterance time. The assignment function  $g$  maps the index  $i$  of Tense to a time contained in  $t$ . The interpretation of the present tense in (14b) denotes an identity function over times, the one whose domain is restricted to those times  $t'$  that contain the evaluation time  $t$ . In other words, the present tense restricts the reference times  $t'$  to times that contain the utterance time  $t$ . Following Kratzer (1998), Cable (2013) assumes that tenses restrict the location of the reference time.

Cable (2013) proposes that, similarly to tenses, TRMs introduce partial identity functions. However, they differ from ‘true’ tenses in that they do not denote the reference time, rather they denote partial identity functions over events, and, hence, serve to restrict the location of the event time. I illustrate the semantics given to the hodiernal, recent and remote TRM in (15a-c), respectively (from Cable 2013:253).

- (15) a.  $[[\text{HODIERNAL}]]^{g,t} = [\lambda e : T(e) \cap \text{day surrounding } t . e]$   
 b.  $[[\text{NRP}]]^{g,t} = [\lambda e : T(e) \cap \text{REC}(t) . e]$   
 c.  $[[\text{REM}]]^{g,t} = [\lambda e : e]$

(15a) shows that the hodiernal TRM denotes an identity function on events, one whose domain is restricted to those events whose time  $T(e)$  overlaps the day surrounding the evaluation time  $t$ , i.e., the utterance time. The semantics given in (15a) also applies to the hodiernal TRM in future contexts. However, it cannot account for future planned or scheduled events that may take place on some day different from the day of speaking, cf. (9) and (10). As I have said above, Cable (2013) argues that the hodiernal TRM in sentences such as (9) and (10) are ambiguous between a hodiernal future interpretation and a planned event. The near past in (15b) denotes an identity function on events, one whose domain is restricted to those events whose time  $T(e)$  overlaps an interval containing the day surrounding  $t$  and extending to times preceding that day. (15c) shows that the remote TRM denotes an ‘unrestricted identity function on events’ (Cable 2013:254).





In the scenario sketched above, the speaker knows the exact time in which the eventuality took place, and, hence, he must use the strongest TRM consistent with this knowledge, i.e., the speaker bought the TV yesterday and he must use the recent past TRM.

In contrast to TRMs, the use of the most informative temporal adverbial does not need to be consistent with the speaker's knowledge. They are only consistent with the TRM used in the verb. Consider example (19) (from Cable 2013:251).

- (19) Situation: Mwangi was planning a trip to New York for a long time. He was supposed to leave yesterday evening, but found out at the last minute that his flight was cancelled. He's now stuck at home.

Mwangi nĩarendaga  
Mwangi nĩ-a-ra-end-aga  
Mwangi ASRT-3sgS-NRP-want-PST.IMPF

gũthie New York (ira) / (ira hwainĩ).  
kũ-thi-a New York (ira) / (ira hwainĩ)  
INF-go-FV New York yesterday / yesterday evening  
'Mwangi wanted to go to New York (yesterday / yesterday evening)...' (but his flight was cancelled).

The sentence illustrated above is felicitous either with the explicit time adverbial or without. The speaker can be maximally informative by stating that the eventuality had to take place on *yesterday evening*, or less informative by specifying that the eventuality took place just *yesterday* or by leaving no temporal adverbial.

Cable (2013:259) assumes the principle of Maximize Presupposition (see Heim 1991) to derive the use of TRMs in the contexts illustrated above. Consider (18), in which the speaker buys a TV on the day previous to the day of the utterance. First, (18a) and (18b) have almost identical Logical Forms (i.e., LF<sub>1</sub> and LF<sub>2</sub>). These LFs differ only with respect to a specific lexical item, i.e., LF<sub>1</sub> contains [[ $\alpha$ ]] and LF<sub>2</sub> contains [[ $\beta$ ]]. In particular, (18a) contains a recent past TRM and (18b) has a remote past TRM. Second, the domain of the lexical item [[ $\alpha$ ]] is a strict subset of [[ $\beta$ ]], i.e., the domain of the recent past TRM, see (15b), is a subset of the domain of the remote past TRM as shown in (15c). Third, in the context outlined in (18), the speaker's knowledge entails the truth conditions of both (18a) and (18b), and both sentences would be licit. The principle of Maximize Presupposition requires the speaker to use LF<sub>1</sub> to make an

assertion, because it makes use of the strongest TRM consistent with the speaker's knowledge.

Let us turn now to the context provided in (17). In such a context, the speaker is ignorant about the exact location of the eventuality, and, hence, the speaker's knowledge cannot entail the truth conditions of (17b) and (17c). His knowledge cannot entail that the eventuality happened in the recent past or today. In this context, an assertion of (17b) and (17c) would not be licit. According to Cable (2013), in such a context, the principle of Maximize Presupposition will not require the use of the recent past TRM or the hodiernal TRM.

As for context (19), Cable (2013) shows that, in contrast to TRMs, time adverbials are not subject to the principle of Maximize Presupposition (Cable 2013:261), because the domain of time adverbials illustrated in (19) is the same, i.e., *yesterday evening* and *yesterday* are predicates of intervals  $\langle i, t \rangle$ . If their domains were different, the Maximize Presupposition would apply. In (19), the speaker can only choose to be maximally informative stating that the eventuality takes place *yesterday evening* or less informative using *yesterday* or leaving no temporal modifier.

In sum, I have explained on the presuppositional semantics of TRMs, which share semantic properties with tenses. However, unlike tenses, they do not denote the reference time, rather they denote partial identity functions over events, see (15). In the following section, I look at the uses of TRMs in the context of perfect sentences which Cable (2013) takes to show that TRMs are event time modifiers.

### **3.4 Temporal remoteness morphemes and event time in perfect contexts**

The reference time and the event time in future and perfect verbal forms do not coincide and Cable (2013) makes use of these verbal forms to provide empirical support to his hypothesis that TRMs are modifiers of the event time rather than the reference time. In this section, I will describe the use of TRMs in perfect sentences and discuss the main contexts provided in Cable (2013) to show that TRMs track the event time. However, I will consider the role of temporal delimiters and telic eventualities that can introduce a reference time and show that an alternative explanation exists. TRMs could be analysed as referential expressions, whose ordering in a sequence of events could be explained in terms of reference time movement.



According to Cable (2013), the exact location of the event time is provided by TRMs, i.e., depending on the time when the meeting occurs, the speaker uses a different type of TRM. Given the contexts and translations provided for the sentences illustrated above, Cable (2013:268) assumes that the reference time is cotemporal with the utterance time in perfect contexts, just like in the case of the PrP in languages such as English, and that TRMs modify the event time of the clause. He supports his claim by providing specified contexts such as (22) and (23). Let us consider first the context given in (22) (from Cable 2013:268-269).

(22) Situation: We have planned a party for Mwangi today. Yesterday, I bought some decorations and Kamau bought some food. However, this morning we found out that Mwangi is not feeling well. Since Kamau had already bought the food, we decide to have a party for Wambui instead.

a. Umũthĩ rūcinĩ nĩ, twakora  
 today morning through 1plS-IMM.PST.PRIV-discover-FV  
 Mwangi ndaraigua wega.  
 Mwangi NEG-3sgS-PRS.IMP-feel-FV good  
 ‘This morning, however, we learned that Mwangi is not feeling well.’

b. Tondũ Kamau nĩarakĩgũrĩte irio,  
 tondũ Kamau nĩ-a-ra-kĩ-gũr-ĩte irio  
 because Kamau ASRT-3sgS-NRP-then-buy-PERF food  
 twatua gwĩkĩra Wambui iruga.  
 1plS-IMM-PST-PRIV-decide-FV INF-do.for Wambui party  
 ‘Since Kamau had already bought the food, we decided to have a party for Wambui instead.’

According to Cable (2013), the reference time for (22a) and (22b) is specified by the time adverbial *umũthĩ rūcinĩ nĩ* ‘today morning through’, and falls on the day of speaking. The near past TRM in (22b) locates the event time on the day before the utterance time and it tracks the event time, rather than the reference time.

Cable (2013) also considers the use of TRMs in past perfect contexts such as (23) (from Cable 2013:269-270).



(23) Situation: Mwangi has been telling us for a while that he intends to travel to New York. Today, we went to his house to say goodbye, but unbeknownst to us at the time, he had already left yesterday.

- a. Rĩira tũkinyire gwake, Mwangi nĩarathiĩte.  
 rĩira tũ-Ø-kiny-ire gwake, Mwangi nĩ-a-ra-thi-ĩte  
 when 1plS-HOD-arrive-P.PRIV his Mwangi ASRT-3sgS-NRP-go-PERF  
 ‘When we arrived at his (house), Mwangi had already left.’  
 Judgement: Correct in this scenario.

[Near	E Mwangi departure	R our arrival	]
Yesterday		Today	

- b. Rĩira tũkinyire gwake, Mwangi nĩegũthiĩte.  
 rĩira tũ-Ø-kiny-ire gwake, Mwangi nĩ-a-kũ-thi-ĩte.  
 when 1plS-HOD-arrive-P.PRIV his Mwangi ASRT-3sgS-HOD-go-PERF  
 ‘When we arrived at his (house), Mwangi had already left.’  
 Judgement: Not correct in this scenario. It would only be true if Mwangi left on the same day of the utterance.

[	E Mwangi departure	R our arrival	]
Yesterday		Today	

According to Cable (2013:271), in the scenario given above, only example (23a) is felicitous, in which the near TRM tracks the event time, rather than the reference time. The latter is specified by the *when*-clause, i.e., the time of arrival. If it were not the case, the hodiernal TRM specifying the reference time for *leaving* in (23b) would be licensed. The hodiernal TRM would delimit the reference time on the same day of speaking and it would not impose any type of constraint on the exact location of the event time, i.e., it would allow for the hodiernal TRM even in the context in which the event takes place some time before the day of speaking. However, it is not the case and, given the contexts shown above, the speaker has to make use of the near TRM to locate the *leaving* event since it takes place on the day before the day of speaking.

The claim made in Cable (2013) is that *when*-clauses usually introduce the reference time. This is why the time of the arrival is analysed as the reference time in (23). However, if we consider the context illustrated in (23) again, we can raise some questions. First, if it is the case that TRMs track the event time in Gĩkũyũ, apart from the near past TRM, the hodiernal null TRM shown in (23a) should also modify the event time rather than the reference time.

Second, the ordering of the events described above could be explained in terms of reference time movement. Reference time movement is used to account for temporal sequence of events (Partee 1984; Reinhart 1984; Hinrichs 1986; among others). Each sentence in the sequence describes an eventuality that is contained in a reference time. In sentence (23a), there are two eventualities which are included in two separate reference time intervals. As I outlined in §1.4.2, telicity and temporal delimitation are the two main linguistic factors that allow for the temporal sequencing of events (Reinhart 1984; Borik 2006; among others). In (23a), the eventualities of *leaving* and *arriving* are telic predicates, which allow for reference time movement, and the presence of the temporal modifier introduced by the *when*-clause orders such a temporal sequence. Consider example (24).

(24) When we arrived, Mwangi had already left.

[E<sub>1</sub> *Mwangi departure*]R<sub>1</sub> < [E<sub>2</sub> *our arrival*]R<sub>2</sub> < utterance time

The eventuality of *arriving* and *leaving* are telic eventualities that introduce new reference time intervals, i.e., R<sub>1</sub> and R<sub>2</sub>, respectively, and allow for the sequencing of the described events. The ordering of R<sub>1</sub> and R<sub>2</sub> is determined by the *when*-clause, which introduces R<sub>2</sub>. This view shows that there are alternative explanations that exist to account for the ordering of events in (23), and one of them is given here.

Third, it seems that we really need to look more carefully into these contexts, because it seems that, in (22), the speaker knows that Kamau bought some food yesterday, and, in (23), that Mwangi had already left at the time of the speaker's arrival. In the context in which the speaker does not know the exact time when the *leaving* event takes place, they can only use the remote TRM -as in the situation shown in (17)- because the near past TRM and hodiernal TRM can only be used if the speaker knows or strongly suspects that the eventuality takes place on the day before the utterance time or on the same day as the utterance time, respectively.

Last but not least, as was illustrated in (20), there is also a perfect form that does not have any explicit TRM, i.e., the zero-tense perfect (Johnson 1977, 1980, 1981) or the simple perfect (Cable 2013), which does not exclude other possible readings like hodiernal, near or remote perfect. Let's consider example (25).<sup>17</sup>

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<sup>17</sup> Chege Githiora (p.c) suggests to add *tūkorire* 'we found/discovered' in (25) to help us to locate the event of *leaving* on the timeline.





However, nondeictic time adverbials such as punctual time adverbials (i.e., *thaa inya cia kiroko* ‘at ten in the morning’)<sup>18</sup> cannot locate the described eventuality on a specific time.

- (29) \*Mwangi nīacemanītie                    na    Barack Obama  
 Mwangi nī-a-cemani-ītie                    na    Barack Obama  
 Mwangi ASRT-3sgS-meet-PERF with    Barack Obama  
 thaa inya    cia    kiroko  
 at four in.the morning  
 at four in.the morning

The interpretation of the punctual time adverbial *thaa inya cia kiroko* ‘at four in the morning’ is dependent on the deictic information of the verbal form.

Crucially, without further adverbial support or a hodiernal TRM, it is not possible to fix the event time with the punctual time adverbial in (29) in Gikūyū. This example can obtain a hodiernal interpretation via adverbial support as in (30).

- (30) Mwangi nīacemanītie                    na    Barack Obama  
 Mwangi nī-a-cemani-ītie                    na    Barack Obama  
 Mwangi ASRT-3sgS-meet-PERF with    Barack Obama  
 thaa inya    cia    kiroko    ūmūthī  
 at four in.the morning today  
 at four in the morning today  
 ‘Mwangi met Barack Obama at ten in the morning today.’

Without the presence of the deictic time adverbial *ūmūthī* ‘today’, the sentence is out. Moreover, in contrast to English, Gikūyū has a more complex verbal morphology and it has a specific marker, the hodiernal TRM, whose presence specifies the temporal location of the eventuality with respect to the deictic center, i.e., the utterance time. Let us compare example (29) and (31).

- (31) Mwangi nīegūcemanītie                    na    Barack Obama  
 Mwangi nī-a-kū-cemani-ītie                    na    Barack Obama  
 Mwangi ASRT-HOD-3sgS-meet-PERF with    Barack Obama  
 thaa inya    cia    kiroko.  
 at four in.the morning  
 at four in.the morning  
 ‘Mwangi met Barack Obama at ten (today).’

<sup>18</sup> Note that *inya* corresponds to four o’clock in Eastern daylight time telling system used in Gikūyū, Swahili, etc. It translates as ten am/pm (Chege Githiora, p.c).

The punctual time adverbial in (31) is licensed when it appears with a verbal form that has a TRMs. In the presence of the hodiernal TRM, the sentence asserts that the meeting takes place at the ten of the current morning.

This section has briefly shown that the perfect verbal form which does not have any specific TRM in Gīkūyū asserts that there is a past eventuality that takes place at some unspecified moment in the past, i.e., in an appropriate context, it can entail a hodiernal, near or remote interpretation. I have provided empirical evidence to show that the perfect without TRMs in Gīkūyū modified by nondeictic time adverbials such as *at ten in the morning*, see (29), cannot locate the described eventuality on a fixed position. Rather, a sentence such as (29) requires further adverbial support, i.e., deictic time adverbials such as *ūmūthī* ‘today’, as in (30), or the explicit presence of a TRM such as the hodiernal TRM in (31). It seems that the perfect in Gīkūyū can locate an eventuality in time with the presence of explicit deictic time adverbials and/or TRMs. In the following subsection, I will look into the grammatical properties of the hodiernal TRM, because it seems that there is empirical evidence that shows that the hodiernal TRM is a lexical specification of an extended now.

### **3.6 The hodiernal TRM in Gīkūyū as an extended now marker**

In the precedings sections, I explained that the hodiernal morpheme *kū* is not analysed as a tense marker (Hewson & Dereck 2005; Cable 2013). Cable (2013) refers to it as a TRM, which has properties of both tenses and temporal frame adverbials (i.e., *today*). According to this analysis, TRMs denote partial identity functions which have a presuppositional semantics akin to that of tenses, but instead of relating the reference time and the utterance time, they restrict the event time relative to the utterance time (Cable 2013). However, (i) the hodiernal TRM does not appear in past perfective verbal forms, (ii) it can also convey future plans or scheduled interpretations that do not necessarily take place on the day of speaking, (iii) the ordering of events in a sequence of events could also be explained in terms of reference time movement. Even though the verbal paradigm in Gīkūyū does not have any marker that exclusively denotes tense, I will show that the hodiernal TRM is tightly connected to the present tense (see Johnson 1980; Hewson & Derek’s 2005) and I will open up the possibility of analysing it as a

kind of extended now marker –the term which is introduced by McCoard (1978) to analyse the semantics of the PrP in English.

### 3.6.1 *Data in support of the extended now analysis*

In this section, I will further corroborate Johnson’s (1980) claim that the hodiernal TRM has a special status in the temporal-aspecual system of Gĩkũyũ and that it may be analysed as an extended now marker. I will show that it asserts an extended now interval that (i) does not appear in perfective contexts, (ii) allows for futurate plans or scheduled interpretations that do not necessarily take place within the same day of speaking.

According to Johnson (1980), the three-way distinction between hodiernal, near and remote temporal distance is a recent innovation in the verbal system of Gĩkũyũ. She notes that most languages from Bantu only have a two-way contrast, namely, a near past and a remote past. Johnson (1980:289) suggests that the hodiernal TRM *kũ* may be derived historically from the locative prefix *kũ*. Consider the examples in (32).

- (32) a. *kũndũ*  
      *kũ* + *ũndũ*  
      locative + place  
      ‘area, stretch of space’  
      b. *kũria*  
      *kũ* + adj/adv  
      place ‘that, which’

(32) shows that the locative prefix *kũ* is used to form words that denote an extended area of space and it seems that this meaning is inherited in the hodiernal TRM. As Johnson (1980) argues, it should be considered ‘an extended present tense’. The locative interpretation of *kũ* is examined in Bastin (1989), who shows that there is relevant empirical evidence across Bantu languages that confirms the locative origin of the prefix, and it is later corroborated in Hewson & Nurse (2005). Hewson & Nurse (2005) claim that *kũ* is not a tense prefix, rather a kind of locative prefix, which is referred to as a ‘focus marker’ that reduces the scope of the timeline<sup>19</sup> into a here-and-

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<sup>19</sup> The timeline is defined as an undelimited temporal area, which corresponds to Johnson’s (1977, 1980, 1981) term ‘zero-tense’ and Hewson & Derek’s (2005) concept of ‘Vast Present’. According to Hewson

now focus. According to Hewson & Nurse (2005), *kũ* specifies the location of the event within a temporal area that is reduced to the *here-and-now*.

The view of the prefix as an extended now marker gets further empirical support from the distribution of this prefix in the verbal paradigm in Gĩkũyũ. Let us consider the following hodiernal perfective context in (33) (=5b), from §3.1).

- (33) Mwangi nĩainire. [Hodiernal past perfective]  
 Mwangi nĩ-a-∅-in-ire  
 Mwangi ASRT-3sgS-HOD-dance-PST.PRV  
 ‘Mwangi danced (within the day).’

As shown above, in Gĩkũyũ, the hodiernal TRM is not available in perfective contexts. Johnson (1980) analyses (33) as an instance of a ‘zero-tense’ verbal form that is specialized for hodiernal uses. Hewson & Derek (2005) point out that there is no *kũ* form for the hodiernal perfective available because the perfective prefix encodes a recent past. They notice that the gloss of the suffix *-ire* already suggests that the verbal form encodes pastness, and that it focuses on a time prior to the ‘here-and-now’. In (32), Cable (2013) glosses *-ire* as a past perfective suffix and, in his analysis, the hodiernal TRM is expressed by a phonologically null prefix. Even though there is no clear explanation for why the hodiernal TRM fails to combine with perfective contexts, it seems, as Johnson (1980:290) puts it, that it denotes ‘reference to a time within the current time unit’. Such a meaning clashes with the perfective meaning, which locates the eventuality on a time preceding now.

Let us turn now to futurate readings. As was illustrated above, the hodiernal TRM can locate futurate planned events, which do not necessarily take place on the same day of speaking as in (34) (=10), from §3.2.2).

- (34) Mwangi nĩekũthoma. [Hodiernal future for plans]  
 Mwangi nĩ-a-kũ-∅-thom-a  
 Mwangi ASRT-3sgS-HOD-FUT-go.to.school-FV  
 ‘Mwangi will go to school. / Mwangi is going to school.’

In these contexts, time adverbials headed by a proximate demonstrative such as *mweri uyu* ‘this month’ are licensed (from Cable 2013:229; cited in Barlow 1951:130):

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& Derek (2005), the ‘Vast Present’ represents the ‘universe time’, i.e., the whole time as a container. The ‘Vast Present’ refers to an undelimited present that covers the present and an indefinite temporal area that flows into the past or towards the future.





contextual or sentential information, the hodiernal TRM allows for a future planned interpretation of the event. Cable (2013) assumes that there is a null future prefix in this context and that the hodiernal TRM is ambiguous between a hodiernal interpretation and a future form for plans. However, it seems that the hodiernal TRM does not assert the time at which the event takes place, but the time at which the plan is held.

### 3.6.2 *A link with the present tense in Catalan and the present progressive in English*

Taking into account the considerations outlined above, I will show that there are relevant parallels between the semantics of the hodiernal TRM and the present tense in Catalan or present progressive in English. First, the present tense in Catalan like the present progressive in English allows to locate an eventuality in time as was the case of the hodiernal TRM in Gīkūyū up to the middle of the twentieth century (see Barlow 1951; Cable 2013). Second, the present tense in Catalan and the present progressive in English also allow for planned/scheduled event readings that do not necessarily take place on the same day of speaking.

The present tense in languages such as Catalan and the progressive morphology in languages like English allow for the specification of the eventuality in time. Consider example (37) (= (29), from §2.3.4).

- (37) Context: speaker A asks speaker C about what speaker B is doing at the moment and speaker C replies that B is working.

Ara treballa. ¡No el molestis!  
 now work.1sg no obj.3sg annoy  
 ‘He is working now. Don’t annoy him!’

The present tense in Catalan allows for a present imperfective reading in which the eventuality is obtained at the utterance time. In English, such an interpretation requires the use of progressive morphology with eventive predicates (i.e., *I am working*).

As pointed out in §3.2.2, the hodiernal TRM in Gīkūyū used to admit a present imperfective reading. According to Cable (2013), the present imperfective use is retained in one of the readings of sentences such as (34), which allow for future plans or scheduled events that do not necessarily take place on the day of speaking. For example, in (34), the speaker asserts that it has been planned that *Mwangi will go to school* soon.

This secondary meaning of the hodiernal TRM is akin to the future reading of the progressive form available in English (Cable 2013) as shown in (38). Like the hodiernal TRM in Gīkūyū or the progressive morphology in English, the present tense in Catalan can also be used to derive scheduled or planned readings of the described eventuality as in (39).

(38) Mwangi is going to school.

(39) Mwangi va a l' escola el pròxim dilluns.  
Mwangi go.3sf to the school the next Monday  
'Mwangi is going to school next Monday.'

The planned event of *going to school* is going to take place on the following Monday after the utterance time. The use of the present tense is licensed with explicit temporal modifiers that assert the time when the scheduled or planned eventuality takes place.

It seems that the semantics of the present tense in languages such as Catalan and the progressive morphology in English is connected to the meaning of the hodiernal TRM in Gīkūyū. First, the hodiernal TRM used to be available in present progressive contexts. Second, the translation of the future planned eventuality shown in (34) requires the use of progressive morphology in English as shown in (38). The present tense in languages such as Catalan can also be used in this context as illustrated in (39). In the following subsection, I will focus on perfect contexts.

### 3.6.3 *The hodiernal TRM in perfect contexts*

In this section, I will focus on perfect contexts and compare the semantics of the hodiernal reading in Gīkūyū and Catalan. The hodiernal TRM in Gīkūyū is optional in perfect contexts. As shown in §3.4, there are sentences that allow for a hodiernal reading without an explicit TRM in Gīkūyū. However, an unequivocal hodiernal reading is obtained via adverbial support or with the hodiernal TRM. Even though Catalan does not have TRMs, the hodiernal is also unambiguously available with adverbial support. The difference that sets the English PrP apart from the perfect in Gīkūyū and the PrP in Catalan is that PrP sentences modified by locating time adverbials such as punctual time adverbials cannot fix an eventuality on a specific position on the timeline.

As shown before, perfect sentences without an explicit TRM in Gĩkũyũ cannot be unequivocally interpreted as hodiernal. Example (40) does not exclude other possible readings like a near past or a remote past (=20), from §3.4).

(40) Situation: Mwangi mentions that he got to meet Obama on his trip.

Mwangi nĩacemanĩtie                    na Barack Obama!  
 Mwangi nĩ-a-cemani-ĩtie                na Barack Obama  
 Mwangi ASRT-3sgS-meet-PERF with Barack Obama  
 ‘Mwangi has met Barack Obama!’

The described eventuality in (40) is located on an unspecified moment before the utterance time. Modification by time adverbials such as punctual time adverbials (i.e., *thaa inya cia kiroko* ‘at ten in the morning’) cannot locate the event time on a specific time span. Consider (41) (=29), from §3.5).

(41) \*Mwangi nĩacemanĩtie                    na Barack Obama  
 Mwangi nĩ-a-cemani-ĩtie                na Barack Obama  
 Mwangi ASRT-3sgS-meet-PERF with Barack Obama  
 thaa inya cia kiroko  
 at four in.the morning  
 at four in.the morning

Sentence (41) only admits the interpretation in which the event of *meeting Obama* occurs at four in the morning of an unspecified day. The hodiernal reading in perfect contexts is ultimately dependent on further adverbial support or a hodiernal TRM in Gĩkũyũ as in (42) and (43) (=30) and (31), respectively, from §3.5).

(42) Mwangi nĩacemanĩtie                    na Barack Obama  
 Mwangi nĩ-a-cemani-ĩtie                na Barack Obama  
 Mwangi ASRT-3sgS-meet-PERF with Barack Obama  
 thaa inya cia kiroko ũmũthĩ  
 at four in.the morning today  
 at four in the morning today  
 ‘Mwangi met Barack Obama at ten in the morning today.’



The locating time adverbial *avui* ‘today’ locates the eventuality within a time interval that denotes the day of the utterance, and the punctual time adverbial *a les deu* ‘in the ten’ fixes the eventuality at the most recent ten o’clock.

The reader might recall that the English PrP cannot locate an eventuality by means of locating time adverbials such as *at ten* as in example (47) (see Klein 1992; Giorgi & Pianesi 1997; Brugger 2001; de Swart 2007; among others).

(47) \*Mwangi has met Obama at ten.

Like example (41) in Gĩkũyũ, sentence shown in (47) has an unspecific reading in which the described situation takes place at some ten o’clock before the utterance time, but it rules out the possibility of locating the event time on a fixed position on the timeline.

To sum up, without any explicit TRM, perfect sentences in Gĩkũyũ behave like unmodified PrP sentences in Catalan or English. In an out-of-the-blue context, examples (41), (44) and (45) are vague with respect to the exact location of the described event. The location of the eventuality can be specified on the timeline via TRMs or with locating time adverbials such as *today* in Gĩkũyũ, see (42) and (43). In Catalan, certain locating time adverbials are required to obtain a hodiernal reading, see (46). However, example (47) sets English apart from Gĩkũyũ and Catalan, because it disallows punctual time adverbials. In the following subsection, I will further look into the hodiernal marker in Gĩkũyũ and the properties of the PTS in perfect contexts in Catalan and English and suggest that the hodiernal TRM could be analysed as a lexical specification of an extended now.

#### 3.6.4 *An alternative analysis*

In this subsection, I will focus on the hodiernal TRM and show, following the Extended Now or Perfect Time Span approach (McCoard 1978; Iatridou *et al.* 2001; Pancheva & von Stechow; among others), that it can be analysed as an extended now marker. Rather than reference or event time modifiers, it seems that TRMs denote a kind of time span, a deictic time interval within which the eventuality is located.

Cable (2013:265) considers the possibility of analysing TRMs as proper tenses that modify the reference time, rather than the event time. (48) gives the semantic representation of the hodiernal TRM as a time interval that restricts the reference time:



assuming that the hodiernal TRM in these examples is ambiguous between a hodiernal future and a futurate reading that describes scheduled or planned events, but this proposal is not economical and undesirable from a theoretical point of view. Moreover, even though the verbal paradigm in Gikūyū does not have any marker that exclusively denotes tense, I have provided empirical evidence that shows that the hodiernal TRM is tightly connected to the present tense as Johnson (1980) and Hewson and Derek (2005) claim, see §3.6.1.

Second, the perfect contexts that Cable (2013) provides to test the hypothesis that TRMs track the event time rather than the reference time raise some issues. As I pointed out in §3.4, it seems that the ordering of a sequence of events could also be analysed in terms of reference time movement.

Third, perfect sentences without an explicit TRM can also locate the event time within a specified time interval via the contribution of temporal modification. In the previous section, I specifically focused on the role of temporal modification in perfect sentences without an explicit TRM in Gikūyū. I provided empirical evidence that connects the available readings in perfect sentences in Gikūyū with and without an explicit TRM to Catalan (un)modified PrP sentences. Locating time adverbials such as punctual time adverbials can only fix the event in Gikūyū in perfect sentences with a deictic locating time adverbial like *today* as in (41) or an explicit TRM (i.e., hodiernal TRM) as in (42).

In Catalan PrP sentences, the presence of temporal modification makes explicit the relation of overlap between the PTS and the reference time, see (46). As for the hodiernal TRM, I assume that it is a lexical specification of an extended now and, following the Extended Now or Perfect Time Span theory (McCoard 1978; Iatridou *et al.* 2001; among others), I suggest the following semantic representation.

$$(51) \quad [[\text{HOD}]] = \exists i [i \in \text{day surrounding } t_c \ \& \ \exists t \in i \ (\text{Eventuality } (t))]$$

Adopting an Extended Now approach, I assume that HODIERNAL denotes a time interval that overlaps with the day surrounding the utterance time and locates a predicate within such a temporal area. Within this indexical temporal area, the eventuality can be fixed on the time axis.



### 3.7 Summary of the chapter

In this chapter, I have shown that, in contrast to Romance languages such as Catalan or Germanic languages like English, the expression of hodiernality is contributed by a prefix in other typologically unrelated languages such as Gĩkũyũ, i.e., via the hodiernal TRM. According to Cable (2013), TRMs in Gĩkũyũ differ from ‘true’ tenses in that they do not denote the reference time, rather they share semantic properties with time adverbials, i.e., they restrict the location of the event time. I have also pointed out the main problems that Cable (2013) has to face with respect to the analysis of the hodiernal TRM in Gĩkũyũ. The hodiernal TRM is used when the speaker strongly suspects or knows that the described situation takes place on the same day of the utterance (Cable 2013). However, it is also used in contexts in which the event time is expected/scheduled to take place in the near future, i.e., it does not necessarily take place within the same day of speaking, see (10) and (34). Cable (2013) assumes that the hodiernal TRM in future contexts is ambiguous between a proper current future interpretation and a planned/scheduled event. In addition, in certain perfect contexts, the reference time and event time modification cannot be straightforwardly distinguished as in example (22b) in the appropriate context, in which the hodiernal TRM modifies both the reference time and the event time. I have suggested that the example given in (22) can order a sequence of events in terms of reference time movement. Time delimiters such as *when*-clauses as well as telicity introduce a reference time and can order a sequence of events as in (23).

Although I have not developed a uniform proposal for analysing TRMs in Gĩkũyũ as lexical specifications of extended time spans, I have followed Johnson’s (1980) and Hewson and Nurse’s (2005) insights and considered the option of analysing the hodiernal TRM as an extended now. As Johnson (1980) points out, the hodiernal TRM in Gĩkũyũ cannot appear in the perfective form, see (33). This TRM constraints the location of the event to a temporal area restricted to the *here-and-now* (Hewson & Nurse 2005). Moreover, the hodiernal TRM allows for plans or scheduled events that do not need to take place on the same day of the utterance, see (34) and (35). It seems that the hodiernal TRM affects the temporal location of a plan, which is asserted to hold on the day of speaking.

In the context of perfect sentences, there are strong parallelisms with the hodiernal reading of the PrP in Catalan. In the case of the hodiernal interpretation of the

PrP in Catalan, which is unequivocally available via adverbial modification or contextual information, the hodiernal reading is derived via an explicit marker in Gikūyū. I have suggested that instead of an event time or a reference time modifier, the hodiernal TRM in Gikūyū is a lexical specification of an extended now, which relates a time interval with respect to the day that surrounds the day of the utterance time, see (51).

## Chapter 4

### The universal reading

#### 4.1 Introduction

As was described in §1.3.2, the universal reading is a prototypical reading of the English PrP. It denotes an eventuality that persists throughout a time interval that starts at some point in the past until the moment of speech (Comrie 1976). In (1), I illustrate a universal reading of PrP sentences modified by *since* and *for* Prepositional Phrases (PPs).

- (1) a. I have been in Boston since 2000.
- b. Sam has been in Boston for two months.

In example (1a), the eventuality of *being in Boston* may hold throughout an interval that stretches from 2000 up to now, and, in (1b), the eventuality of *being in Boston* may hold during a period of two months.

As has been amply discussed in the literature, there is also an existential reading available in examples given in (1). Within the interval encoded by *since* in (1a), which extends from 2000 up to now, there may be some (at least one) interval in which I was in Boston. (1a) may be continued by, for example, *I was in Boston for three months in 2005*, which illustrates that the eventuality of *being in Boston* takes place in 2005 and lasts for three months within the period that starts in 2000 and reaches up to now. In the case of (1b), the existential reading with the *for* PP covers the whole eventuality of *being in Boston*, but it does not extend up to the utterance time. The sentence merely asserts that at some point in the past Sam stayed in Boston for a period of two months. However, the universal-existential dichotomy is not always available with the PrP:

- (2) Sam has been in Boston {for two months now/ever since 2000}.

The example illustrated in (2) only admits a universal reading, i.e., the eventuality of *being in Boston* necessarily holds for two months up to now or from 2000 up to now.

One of the main tests that has been used as a diagnostic for unambiguous universal readings is the (non)cancellable inclusion of the utterance time in the denotation of a predicate. Consider the following examples (from Iatridou *et al.* 2001:159).

- (3) a. \*She has been sick at least/ever since 1990 but she is fine now.  
 b. \*She has always lived here but she doesn't anymore.

In (3a), the eventuality of *being sick* holds throughout the perfect time interval that starts in 1990 and continues up to now. The subject is still sick at the utterance time, and it is not possible to cancel the event time continuing the sentence by *she is fine now*. Likewise, in (3b), the eventuality holds throughout the perfect interval including its boundaries, and the utterance time is included by assertion in the event time. Therefore, the subject is still living there at the utterance time and it is contradictory to state that the eventuality does not currently hold. According to Iatridou *et al.* (2001), the noncancelability of examples in (3) show that they are instances of unambiguous universal perfects.

Following the observations based on the English data, I will discuss the availability of the universal reading of the PrP in Catalan, see (4) (example (4a) from Pérez-Saldanya 2002:2590).

- (4) a. Sempre hem viscut en aquest poble.  
 always have.1pl lived in this town  
 'We have always lived in this town.'  
 b. Des de diumenge que {plou/ ha plogut}.  
 from Sunday that rain.3sg / have.3sg rained  
 'It has been raining since Sunday'  
 c. Tot aquest mes que {neva / ha nevat}.  
 all this month that snow.3sg have.3sg snowed  
 'It has been snowing all month.'

Examples provided above give rise to an unequivocal universal reading of the PrP. However, in contrast to English, these readings do not necessarily assert the event time at the utterance time in Catalan. In fact, a PrP sentence like (5) is compatible with a

temporal modifier that states a bound on a time interval preceding the utterance time such as *fins fa poc* ‘until makes little’:

- (5) Hem viscut en aquest poble fins fa poc.  
have.2pl lived in this town until make.3sg little  
‘We lived in this town until some time ago.’

The differences between (3) and (5) show that there are two separate factors involved in the definition of the universal interpretation of the perfect that are independent of each other: (i) the event holds throughout a time that stretches from a past moment up to now and (ii) the event time overlaps with the utterance. With respect to these two factors, I will show that none of them belongs to the domain of the semantics of the perfect itself and I propose that universal interpretations can be obtained when a number of different requirements on a temporal composition of a sentence are met. In particular, in this chapter, I claim that homogeneity is a necessary condition for the universal interpretation of a PrP sentence, but it is not sufficient. Following Hitzeman’s (1995, 1997a) terminology, an unambiguous universal interpretation always requires a position-definite reading of the time adverbial, which is anchored to a deictic centre (i.e., the utterance time).

The empirical contrasts between Catalan and English rely on the temporal relationship between the Perfect Time Span (PTS) and the reference time. In Catalan, the PTS encoded by the perfect can be equal to or overlap with the reference time. This temporal relationship is made explicit via the contribution of time adverbials. In the case of a universal reading of the PrP, the temporal relationship of overlap can account for a possible specification of the right boundary of the PTS via temporal modifiers that do not necessarily include the utterance time in its denotation (e.g., *fins fa poc* ‘until makes little’).

The rest of the chapter is organised as follows. I will first investigate the main factors that give rise to a universal reading in English. In §4.2, I will look into the functional properties of the predicate and, in §4.3, I will focus on the description of different types of stative predicates. In §4.4, I will test whether the distinctions between different types of states play a role in the availability of the universal reading. In §4.5, I will focus on the contribution of temporal modification in English. I will compare the English data with the characteristics of the universal reading in Catalan in §4.6. In §4.7,

I will propose an analysis based on the PTS theory. Finally, §4.8 summarizes the chapter.

## 4.2 The functional properties of the predicate

As has been outlined in the introduction, the aim of the present chapter is to show that there are two factors involved in the derivation of a universal interpretation: (i) the event holds throughout a time that stretches from a past moment up to now and (ii) the event time overlaps with the utterance time. In this section, I will show that factor (i) requires homogeneous predicates that have the subinterval property and (ii) is connected to the termination effect of the predicate. This section also shows that activity predicates, which have the subinterval property, do not always behave in the same way in PrP sentences. Activity predicates only allow for a universal reading with certain temporal modifiers (i.e., *for* PPs).

A claim has been made in the literature that the universal interpretation of the PrP is obtained with stative predicates and the perfect of the progressive (Dowty 1979; Mittwoch 1988; Vlach 1993; Portner 2003; among others). Consider (6) and (7) (from Iatridou *et al.* 2001:159-158).

(6) He has been in the room ever since this morning.

(7) I have been digging in the yard for two hours.

Sentence (6) has a universal reading whereby the state of *being in the room* holds throughout a continuous time interval, which starts in the current morning and continues up to now. A similar statement can be made about (7).

For Iatridou *et al.* (2001), the term stativity is misleading because, following Vendler (1957) and Smith (1991), states are [-dynamic]/[-agentive], while progressives are [+dynamic]/[+agentive]. They argue that the universal reading requires unboundedness (Iatridou *et al.* 2001:155): the predicate ‘is ongoing at an interval (and is therefore not asserted to have reached an endpoint)’. Unbounded eventualities are homogeneous, they have the subinterval property (Bennet and Partee 1972/78:14), see (9) (=10), from §1.2.3).

- (8) Subinterval verb phrases have the property that if they are the main verb phrase of a sentence which is true at some interval of time *I*, then the sentence is true at every subinterval of *I* including every moment of time in *I*.

The predicates illustrated in (6) and (7) are homogeneous predicates, which have the subinterval property. In the case of stative predicates, they have been analysed as predicates that are true at subparts restricted to instants (Dowty 1979). In (6), the predicate is true at the time interval *I*, which starts in the morning of the day of utterance, and it is also true at every subinterval of *I*, down to moments. Following Hallman's (2009) proposal, I claim that progressive predicates pattern together with stative predicates in that both type of predicates require the predicate to be true at subparts restricted to moments. With respect to (7), if for a certain time interval *I*, i.e., a time interval that lasts two hours, it is true that *I have been digging in the yard*, this is also true for every subinterval of *I*, down to moments.

As was discussed in the previous chapter, homogeneous eventualities do not have a natural endpoint and grammatical aspect does not guarantee that eventualities are (not) going to hold at the utterance time. Consider example (9) (=17b), from §2.3.1).

- (9) I have truly loved John. In fact, I still do.

The event of *loving John* is a situation which held at a time before the utterance time but, in fact, may continue holding at the present moment since the predicate does not have an inherent endpoint and, hence, it does not entail that the event has terminated at the utterance time. The termination of a stative predicate is an effect that can only be pragmatically inferred.

Iatridou *et al.* (2001) claim that a sentence such as (6) does not allow for temporal gaps. In other words, they claim that one cannot utter (6) when the subject is not in his room anymore. In contrast to stative predicates, Iatridou *et al.* (2001) illustrate that one can say (7) even when the subject is having a coffee during a break. According to them, the progressive seems to allow 'assertions about subeventualities of the underlying eventuality' (Iatridou *et al.* 2001:160). However, Iatridou *et al.*'s (2001) statement does not always hold. Let us consider (10), for example.

- (10) I have been in Amherst since 2005.

The predicate illustrated in (10) is homogeneous, but it is not necessarily true at every subinterval of the interval that starts in 2005 and holds up to now since it allows for temporal gaps. Even though the subject may be currently in Amherst and has been there since 2005, he may have gone away for holidays.

According to Borik (2006), the definition given in (8) appears to be too strong since it cannot account for temporal gaps. She defines homogeneity in terms of existential quantification and states that ‘it is sufficient to find at least one subinterval of an interval at which a given predicate holds’ (Borik 2006:54). By assuming this definition, we can account for temporal gaps and show that the main difference between examples (6) and (10) seems not to be linked to the differences between stative and progressive predicates. Rather, as I will show in this study, the difference in the interpretation in (6) and (10) has to do with the grammatical properties encoded by *ever since* and *since*. It appears that *ever since* enforces the assertion of the eventuality at every subinterval of the interval that begins in the morning of the day of speaking in (6), whereas the latter does not impose such an assertion.

The literature on the PrP has also considered activity predicates, which seem not to behave the same as stative predicates. Consider this example, which, according to Mittwoch (1988:211), only allows for an existential interpretation:

(11) John has run since seven.

Mittwoch (1988) claims that a sentence such as (11) can only have an existential reading, i.e., *John has had a turn at running or gone running*. Moreover, when the perfect of the activity predicate in example (12) combines with a durational adverbial headed by *ever since XP*, which always yields a universal reading of the perfect, the sentence is ungrammatical (Iatridou *et al.* 2001:174).

(12) \*He has danced ever since this morning.

The universal reading becomes possible only when the activity predicate becomes like a state, i.e., true down to moments rather than intervals. The activity predicate allows for such an interpretation when it denotes a characteristic property of



an individual or when it appears in the perfect progressive as (13a) (from Quirk *et al.* 1985:192) and (13b) (from Mittwoch 1988:211) illustrate, respectively.

- (13) a. Mr Terry has sung in this choir ever since he was a boy.  
b. He has been running since seven.

In (13a), the predicate is interpreted as ‘be a singer’, that is, as a characteristic property of the subject which holds in a continuous temporal area which started when the individual was a boy and reaches up to now. In the case of (13b), the situation of *running* holds through a time span, which starts at seven and goes on up to now.

Interestingly, it seems that the type of temporal modification plays a crucial role with activity predicates in PrP sentences. Consider (14) (from Pancheva 2013:17),

- (14) Betsy has worked for three hours now.

The universal interpretation of an activity predicate is possible with durational adverbials such as *for* PPs, as in (14), where the activity predicate holds for a three-long hour period up to now.

In this section, I have claimed that stativity is a necessary condition for the universal reading in English. The differences in the interpretation between sentences (6) and (10) as well as (11) and (14) relies on the type of interval asserted by the temporal modifier, i.e., *ever since* vs. *since* and *since* vs. *for*. In the following section, I will have a closer look into stative predicates, because it seems that not all types of stative predicates are equally acceptable in PrP sentences.

### 4.3 Different types of stativity

In this section, I will look into different kinds of stative predicates: Individual-Level (IL)/Stage-Level (SL) states and Kimian/Davidsonian states and provide an informal description of their characteristics to be able to determine later whether the distinction between different kinds of stative expressions have an effect on the universal reading of the PrP.

#### 4.3.1 *Individual-Level and Stage-Level predicates*

Carlson (1977) establishes a link between IL/SL and permanency/temporariness, respectively: IL denote properties of individuals which are permanent (i.e., *to have brown eyes*); whereas SL convey properties of stages of objects/individuals which have a temporary nature (i.e., *to be available*). Kratzer (1995), based on Carlson (1977), develops an account for IL and SL predicates and claims that the semantic distinction between the two classes is rooted in their argument structure. In particular, she proposes that SL predicates are *Davidsonian* in that they have an extra eventive or spatiotemporal<sup>1</sup> argument position (i.e., *e*) (Davidson 1967), which is a free variable. As for IL predicates, they do not provide such an argument position and they are directly predicated of the subject. To support her claim empirically, she shows that spatial and temporal modifiers are disallowed with IL predicates, cf. (15a) and (15b), but allowed with SL predicates, cf. (15c) and (15d).

- (15) a. \*Mary knows French in her office.  
b. \*Mary will know French next week.  
c. Mary speaks French in her office.  
d. Mary will speak French next week.

The IL predicate *know* does not allow for a spatial, see (15a), or a temporal modifier, see (15b), since it lacks a Davidsonian argument of spatiotemporal location. SL predicates such as *speak*, introduce a spatiotemporal argument as the grammaticality of (15c) and (15d) show. Example (15c) conveys that *Mary speaks French* at a spatial location (i.e., *in her office*) and (15d), that *Mary will speak French* at a specific temporal location (i.e., *next week*).

The Davidsonian argument may also be bound by a quantifier, as in the case of *when(ever)*-clauses (Kratzer 1995:129). Consider the following examples:

- (16) a. \*When Mary knows French, she knows it well.  
b. When Mary speaks French, she speaks it well.  
c. When Mary knows a foreign language, she knows it well.

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<sup>1</sup> Kratzer (1995) follows Lemmon (1967) in arguing that a Davidsonian argument has a spatiotemporal nature. Although Kratzer's spatiotemporal argument does not exactly correspond to a Davidsonian event, I will not go into analysing the differences. For my purposes, it suffices to assume that they are essentially the same.

According to Kratzer, *when(ever)*-clauses involve a covert quantificational adverb, *always*, which binds all free variables it has in its scope. Hence, a sentence such as (16a) is ungrammatical due to the prohibition against Vacuous Quantification (Chomsky 1982). Since IL predicates such as *know* do not provide any eventive or spatiotemporal argument, there is no spatiotemporal variable available for the quantifier *always*. Unlike (16a), the covert quantifier in (16b,c) binds the spatiotemporal variable introduced by the SL predicate *speak* in (20b) or by the indefinite noun phrase *a foreign language* (Kamp 1981; Heim 1982) in (16c).

Regarding temporal interpretation, Kratzer (1995) establishes a temporal correlation between IL predicates which are located in the past and the so-called lifetime effects (Musan 1995), that is, the location of the DP subject of an IL predicate in the past can only yield an interpretation in which the subject is no longer alive. However, these lifetime effects are not that straightforward and Kratzer herself (1995:155) already points out that the interpretation of a predicate as IL or SL is context dependent. She provides the following example to illustrate the point.

(17) Henry was French.

According to Kratzer (1995), (17) has two possible interpretations: (i) *be French* is typically a IL predicate which locates the property of *being French* predicated of *Henry* in the past and entails that Henry is no longer alive; or (ii) *be French* may be understood as a SL predicate which denotes that the individual used to be French, but he is now a citizen from another country (i.e., American). To express the two interpretations, Kratzer (1995) proposes the following formalizations:

(18) [before now (H)] & [French (H)]

(19) [before now (e)] &  $\exists x$  [Henry(x) & French(x,e)]

Tense, the spatiotemporal predicate ‘before now’ in (18), locates the external argument of the predicate (i.e., *Henry*) which has the property of *being French*. Since the location of the external argument is in the past, it follows that the individual is no longer alive. However, in (19), the predicate is interpreted as SL and the spatiotemporal predicate

'before now' is not predicated of the subject, but of an eventive argument, that is, it only locates the situation of *being French* in the past.

Arche (2006) also notes that many IL predicates can be shown to be transitory as in (20). IL predicates do not necessarily convey permanent properties that hold throughout the lifespan of the individual since the majority of them can be temporally delimited.

(20) John was blond when he was thirteen.

Arche (2006), building on observations made by Condoravdi (1992) and Jäger (2001), argues against accounts based on the equation between IL predicates and temporal permanency. Following Stowell (1993, 1996), she argues that IL predicates also introduce an eventive argument. In particular, she suggests that all kinds of predicates provide a spatiotemporal variable that is bound by a quantifier over occasions (Q<occ>). Moreover, even when IL predicates are restricted in time, they attribute a property to an individual, they still function as IL predicates and the length of the interval the predicate holds over seems an independent factor. Arche (2006) argues that lifetime effects arise when the Topic Time or Reference Time is defined as the interval of the individual's existence. Thus, these effects can appear with a subset of IL predicates which denote permanent properties of individuals which cannot stop holding, that is, the properties that are predicated of the subject hold at an interval that coincides with the individual's lifespan (i.e., *be gipsy*, *be Eskimo*, *be from poor class*, *be of a blood group X*, etc.), see (21).<sup>2</sup>

(21) John was an Eskimo.

Having presented some characteristics of IL and SL predicates, and, crucially, that the IL/SL distinction cannot be equated to temporary/permanent properties, in the next section I will explore the nature of Kimian and Davidsonian states to be able to evaluate its role in universal interpretations.

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<sup>2</sup> Lifetime readings do not arise when the subject is a quantificational DP (Arche 2006). Determiners/quantifiers quantify over a set provided by the context.

(i) Most of the guys were Eskimo.

### 4.3.2 *Kimian and Davidsonian states*

Maienborn (2003, 2005, 2007), in her proposal, drawing on a distinction made by Kim (1969, 1976), argues that some stative predicates do not denote Davidsonian eventualities and distinguishes two types of stative expressions: Davidsonian and Kimian states. This section will consider different linguistic diagnostics that Maienborn uses to distinguish one kind of stative expression from another to further investigate whether the distinction is relevant for the universal reading of the PrP.

Davidsonian states are between pure states and pure eventive predicates (i.e., *sit*, *wait*, *sleep*).<sup>3</sup> According to Maienborn (2003, 2005, 2007), Davidsonian states are spatiotemporal entities that have the usual event argument *e*. These states are perceptible, they can be located in space and time and can vary in the way they are realised. The main linguistic diagnostics that Maienborn (2003:109) uses to prove that an eventuality is Davidsonian are illustrated in (22).

- (22) a. I saw John sleep.  
b. John is sleeping {on the sofa/now}.  
c. John sleeps calmly.

Davidsonian expressions can serve as infinitival complements of perception verbs, see (22a), they can be modified by temporal and spatial adjuncts, see (22b), as well as by manner adverbials, instrumentals, comitatives, etc., see (22c).

According to Maienborn (2005:7), the eventuality diagnostics given in (22) show that Davidsonian states pattern with eventive predicates. In this respect, she claims that Davidsonian states only differ from activity verbs in their subinterval property. Both predicates are homogenous and have the subinterval property, but Davidsonian states, like other stative expressions, are true down to moments, whereas activity predicates are true down to intervals. For example, if for a certain time interval *I* it is true that *John sleeps*, this is also true for every subinterval of *I* down to instants.

Unlike Davidsonian eventualities, Maienborn (2003, 2005, 2007) claims that Kimian stative expressions (i.e., *know*, *weigh*, *cost*, *own*, *resemble* and *copular constructions*) have an ontologically different event argument. They are not perceptible and have no location in space, they are only accessible to (higher) cognitive operations

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<sup>3</sup> Davidsonian states have also been classified as ‘interval states’ (Dowty 1979) or ‘dynamic states’ (Bach 1986).

and can only be located in time. The main empirical tests that Maienborn (2003:113) uses to show the characteristics of Kimian states are shown in (23).

- (23) a. \*I saw John knowing the answer.  
 b. \*John is knowing the answer on the sofa.  
 c. \*John knows with her sister the answer.

In contrast to Davidsonian states, Kimian states cannot serve as infinitival complements in perception reports, cf. (23a), disallow spatial modification, cf. (23b) and cannot be accompanied by manner adverbials, instrumentals, comitatives, etc., cf. (23c).

Maienborn's distinction between Davidsonian states and Kimian states hinges on the differences in the nature of the event argument that both type of states introduce. Kimian states do not lack an event argument, rather, they refer to an entity that is 'ontologically poorer' (Maienborn 2003:114). As shown above, in contrast to Davidsonian states, they cannot be perceived, located in space or vary in the way they are realised. The contrast between these two type of states is shown in the compositional derivation of a Davidsonian state and a Kimian state in (24) (from Maienborn 2003:115-116)

- (24) a. Carol is tired.  $\lambda z [v|z \approx [\text{tired}(v)], \text{carol}(v)]$   
 b. Carol is sleeping.  $\lambda e [v| \text{sleep}(e), \text{theme}(e,v), \text{carol}(v)]$

Maienborn (2003:115) shows that the Kimian state *be tired* illustrated in (24a) introduces a referential argument *z* of a Kimian-state type, which applies to an individual *v* (i.e., Carol). As for the derivation of a Davidsonian state, she adopts the neo-Davidsonian representation and shows that the Davidsonian state *sleep* introduces an event argument and Carol is its theme. Since there is an event argument, it can be modified as in (22b) and (22c), where the adverbial is a predicate on the event that modifies the location (i.e., *on the sofa*) and the manner (i.e., *calmly*), respectively.

#### 4.3.3 Summary of section 4.3

In §4.3, I have discussed different kinds of stative predicates: IL/SL states and Kimian/Davidsonian states. As for the IL/SL distinction, I have presented the main linguistics diagnostics put forward in Kratzer (1995). Although Kratzer (1995) admits

that there are examples such as (17) which can be understood as IL as well as SL predicates depending on the context, the author argues that IL predicates, unlike SL eventualities, lack an eventive or spatiotemporal argument. Hence, IL predicates do not allow for temporal or spatial modifiers, seen(15a) or (15b), or expressions with a covert quantifier such as *when(ever)*-clauses, see (16a). However, Arche (2006), among others, argues that the IL/SL distinction cannot be equated to temporary/permanent properties and that there is only a subset of IL predicates which always convey a permanent property (i.e., *be gipsy, be Eskimo, be from poor class, be of a blood group X*, etc.), see (21). As for Davidsonian and Kimian states, Maienborn (2003, 2005, 2007) provides a series of empirical diagnostics to distinguish Davidsonian from Kimian states. Davidsonian states behave like eventive predicates: they are perceptible and can be located in space and time, see (22), whereas Kimian states are really pure states: they are not perceptible and can only be located in time, see (23). The properties of IL/SL states as well as Kimian/Davidsonian stative expressions will be further tested in the context of PrP sentences in §4.4 to determinate whether the distinction between different types of states plays a role in the universal reading.

#### **4.4 Types of stativity and the universal reading**

I assess the role of different types of stativity with respect to unmodified PrP sentences to determine whether there are universal readings of PrP sentences in English available without explicit temporal modifiers. I show that neither IL/SL or Davidsonian/Kimian predicates allow for unambiguous universal interpretations. Rather, such a reading requires adverbial support. To show these empirical facts, I will first study the universal reading with IL/SL predicates in §4.4.1 and Kimian/Davidsonian predicates in §4.4.2.

##### *4.4.1 IL/SL states in unmodified present perfect sentences*

In this subsection, I show that pure IL states are not good with unmodified PrP sentences and only IL predicates that can be temporally delimited, as well as SL predicates, allow for a universal interpretation. I will suggest that a possible explanation for this generalization is that a PrP tense, even in its universal interpretation, only applies to those predicates that can be temporally delimited. Arche's (2006) class of permanent properties cannot lend themselves to this interpretation, and, hence, they are not used in PrP contexts. Moreover, a SL property in and by itself is not sufficient for

establishing a universal reading since it is ultimately the presence of temporal adverbials that are able to ensure a universal interpretation.

As has been noticed in the literature, IL states are not good in unmodified PrP sentences (Musan 1995, 1997; Iatridou *et al.* 2001; among others), see (25).

(25) #John has had brown eyes.

The perfect incorporates a temporally restricted interval that in the case of the PrP reaches up to the utterance time. Hence, a PrP sentence such as (25) indicates that the property holds at some interval of John's life. However, this example is not acceptable: the IL state of *having brown eyes* cannot be temporally delimited. IL states like the one in (25) are expected to be permanent and hold throughout the lifespan of an individual at least in our common knowledge. Iatridou *et al.* (2001) demonstrate that in the presence of obligatory adverbial support the sentence can obtain a universal interpretation. In fact, Iatridou *et al.* (2001) claim that IL statives that cannot be coerced into SL statives are ungrammatical in the perfect without adverbials, see (26) (from Iatridou *et al.* 2001:160).

(26) He has had brown eyes \*(since he was born).

On the other hand, if we look at the set of predicates, which, as Arche (2006) argues, denote permanent properties that are predicated of the subject and hold at an interval that coincides with the subject's lifespan, we find that even in the presence of an adverbial, a corresponding PrP sentence would be odd, as illustrated in (27).

- (27) a. #I have been {gipsy/Eskimo/of the blood type A}.  
b. #I have been {gipsy/Eskimo/of the blood type A} since {birth/1990/I was a teenager}.

I suggest that the reason for that is that this subclass of IL states denote permanent properties that cannot stop holding. We cannot expect them to be available in a PrP sentence, which restricts a property to a certain, however long, temporal interval. A perfect sentence indicates that the eventuality can hold at a delimited interval of the subject's life.



It is only in modified sentences such as (28), in which the IL state appears modified by the adverbial *always*, that the universal reading becomes acceptable:

(28) I have always been {gipsy/Eskimo/of the blood type A}.

Apart from this small class of predicates, the IL state and the temporal permanency of the property described by the predicate should not be equated (Arche 2006; among others). The rest of IL states can be coerced to a temporary reading. Example (29), for example, is available without adverbial modification (from Portner 2003:32).

(29) Mary has known the answer.

In (29), the IL stative predicate can be temporally delimited. Without further adverbial support, it describes a property of Mary, which holds at some interval of her life, and does not necessarily reach up to the utterance time. The endpoint of the eventuality of *knowing the answer* can be pragmatically inferred.

Moreover, the fact that sentences such as (26) are not good in unmodified PrP sentences, which requires temporal delimitedness, is only due to world knowledge and current world development. For instance, even though the colour of the eyes is an inherent property of an individual, one can wear coloured contact lenses nowadays. Consider the following dialogue:

(30) A: Have you ever changed the colour of your eyes?

B: Yes, I sometimes wear coloured contact lenses to change the colour of my eyes. I have had brown eyes, but I have had green eyes, too.

In example (30), the IL predicate of *having green eyes* admits the existential reading of the PrP in which the individual asserts that at some time previous to the utterance time he had brown or green eyes.

Ultimately, even though I assume Arche's subset of IL states as predicates that denote permanent properties, the permanency is an effect that is also subject to world knowledge and our current understanding of the world. If there was a world in which

one could change one's blood type or ethnicity, for example, we could expect sentences illustrated in (27) to be fully acceptable.

As for SL states, they can be used in unmodified PrP sentences (Iatridou *et al.* 2001:162). Consider the dialogue illustrated in (31).

- (31) A: I haven't seen Mary in a while. Where is she?  
 B: She has been sick.

As pointed out above, the perfect requires a temporal restricted reading and a sentence such as (31B), can combine with the PrP: the eventuality of *being sick* can denote a property of a stage of an individual, therefore, it may hold at some unspecified interval of his lifespan. Iatridou *et al.* (2001) analyse sentences such as (31B) as instances of a recent past reading of the PrP. However, note that these sentences systematically display a universal/existential ambiguity, i.e., the eventuality can hold for all times throughout a contextually salient perfect time interval or for some time within the perfect time interval.

Thus far, the readings that are compatible with stative predicates in unmodified PrP sentences are summarized in table (32).

- (32) Unmodified PrP sentences with IL and SL states

Type of state	Existential	Universal
IL (i.e., <i>know</i> )	Ok	*
SL (i.e., <i>be sick</i> )	Ok	*

Table (32) illustrates that the IL and SL classification of stative predicates does not suffice to derive universal interpretations since there is nothing that allows for an unambiguous universal reading. Proper IL predicates (i.e., *be Eskimo*) are permanent states that cannot appear temporally delimited in PrP sentences, i.e., they give rise to an inference of temporal persistence and are not good in (un)modified PrP sentences. Apart from this small class of IL states, whose (un)acceptability is ultimately established on pragmatic grounds, the rest are acceptable in unmodified PrP sentences. However, unequivocal universal readings always require adverbial support, as I will show in §4.5. In the following subsection, I will look into Kimian and Davidsonian states in PrP

sentences to investigate the effect of these types of predicates on the readings of the perfect.

#### 4.4.2 *Kimian and Davidsonian states in unmodified present perfect sentences*

In this section, I will look at Kimian and Davidsonian states and show that, like in the case IL/SL, they cannot qualify in and by themselves for unequivocal universal interpretations.

Consider first the following Kimian eventuality in an unmodified perfect sentence:

(33) I have owned the apartment.

In an out-of-the-blue context, the Kimian state of *owning the apartment* holds at a certain delimited unspecified time interval of the subject's life. However, to establish an unambiguous universal interpretation, this Kimian state needs the presence of overt adverbial modification. For example, the time adverbial *since I was born* can give rise to a universal interpretation and specify that the time interval through which the event holds begins at the time the subject was born and holds up to now.

Next, note that copular constructions are Kimian states that cannot qualify as universal PrP sentences either, as in (34).

(34) Carol has been tired.

As in (33), the PrP sentence in (34) asserts a delimited time span in which there is an eventuality of *being tired*. However, this eventuality is located at an unspecified position and adverbial support is required to ensure a universal reading.

As for Davidsonian states, it is also important to note that they admit the perfect of the progressive, cf. (35) and (36).

(35) John has waited.

(36) John has been waiting.

Example (35) is much less likely to yield a universal reading than (36), which has progressive morphology. In the latter example, the perfect of the progressive of the Davidsonian state of *waiting* holds throughout all points of the perfect time interval.

The following table summarizes the empirical results attested with respect to Kimian and Davidsonian eventualities so far:

(37) Unmodified PrP sentences with Kimian and Davidsonian states

Type of state	Existential	Universal
Kimian (i.e., <i>know</i> , <i>be sick</i> )	OK	*
Davidsonian (i.e., <i>wait</i> )	OK	*

Table (37) shows that the universal interpretation with Kimian states in unmodified PrP contexts is at best rare, like in the case of IL predicates. As for Davidsonian eventualities, they can get a universal reading with the perfect of the progressive as shown in (36), which denotes that the eventuality holds throughout the whole perfect time interval.

#### 4.4.3 Summary of section 4.4

After looking at (un)modified PrP sentences with IL/SL predicates as well as Kimian/Davidsonian states, I conclude that predicates that can be temporally delimited are possible in the PrP and that there are no relevant differences between the IL/SL and the Davidsonian/Kimian classification for the availability of an unequivocal universal reading. Davidsonian eventualities can carry progressive morphology and yield a universal reading, but it seems that, without further adverbial modification, there are no instances of universal readings of PrP sentences that can fix the eventuality on a specific position on the timeline. Given the relevance of temporal modifiers, I will have a closer look at temporal modification in §4.5.

### 4.5 The role of temporal modifiers

As has been shown above, there are no instances of unequivocal universal interpretations of unmodified PrP sentences. As has been claimed in the literature, adverbial support is required to ensure the universal interpretation (Iatridou *et al* 2001;

Portner 2003; among others). In this section, I will show that the universal reading is guaranteed with quantificational elements (i.e., *always*) or temporal adverbials (i.e., *for X time now*) that anchor the interval asserted by the adverbial to the utterance time. I will follow Hitzeman's (1995, 1997a) terminology and distinguish between non-definite position and definite position readings and show that time adverbials that are anchored to the utterance time have a definite reading on the timeline. I will first review the properties of certain modifiers in English, which always yield a universal interpretation, and, then, I will challenge the view that there is a strict correlation between initial durational PPs, the position-definite reading and the universal interpretation of the PrP.

As has been outlined above, there are no instances of unequivocal universal readings in unmodified PrP contexts. Consider (38) (=31B), from §4.4.2).

(38) I have been sick.

Iatridou *et al.* (2001) propose that the reason why (38) does not have a universal reading has to do with the fact that the event is not necessarily asserted at the utterance time. However, as I have shown above, the temporal relation of overlap between a stative event and the utterance time is a pragmatic effect, i.e., stative events do not have an inherent endpoint and termination is a pragmatic effect that can be cancelled. Sentences such as (38) display an existential/universal ambiguity that is resolved with adverbial support.

As for the perfect of the progressive, Vlach (1993) and Portner (2003) claim that it does not require the adverbial for a universal interpretation. Let us consider (39), for example.

(39) I have been cooking.

The event of *cooking* in (39) is distributed throughout the perfect time interval up to now, and lacks an existential interpretation. It seems that this latter interpretation is enforced via the presence of an explicit quantifier (i.e., *ever*) in (40) (example from Comrie 1976:62).

(40) Have you ever been watching TV when the tube exploded?

However, Iatridou *et al.* (2001:162) state that the perfect of the progressive cannot give rise to an unequivocal universal reading because the eventuality cannot be asserted at the utterance time as in (39), which can be continued by *but I'm done now*. As in the case of (38), I claim that this linguistic factor is directly connected to the termination effect of homogeneous eventualities, whose endpoint can be pragmatically inferred, rather than to the definition of the universal reading.

In this study, I claim that sentences such as (38) and (39) allow for a universal reading, but time modification makes the universal reading more prominent, i.e., quantificational constructions or definite readings of temporal adverbials. Following Hitzeman's (1995, 1997a) terminology, universal readings are induced by definite-position readings of temporal adverbials. As was pointed out in chapter 2, Hitzeman (1995, 1997a) makes a distinction between non-position definite and position-definite readings to account for the interpretation of sentences modified by temporal adverbials that are located on (un)specific position on the timeline.<sup>4</sup> In particular, she claims that the position of a temporal adverbial is definite when it is adjacent to the reference time and fixes the location of the time adverbial on a specific location on the timeline. Consider the following example (from Hitzeman 1995:239).

(41) Martha has lived in Boston for five years.

The position of the eventuality of *living in Boston* in (41) can be definite or indefinite on the timeline. In other words, the eventuality may hold for an interval of five years on an unspecified position on the time axis, inducing an existential interpretation, or on a specific position adjacent to the reference time, giving rise to a universal reading of the PrP. On this latter reading, the eventuality overlaps with the utterance time.

The crucial difference between examples such as (38) or (39) and (41) has to do with the presence of temporal adverbials, which allow for the specification of the perfect time interval on a fixed position on the time axis. In the following subsection, I will illustrate that there are certain time adverbials that always qualify for unambiguous universal readings of the PrP.

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<sup>4</sup> Hitzeman (1994) also uses the term "R-dependent" to account for the interpretation of time adverbials that located adjacent to the reference time.

#### 4.5.1 *Unambiguous universal readings*

In English, there are certain durational time adverbials which always require universal quantification over times and yield unambiguous universal readings of PrP sentences in English, i.e., this is the case of time adverbials such as *ever since*, *for five days now*, etc. In these contexts, the event time is asserted at the utterance time, but I claim that this is not an effect of the perfect, rather it mainly depends on the presence of certain quantificational (i.e., *ever*, *at least*) or deictic elements (i.e., *now*) denoted by durational time adverbials.

As shown above, Iatridou *et al.* (2001) claim that the universal reading of the PrP requires the event to be asserted at the utterance time. According to Iatridou *et al.* (2001:163), adverbials in (42) always yield a universal reading of the PrP in English.

(42) at least since, ever since, always, for five days now.

In fact, as they show, the assertion made by PrP sentences modified by such type of adverbials cannot be cancelled (Iatridou *et al.* 2001:159), see (43) (=3), from §4.1).

- (43) a. \*She has been sick at least/ever since 1990 but she is fine now.  
b. \*She has always lived here but she doesn't anymore.

In (43a), the eventuality of *being sick* holds throughout the perfect time interval that starts in 1990 and continues up to now. The subject is still sick at the utterance time, and it is not possible to cancel the state continuing the sentence by *she is fine now*. Likewise, in (43b), the eventuality holds throughout the perfect interval including its boundaries, and, the event time is included by assertion at the utterance time. Therefore, the subject is still living there at the utterance time and it is contradictory to state that the eventuality does not currently hold.

It is important to note that in spoken usage the ungrammatical judgment for a sentence such as (43a) above is not very robust, which means that, in fact, we can find contexts in which their cancelability is available. Consider the following context:<sup>5</sup>

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<sup>5</sup> Thanks to Michael Kennedy for suggesting this context to me.

- (44) Situation: there is someone who has been sick since last week, but today, when you visit her, you find out that she is already fine and you utter:

She has been sick ever since last week, but I have just seen her in the bedroom and she is fine!

It seems that the presence of the quantificational element *ever* as well as *at least* in sentences such as (43a) or (44) does not ensure that the event holds at the utterance time, rather they assert that the starting point of the event time coincides with the temporal point encoded by the *since* PP (i.e., *in 1990*). In (44), the described eventuality holds from the start of the year 1990 up to now, but does not necessarily include *now* itself.

In fact, as Mittwoch (1988:239) shows, even modified perfect progressive sentences, which cover the whole of the perfect interval may allow for an insignificant subinterval immediately preceding the reference time at which the event time does not hold, see (45) (example from Mittwoch 1988:239).

- (45) John has been running for two hours.

(45) may be uttered in a situation in which the subject has just stopped running for a two-hour long period and he is having a rest at the utterance time.

It has been also claimed that preposed durative time adverbials yield unambiguous universal interpretations (Dowty 1979). Interestingly, Hitzeman (1995, 1997a) claims that time adverbials in initial position always yield definite position readings. However, even though it is a strong tendency, universal and position-definite readings are not always correlated with the initial position as I show in §4.5.2.

#### 4.5.2 *Time modifiers in initial position*

As has been shown above, unambiguous universal interpretations arise in the presence of time adverbials that specify the perfect time interval through which the eventuality holds and locate it on a fixed position on the time axis. In this subsection, I will show that the correlation between initial durational time adverbials, the universal reading and the definite position on the time axis is not always absolute. In particular, I will look at two types of adverbials that typically appear with the PrP in English: *for* and *since* PPs.



Dowty (1979:343) argues that the universal-existential ambiguity has to do with the position of the time adverbial: preposed durative time adverbials always yield a universal reading. Hitzeman (1995, 1997a), refers to it as a definite position reading, see (46).

(46) For four years, John has lived in Boston.

However, this does not apply to time adverbials headed by *since*. As Iatridou *et al.* (2001) put it, *since*-adverbials do not necessarily yield a universal reading when appear in a sentence-initial position, see (47).

(47) Since 1990, I have been sick (once).

In (47), the durational PP *since 1990* is in initial position and has a complex structure, which always has a definite position on the time axis (i.e., it is a deictic preposition which is linked to the utterance time), but the event time does not necessarily overlap with the utterance time. The sentence illustrated in (47) can yield an existential reading in which there is at least one occurrence of *being sick* that takes place within a time period that starts in 1990 up to now.

Even *for* PPs in initial position do not always correlate with an unequivocal universal interpretation (Abush & Rooth 1990; Rathert 2003). There are instances of existential readings of PrP sentences modified by *for* PPs in initial position that have a non-position definite reading. This is the case that Abush & Rooth (1990:12) analyse by providing a context of an incomplete experiment. In such a context, there is an individual who is isolated and his activities are recorded for the purpose of studying his sleep patterns. The time interval that is evaluated is the period from the start of the experiment to the present. If the experimenter is asked whether anything significant has happened so far, the reply might be (48), or if the experimenter is asked to list what John's activities since the start of the experiment have been, the answer might be (49).

(48) For two hours, he has been asleep.

(49) For two hours, he has been asleep, and for ten hours, he has watched TV.

Example (48) denotes that, within the relevant time interval in which the experiment takes place, there is an event of *sleeping*, which lasts two hours, and an event of *watching TV*, which takes ten hours. Even though the eventualities are located within a contextually salient perfect interval, the time of the experiment, their location is not fixed on the relevant time interval.

#### 4.5.3 Summary of section 4.5

The data provided and discussed in §4.5 have shown that the universal reading of the PrP is ensured by quantificational elements (i.e., *always*) or position definite readings of temporal adverbials (i.e., *for X time now*), which anchor the interval asserted by the adverbial to the utterance time. Universal quantifiers such as *always* specify the time interval encoded by the perfect and assert the event at the utterance time, see (43b), certain quantificational elements like *ever* or *at least* assert the starting point of the event time (i.e., *ever since*, *at least since*), see (46), or deictic elements like *now* specify the duration of the event time relative to a temporal deictic centre (i.e., *for X time now*). Moreover, even though the correlation between time modifiers in initial position, the position-definite reading and the universal interpretation of the PrP is a strong tendency, it is not absolute, cf. (48) and (49). Following the observations based on the English data, in §4.6, I will investigate whether the universal reading in Romance languages such as Catalan appears under the same conditions as in English.

### 4.6 The universal reading of the present perfect in Catalan

In this section, I will show that in Catalan the two factors that the literature has related to the universal interpretation of the PrP, namely, (i) the event holds throughout a time that stretches throughout the perfect time interval and (ii) the event overlaps with the utterance time, are independent from each other. The predicate of a PrP sentence can require universal quantification over times via using a homogeneous expression and/or via adverbial support. It is only with adverbial support that PrP sentences can give rise to an unequivocal universal interpretation. In the second part of this chapter, I mainly focus on the interaction of the PrP with temporal modifiers in Catalan and show that, like in English, there are unambiguous universal readings of the PrP in Catalan. I will also look at the PrP used in Mexican Spanish, which has been traditionally qualified as a universal perfect (Lope Blanch 1972; Moreno de Alba 1978; García Fernández 2000b)

and show, following Laca (2010), that this reading is not encoded in the meaning of the perfect, rather it also relies on the presence of adverbial modification.

#### 4.6.1 *The functional properties of the predicate*

In the previous section, I pointed out that the properties of the event holding throughout a perfect time interval and overlapping with the utterance time have to do with the subinterval property of the predicate and the effect of termination. In languages such as Catalan, homogeneity is also required to derive a universal interpretation. However, as in English, this is a necessary condition, but not a sufficient one since an unequivocal universal interpretation requires adverbial modifiers that are able to fix the specified perfect time interval on the timeline.

Consider example in (50) (=4a), from §4.1), which illustrates a stative predicate, which have the subinterval property down to instants, and allows for a universal interpretation of the PrP in Catalan.

- (50) Sempre hem viscut en aquest poble.  
always have.1pl lived in this town  
'We have always lived in this town.'

The temporal adverbial *sempre* 'always' specifies the perfect time interval through which the eventuality of *living* holds, i.e, if for a certain time interval *I* (i.e., specified by *sempre* 'always'), it is true that the subject lives in this town, this is also true for every subinterval of *I*.

The universal reading with the perfect of activity predicates is also available (from Pérez Saldanya 2002:2592):

- (51) Han treballat des de les vuit del matí.  
have.3pl worked from the eight of the morning  
'They have been working since eight in the morning.'

Example (51) may yield a universal reading in which the event of *working* starts at eight and holds throughout the perfect time interval up to the utterance time.

In languages such as Catalan, homogeneity is a necessary condition for the availability of universal readings. However, like in English, it is not sufficient, since it

is adverbial support which unequivocally brings out such an interpretation. In the following subsections, I will have a closer look at the use of the PrP in unmodified contexts, see §4.6.2, and later I will discuss the contribution of temporal modifiers, see §4.6.3.

#### 4.6.2 *Unmodified present perfect sentences*

In unmodified sentences, the compound verbal form has no reading entailing that the event obtains through the utterance time. In Catalan, it is the simple present tense or other temporal constructions such as *portar* ‘carry’ + X time + gerund that can bring out this entailment. In this section, I claim that unmodified homogeneous PrP sentences display an existential/universal ambiguity and cannot qualify as unambiguously universal since this interpretation needs adverbial support. There are verbal periphrases (i.e., <*estar* ‘be’ + gerund>, or <*anar* ‘go’ + gerund) that admit the perfect and allow for a universal reading.

In Catalan, the present tense or temporal constructions such as <*portar* ‘carry’ + X time + gerund> in the present assert that the event holds at the utterance time and are more informative than the PrP in obtaining universal interpretations, see (52) (=33), from §1.3.2).

- (52) a. *Visc a Barcelona des de 2009.*  
       live.1sg in Barcelona from 2009  
       ‘I have lived in Barcelona since 2009’
- b. *Porto quatre anys estudiant anglès.*  
       carry.1sg four years studying English  
       ‘I have been studying English for four years.’

The construction <*portar* ‘carry’ + gerund> cannot be used in either the periphrastic past or the PrP (Rigau & Fernández Soriano 2009), see (53).<sup>6</sup>

- (53) \*{*Va portar/Ha portat*} quatre anys estudiant anglès.  
       aux.3sg carry/have.3sgcarried four years studying English

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<sup>6</sup> The same applies to the Spanish temporal construction <llevar + gerund>.

The verb *portar* in this temporal construction implies continuity and cannot appear delimited by a past or a perfect time interval.

Unmodified PrP sentences in Catalan can obtain a universal reading. Consider examples in (54), for instance.

- (54) a. Hem viscut en aquest poble i sabem del que parlem.  
have.1pl lived in this town and know.2pl of.the that talk  
'We have lived in this town and we know what we are talking about.'
- b. Hem treballat junts i ens queden molts projectes per fer.  
have.1pl lived together and cl.1pl leave lots projects for do  
'We have worked together and we still have lots of projects left to do.'

Without any temporal modifier, PrP sentences show a universal/existential dichotomy. Examples in (54) may allow for an existential reading, in which the event holds for some time interval within the interval encoded by the perfect, i.e., the eventuality of *living in an English speaking country* in (54a) and *working together* in (54b) holds at some time interval in the past. There is also a universal interpretation allowed, where the event holds for all time intervals throughout the perfect time interval. The eventuality of *living in an English speaking country* in (54a) or *working together* may hold throughout the interval encoded by the perfect that starts at some unspecified time up to now.

Unlike in English, a morphological progressive does not really exist in the Catalan verbal system, but there are aspectual periphrases such as <*estar* 'be' + gerund>, see (55), or <*anar* 'go' + gerund>, see (56), which can combine with the perfect and give rise to a universal reading:

- (55) Han estat esperant (tot el dia).  
have.3pl been waiting all the day  
'They have been waiting (all day).'

- (56) Han anat treballant (des de les vuit del matí).  
have.3pl been working from the eight of.the morning  
'They have been working (since eight in the morning).'

(55) and (56) describe eventualities that are ongoing throughout the perfect time interval, but temporal modification (i.e., *tot el dia* ‘all day’ or *des de les vuit del matí* ‘from eight in the morning’) is required to locate the eventuality on a definite position on the timeline.

Essentially, I have illustrated that Catalan has a wider range of options to convey the universal reading than English, i.e., the present tense or temporal constructions such as *portar* ‘carry’ + X time + gerund. The use of the present tense is more informative than the PrP and it entails that the event holds at the utterance time. Aspectual verbal periphrases such as <*estar* ‘be’ + gerund>, or <*anar* ‘go’ + gerund> can appear in the perfect and bring out this reading. However, like in the case of unmodified PrP sentences, adverbial support is required to ensure a universal interpretation of the PrP as I show in §4.6.3.

#### 4.6.3 *Modified present perfect sentences*

In this subsection, I will focus on the role of temporal modification to illustrate that, like in the case of the derivation of the hodiernal reading in Catalan, adverbial support guarantees an unequivocal universal interpretation. Temporal constructions that bring out an unambiguous universal interpretation (i) encode an interval that requires universal quantification over times (i.e., *sempre* ‘always’ or *tot XP* ‘all XP’) and/or (ii) are located on a specific position on the timeline (i.e., the marker *que* ‘that’). It appears that the main contrast between Catalan and English is that in Catalan the universal interpretation of a PrP sentence is compatible with temporal constructions that state an explicit right boundary on the interval asserted by the perfect. This right boundary does not necessarily contain the utterance time, but is somewhat connected to the present reference time denoted by the present tense of the auxiliary verb.

As was pointed out in chapter 2, hodiernal readings of the PrP are clearly available with temporal modifiers. Consider example (57).

- (57) Hem anat al mercat {aquest matí/ fa una hora/avui a les deu}.  
 have.1pl gone to.the market this morning/make.3sg one hour/today in the ten  
 ‘We went to the market this morning/two hours ago/today at ten.’

The locating time adverbials such as *aquest matí* ‘this morning’, *fa dos hores* ‘two hours ago’ or *avui a les deu* ‘today at ten’ in (57) gives rise to an unambiguous

hodiernal reading of the PrP. These time adverbials make reference to a specific time interval, i.e., a time interval with a fixed position on the time axis.

Consider sentences in (58) now. Like in the case of a hodiernal reading, explicit temporal modifiers in (58) yield a universal interpretation.

- (58) a. He viscut sempre a Barcelona.  
 have.1sg lived always in Barcelona.  
 ‘I have always lived in Barcelona.’
- b. He estudiat francès durant aquests últims tres anys.  
 have.3sg studied French during these last three years  
 ‘He has studied French during these last three years.’
- c. Plou/ ha plogut des de diumenge.  
 rain.3sg/have.3sg rained from Sunday  
 ‘It has been raining since Sunday.’

The universal quantifier *sempre* ‘always’ yields universal quantification over times, and, in (58a), it gives rise to an unequivocal universal interpretation in which the eventuality holds throughout the lifespan of the subject. The durational time adverbial *durant aquests últims tres anys* ‘during these last three years’ in (58b) also specifies the duration of the PTS, which has a position definite reading on the timeline and through which the event time of *studying French* may hold. Temporal adverbials headed by the preposition *des de* ‘from’ bring out a universal interpretation as in (58c).

There is a relevant empirical contrast in the characterization of unambiguous universal readings between English and Catalan. In contrast to English, Catalan PrP constructions can state a bound on an interval encoded by the perfect that does not necessarily include the utterance time. Consider examples given in (59).

- (59) a. \*Hem viscut en aquest poble fins el 2000/la setmana passada/ahir.  
 have.2pl lived in this town until the 2000 the week last/ yesterday
- b. Hem viscut en aquest poble fins ara fa poc.  
 have.2pl lived in this town until now makes little  
 ‘We lived here until some time ago.’

The PrP sentence modified by *finsel 2000/la setmana passada/ahir* ‘until 2000/last week/yesterday’ in (59a) is ruled out since the perfect time interval is specified by locating time adverbials that precede the present reference time. However, the perfect time interval specified by *fins ara fa poc* ‘until now makes little’ in (59b) is available in Catalan and can license a universal interpretation. This PP delimits a time interval that is separated by a certain lapse of time from the moment of speaking. In §4.7, I will show that the temporal relation of overlap between the interval encoded by the perfect and the reference time allows for the specification of the right boundary by constructions that are not necessarily coextensive with the utterance time.

As was illustrated in chapter 2, there are temporal constructions in Catalan such as *fa XP que* ‘makes XP that’, with a specific marker *que* ‘that’ that has special temporal and aspectual properties (2001a, 2001b). This marker can appear with the preposed PP *des de* ‘from’ and the quantifier *tot* ‘all’, which select an XP that denotes a temporal interval, and bring out a universal reading as shown in (60) (= (4b) and (4c), respectively, from §4.1).

- (60) a. Des de diumenge que {plou/ ha plogut}.  
 from Sunday that rain.3sg/ have.3sg rained  
 ‘It has been raining since Sunday’
- b. Tot aquest mes que neva/ha nevat.  
 all this month that snow/have.1.sg snowed  
 ‘It has been snowing all month.’

Examples illustrated above require the use of the present tense or the PrP and convey a universal interpretation, i.e., the described eventualities hold throughout the specified time span up to now. In the previous chapter, I discussed a similar temporal construction that makes use of such a marker. This is the case of *fa XP que* ‘makes XP that’, see (61) (= (52), in §2.4.2):

- (61) Fa {una hora/ dos dies} que ha arribat.  
 make.3sg one hour/ two days that have.3sg arrived  
 ‘He arrived one hour ago.’



The temporal construction *fa XP que* ‘makes XP that’ asserts a temporal interval whose starting point is given by the subordinate clause and, as Fábregas (2014) claims, it sets up the anchor of the measure phrase. In the case of *des de XP que* ‘from XP that’ and *tot XP que* ‘tot XP that’, we are dealing with simple clauses that have a preposed temporal modifier followed by the marker *que* ‘that’. It seems that the marker in (60) anchors the time span that contains the eventuality at the utterance time and yields, following Hitzeman’s terminology (1995, 1997a), a position definite reading, i.e., the specified time span has a fixed position on the timeline. Thus, *des de XP que* ‘from XP that’ in (60a) specifies the starting point of the time interval encoded by the preposition and *Tot XP que* ‘all X P that’ in (60b), the duration of the described eventuality. In this subsection, I will look at the characteristics of *Tot XP (que)* ‘all XP (that)’.

The quantificational temporal construction *Tot XP (que)* ‘all XP (that)’ in Catalan combines with atelic predicates and the presence of *que* ‘that’ is only compatible with the present tense or the PrP, cf. (60b) and (62).

- (62) \*Tot ahir que va nevar.  
 All yesterday that aux.3sg snow

Without the presence of *que* ‘that’, which is identified as a temporal-aspectual marker, the temporal adverbial is compatible with other tenses (Rigau 2001b), but disallows the use of the present tense, cf. (63a) and (63b).

- (63) a. Tota aquesta tarda \*tinc/ he tingut febre.  
 all this afternoon have.1sg/ have.1sg had fever  
 ‘I have had a fever all afternoon.’  
 b. Tot ahir vaig tenir febre.  
 all yesterday aux.1sg have fever  
 ‘I had a fever all day yesterday.’

The universal quantifier *tot* ‘all’ can be modified by a adverbial phrase like *menys avui* ‘less today’ as in (64) ( from Rigau 2001b:89).

- (64) Tot aquests darrers dies menys avui (que) ha plogut.  
 all these last days less today that have.3sg rained  
 ‘It has rained all these last few days except today.’

The PrP sentence in (64) is licensed in a context in which the described situation does not hold up to the utterance time. The quantificational construction specifies a time interval through which the eventuality of *raining* holds, but it is not asserted at the utterance time (i.e., the eventuality of *raining* does not occur on the day of speaking). Like in the case of (59b), (64) shows that the event time does not necessarily overlap with the utterance time to obtain a universal interpretation and that it is an independent linguistic factor that does not belong to the semantics of the perfect.

According to Rigau (2001b:91), the meaning of the quantificational construction *tot XP que* ‘all XP that’ in (60b) is extensive, whereas *tot XP* ‘all XP’ in (63a) is intensive. In (60b), the complementizer *que* ‘that’ forces an extensive reading in which the situation occurs throughout all the current afternoon, its meaning is close to the adverbial *continuously*. As for (63a), the situation described does not necessarily hold at all subintervals of the given time interval denoted by the quantifier. Its meaning is similar to the adverbial *persistently* or *repeatedly*.

Crucially, examples illustrated above do not admit numerically quantified phrases such as *vint vegades* ‘twenty times’, see (65a), and, hence, disallow an existential interpretation. The temporal period denoted by the quantificational phrase *tot XP (que)* can only admit noun phrases (i.e., *molts cops* ‘a lot of times’) or degree adverbs (i.e., *molt* ‘a lot’), see (65b) and (65c), respectively (examples (65a) and (65c) from Rigau 2001b:93-94).

- (65) a.\* Tot aquest any (que) ha plogut vint vegades.  
 all this year that have.3sg rained twenty times  
 b. Tot aquest any (que) ha plogut molts cops.  
 all this year that have.3sg rained lots.of times  
 ‘It has rained a lot of times all year long.’  
 c. Tot aquest any (que) ha plogut molt.  
 all this year that have.3sg rained a.lot  
 ‘It has rained a lot all year long.’

According to Rigau (2001b:93), when the quantificational temporal phrase *tot XP* ‘all XP’ is introduced by the central coincidence preposition *en* ‘in’, it encodes a time interval asserting the starting point and the endpoint. With this temporal construction, the marker *que* ‘that’ is not present and the present tense is disallowed as in (66).

- (66) \*En tot aquest any que plou.  
in all this year that rain.3sg

In contrast to *tot XP (que)* ‘all XP (that)’, the phrase *en tot XP* ‘in all XP’ encodes a closed temporal frame adverbial which is seen in its totality, from the beginning up to the final endpoint. It can properly include the event time within the time interval specified by the PP and, hence, allow for an existential interpretation. Rigau (2001b:93) shows that the PP *en tot XP* ‘in all XP’ is licensed when it has in its scope a quantified phrase such as *vint vegades* ‘twenty times’ or *gens* ‘not at all’, cf. (67a) and (67b), for example.

- (67) a. En tot aquest any ha plogut vint vegades.  
in all this year have.3sg rained twenty times  
‘It has rained twenty times during this year.’  
b. En tot aquest any no ha plogut gens.  
in all this year no have.3sg rained not.at.all  
‘It hasn’t rained at all during this year.’

In (67a), the event of *raining* is multiplied and it takes place twenty different times within the frame adverbial encoded by *en tot aquest any* ‘in all this year’. As for (67b), the quantified phrase *gens* ‘not at all’ denotes that there is no time in the specified period in which the eventuality of *raining* holds.

In sum, this subsection has shown that, in contrast to English, Catalan PrP constructions can state a bound on a temporal interval at some time preceding the moment of the utterance time as in (59b) and (64). In Catalan, there are temporal constructions that qualify for unambiguous universal PrP sentences such as the quantifier *sempre* ‘always’, *tot XP (que)* ‘all XP (that)’, or the PP *desde XP (que)* ‘from XP (that)’. In particular, I have looked at the quantificational construction *tot XP (que)*

‘all XP (that)’ and the characteristics of the marker *que* ‘that’, which always induce a position definite reading of the time adverbial. It anchors a temporal span to a deictic centre (i.e., the utterance time) as shown in (60). Although I have focused on Catalan data so far, in the following section, I will look into the properties of the universal reading in Mexican Spanish, to show, as Laca (2010) claims, that it is not a PrP specialized for universal readings.

#### 4.6.4 *A comparison with the present perfect in Mexican Spanish*

It has been traditionally assumed that the PrP in Mexican Spanish qualifies as a universal perfect (Lope Blanch 1972; Moreno de Alba 1978; García Fernández 2000b). Under this view, examples illustrated in (68) denote a situation that starts at some moment in the past and holds up to now, and they can even continue in the future. However, this subsection will look into Mexican Spanish data to show, on the basis of Laca’s (2010) observations, that the universal reading is obtained compositionally: it requires universal quantification throughout the perfect time interval and/or the presence of adverbial support. Consider the following examples:

- (68) a. Esta estatua siempre ha estado allí.  
       this statue always have.3sg been there  
       ‘This statue has always been there.’
- b. Desde entonces sólo he sido una carga para ti.  
       from then only have.1sg been a burden for you  
       ‘Since then, I have only been a burden for you’
- (69) Desde que la conocí, la he visto casi a diario.  
       since that her met her have.1sg seen almost to daily  
       ‘Since I met her, I have been seeing her almost daily.’

Crucially, the universal reading in sentences (68) does not belong to the semantic value of the perfect per se: example (68a) requires a stative expression that holds throughout the whole perfect time interval modified by the adverb of quantification *siempre* ‘always’, i.e., the statue has been located at the same place all the time. As for example (68b), the state of *being a burden* holds all through the perfect time interval that starts at some unspecified moment and reaches up to now. More importantly, as García Fajardo

(2011) notes, the fact that sentences such as (68) denote a single eventuality that holds up to the moment of the utterance and it is expected to hold in the future is just a natural pragmatic inference, which can be cancelled. For instance, sentence (68b) can be continued by *pero a partir de ahora ya no lo seré* ‘but from now onwards I won’t’. The universal reading can also be obtained with derived states (i.e., characteristic property or habitual interpretation), see (69). The presence of the adverb of quantification *casi a diario* ‘almost daily’ in example (69) gives rise to a habitual interpretation of the activity predicate, which patterns with states and, hence, yields a universal reading of the PrP.

As for negated PrP sentences, it has also been claimed that they yield a universal reading in Mexican Spanish, see (70) (from Laca 2010:14).

- (70) *Todavía no ha llegado.*  
yet not have.3sg arrived  
‘He hasn’t arrived yet.’

However, as Laca (2010:14) points out, negation cannot distinguish between a universal and an existential reading due to the interaction of quantifiers with negation, since the universal reading ‘for all times in an interval, it is not true that p’ is equivalent to the existential ‘for no time in an interval it is true that p’.

The availability of quantified phrases further supports the claim that the PrP in Mexican Spanish is not an instance of a universal perfect, but a perfect that presents a delimited situation at the utterance time. Examples illustrated in (71) qualify for an existential reading, instead of universal (Mackenzie 1995, Laca 2010):

- (71) a. *He sido siete veces campeón.*  
have.1sg been seven times champion  
‘I have been champion seven times’.
- b. *Es la única exposición que he hecho.*  
be.3sg the only exhibition that have.1sg done  
‘It is the only exhibition I have done.’

#### 4.6.5 *Summary of section 4.6*

In this section, I dealt with the properties of the universal reading in Catalan. Like in English, I have shown that the two linguistic factors that have been associated with the universal interpretation, namely, that the event holds throughout the interval encoded by the perfect and that the event overlaps with the utterance time are independent of each other and do not belong to the semantics of the perfect. Unmodified PrP sentences as well as aspectual verbal periphrases may allow for a universal reading as in (54)-(56). In Catalan, the presence of universal adverbs of quantification like *sempre* ‘always’ or temporal constructions such as *des de XP (que)* ‘from XP that’, *tot XP (que)* ‘all XP that’, see (58) and (60), qualify for unambiguous universal interpretations. In contrast to English, the PrP in Catalan can be licensed in temporal constructions that state an explicit right boundary on the time interval encoded by the perfect that does not overlap with the utterance time, see (59b) and (64). Moreover, I have shown, on the basis of Mackenzie (1995), Laca (2010) and García Fajardo’s (2001) observations, that the PrP in Mexican Spanish does not specialise for universal readings, rather the interpretation of a PrP sentence is also dependent upon the presence of time adverbials, see (68). In the following section, I will derive the universal reading of the PrP in Catalan and discuss the main linguistic factors that are relevant: the meaning of the present tense and the characteristics of time modifiers, which guarantee an unambiguous universal reading.

#### 4.7 **Deriving the universal reading of the present perfect**

In the previous sections, I have shown that there two factors that the literature on the perfect has traditionally used to define the universal reading of the PrP, namely, (i) the event holds throughout a perfect time interval and (ii) the event time overlaps with the utterance time, are independent of each other. None of these two factors belong to the domain of the semantics of the perfect, but to the properties of the predicate. Following Hitzeman’s (1995, 1997a) terminology, I have shown that, like in English, an unequivocal universal interpretation requires a position definite reading via adverbial support. In contrast to English, Catalan PrP constructions may state an explicit bound on the time interval encoded by the perfect that does not necessarily contain the utterance time. In this section, I will look closer at the properties of the PTS in Catalan

and English, taking into account the role of the aspectual class of the predicate and time modifiers.

#### 4.7.1 *Functional properties of the predicate*

In this chapter, I have shown that homogeneity is a necessary condition for the derivation of the universal reading. However, one of the main contrasts between English and Catalan has to do with the universal interpretation of activity PrP sentences. It has been claimed that activity predicates in English do not behave the same way as stative predicates in PrP sentences (see Mittwoch 1988; Iatridou *et al.* 2001). Iatridou *et al.* (2001) propose that activity predicates incorporate a [bounded] feature in PrP sentences. However, as was illustrated in §4.2, the universal reading with activity predicates in PrP sentences in English is mainly dependent on the grammatical constraints imposed by the type of temporal modifier they combine with. In this section, I claim that the unavailability of the universal reading of activity predicates in PrP sentences does not belong to the domain of the aspectual morphology of the verb, i.e., to the contribution of an (un)bounded feature of the verb. First, the restrictions on the universal interpretation with activity predicates do not apply cross-linguistically since Catalan allows for this reading in all type of contexts. Second, it seems that the universal reading of activity predicates in English is ultimately connected to the semantics of the present tense, the subinterval property and the type of interval encoded by the temporal modifier.

A claim has been made in the literature that activity predicates in PrP sentences do not behave the same way as stative predicates. Consider (72) (= (11), from §4.2), which, according to Mittwoch (1988:211), only allows for an existential interpretation:

(72) John has run since seven.

There have been some attempts to explain the reason why activity predicates do not allow for a universal interpretation of the PrP in English. Iatridou *et al.* (2001) stipulate that the perfect of telic as well as activity predicates incorporate boundedness, whereas the perfect of statives does not. Iatridou *et al.* (2001:175) consider that the choice between progressive and non-progressive morphology corresponds to unbounded versus bounded interpretations, see (73). Thus, progressive is characterized by two features,

namely, non-stative and unbounded, whereas non-progressive, by non-stative and bounded or stative and unbounded.

- (73) a. [non-stative], [unbounded] → progressive  
b. [non-stative], [bounded] → non-progressive  
c. [stative], [unbounded] → non-progressive

According to Iatridou *et al.* (2001), telic and activity predicates (i.e., non-statives) can carry either progressive or non-progressive morphology, the choice between the two correspond to unbounded versus bounded interpretations. Following this classification, the non-progressive predicate from (73) instantiates a predicate with the features [non-stative] and [bounded]. According to Iatridou *et al.* (2001), the universal interpretation requires unboundedness and, hence, it follows that with non-stative predicates such an interpretation is only available with progressive morphology, which has the feature [unbounded]. In English, the universal interpretation is always available with statives since they are interpreted as [unbounded], and independent factors preclude the expression of statives that have the feature [unbounded] to appear in the progressive. The distinction between [bounded] and [unbounded] stative predicates is not overtly expressed in English (Iatridou *et al.* 2001).

However, it seems that there are no independent reasons, apart from the examples such as (72), to argue that activity and telic predicates pattern together in perfect contexts. Consider the following test for telicity, the progressive-to-perfect entailment test (Dowty 1979:57), which fails with telic predicates, but holds with atelics:

- (74) a. Kim is writing a story  $\nRightarrow$  Kim has written a story.  
b. Kim is pushing the wagon  $\Rightarrow$  Kim has pushed the wagon.

In (74a), the PrP sentence of the accomplishment predicate *Kim has written a story* is bounded and blocks the progressive-to-perfect entailment. However, if the perfect of activities had the feature [bounded], they would pattern with accomplishments, contrary to what we observe in (74b). In (74b), the activity predicate licences the entailment of the perfect. The claim that has been made in the literature that the perfect of telic and



activity predicates incorporate boundedness in perfect contexts (see Iatridou *et al.* 2001) does not hold. If boundedness were always required, activity predicates would fail the progressive-to-perfect entailment.

Pancheva (2013), following Iatridou *et al.* (2001) classification, derives the universal/existential readings of PrP sentences of activity predicates and shows that the interpretations are due to different combination of aspectual morphology of the verb and the semantics of the temporal adverbial. Consider (75) (from Pancheva 2013:17).

- (75) a. Betsy has worked since Monday.  
       ?universal:        [bounded]    durational time adverbial  
       existential:     [bounded]    inclusive time adverbial  
       b. Betsy has been working since Monday.  
       universal:        [unbounded] durational time adverbial  
       ?existential:    [unbounded] inclusive time adverbial

Pancheva (2013) assumes that *since*-adverbials can have durational and inclusive interpretations, which correspond to universal and existential readings, respectively, and shows that an activity predicate, with the feature [bounded], is not licensed with the universal interpretation of the time adverbial. Such an interpretation is available with a progressive predicate, which has the feature [unbounded].

Interestingly, Pancheva (2013), who also follows Iatridou *et al.*'s (2001) classification, takes into account contexts with *for*-adverbials, which, in contrast to *since*-adverbials, admit a universal interpretation as in (76) (from Pancheva 2013:17), i.e., the activity predicate holds for a three-long hour period up to now.

- (76) Betsy has worked for three hours now.  
       universal:        [bounded]    durational time adverbial

In addition, in §4.6.1, I illustrated that a restriction on activity predicates in PrP contexts does not apply across languages. Consider the following example from Catalan in (77) (=51), from §4.6.1; example from Pérez Saldanya 2002:2592)

- (77) Han treballat des de les vuit del matí.  
 have.3pl worked from the eight of.the morning  
 ‘They have been working since eight in the morning.’

The empirical contrast between sentences modified by *since*-adverbials in (72) and *for*-adverbials in (76) in English, and between (72) and its Catalan counterpart illustrated in (77) are crucial to understand the reason why activity predicates do not always bring out universal interpretations of the PrP in English. In this chapter, I claim that this interpretation with activity predicates in English is dependent on three different linguistic factors: (i) the conceptualization of the present tense, (ii) the subinterval property of activity predicates and (iii) the type of interval asserted by the temporal modifier.

In section §4.2, I outlined that stative as well as progressive predicates have been analysed as homogeneous predicates that are true at subparts restricted to instants (Hallman 2009). This restriction contrasts with other homogeneous predicates such as activity predicates, which are true at an interval (Taylor 1977; Dowty 1979). One of the classical tests to show these differences is found in the context of present tense sentences (see Dowty 1979). Consider the following examples.

- (78) a. I am in Boston.  
 b. John is running.  
 c. John runs. (habitual reading only)

The present tense in English is defined as a limited temporal span (Smith 1991), and, by assuming that the utterance time (i.e., *now*) is conceived as a point (i.e., a moment) (Hallman 2009), it follows that only stative predicates can be identified with the moment of *now*. In (78a), for instance, the present tense asserts that the time span through which the eventuality of *I am in Boston* holds is the moment *now*. Progressive predicates pattern with stative predicates in that they are also true at subparts restricted to moments of time (Hallman 2009). In fact, this is the case of example (78b), in which the present tense encodes a time span that identifies an eventuality of *running* with the moment *now*. eventualities that are true down to intervals such as activities involve a temporal period other than *now*, i.e., they are true at minimal parts larger than a moment

and, hence, they cannot be identified with the time span encoded by the present tense and only allow for a habitual reading as in (78c).

Let us turn now to the context of the universal reading of the PrP. In fact, there is a strong parallelism between the examples in the present tense illustrated in (78) and PrP sentence modified by a *since*-adverbials in (79).

- (79) a. I have been in Boston since 2010.  
b. I have been running since seven.  
c. John has run since seven.

As shown above, stative and progressive predicates can be identified with the moment *now* encoded by the present tense and denote that the events of *being in Boston* in (78a) and *running* in (78b) hold at the utterance time. According to Smith (1991), the properties of the present tense are inherited in sentences that also include a present reference time. Hence, it follows that the PrP of a stative and a progressive predicate can also be identified with the moment *now* and hold at the utterance time. In fact, this interpretation is available in (79a) and (79b). The temporal constructions shown in (79) are modified by a *since* PP, which asserts a time interval that includes the present moment (i.e., *now*), i.e., the right boundary of the time span specified by the preposition. The stative and the progressive PrP sentences in (79a) and (79b) have the subinterval property and are true down to instants. They can be identified with the moment *now* encoded by the right boundary of the *since* interval, and, hence, get a universal interpretation of the PrP, where the eventuality of *being in Boston* and *running* holds throughout the time interval encoded by *since* up to now.

However, the present tense cannot be identified with a moment in the case of an activity predicate as in (78c), because activities do not hold at moments of time. Likewise, in the context of activity PrP sentences, the right boundary of the *since* interval cannot be identified with the utterance time since it requires a larger interval other than the temporal point *now*. In (78b), the eventuality of *running* cannot hold only at the utterance time and, hence, disallows a universal interpretation of the PrP. Rather, it allows for an existential interpretation, where the eventuality of *running* holds at some time interval that starts at seven and reaches up to now. As was shown in §4.2, the universal reading of activity predicates with *since* is only compatible with derived states, see (80) (=13a), from §4.2; example from Quirk *et al.* 1985:192).

(80) Mr Terry has sung in this choir ever since he was a boy.

The activity predicate in (80) is a derived state and is interpreted as a characteristic property of the subject (i.e., *be a singer*). The eventuality of *being a singer* in the choir holds throughout the interval asserted by *since*, which starts at the time the subject is a boy and holds up to now.

The same applies to activity predicates in PrP sentences modified by *until*-adverbials. Consider (81), for example.

- (81) a. John has worked until now.  
b. John has been working until now.

As in (79c), the bound set by the *until*-adverbial at the utterance time cannot be associated with an instant of the activity predicate *work*. The interpretation of a sentence such as (81a) is the one of a characteristic property (i.e., *be an employee*), which denotes that the subject has been an employee up to the moment of speaking. The interpretation whereby the eventuality of *working* holds at the utterance time is available in (81b). The progressive predicate has the subinterval property and, like stative predicates, is true down to instantaneous moments of time and, hence, it can be associated with the right boundary set up by *now*, which denotes a temporal point.

In contrast to *since* and *until*-adverbials, a universal interpretation of a PrP sentence modified by a *for*-adverbial is available with activity predicates in English as shown in (76). A *for*-adverbial encodes a durational interval that does not state any type of bound and, hence, they do not impose any type of restriction on temporal constructions that include the utterance time.

The universal reading of activity predicates in Catalan PrP sentences is available with all types of adverbs. As was shown in chapter 2, the Catalan present tense is not as constrained as in English, and denotes a time interval in which the event time can intersect with the utterance time. Consider example (82) (=27), from §2.3.4, example from Pérez-Saldanya 2002:2618).

- (82) Context: speaker A asks speaker B about what speaker B is doing at the moment and speaker B replies that he is working.

Ara treballa. ¡No el molestis!  
 now work.1sg no obj.3sg annoy  
 ‘He is working now. Don’t annoy him!’

The eventuality of *working* described in (82) intersects with the utterance time and holds at the moment of speaking. The subinterval of the event of the activity predicate *work* is associated with the interval denoted by the present tense that includes the present tense. Similarly, the subinterval of the event time of *working* of a PrP sentence such as (77) can be identified with the interval *ara* ‘now’, which sets the right boundary of the interval encoded by *des de* ‘from’, and give rise to a universal interpretation through which the eventuality that starts at eight o’clock in the morning holds up to the utterance time.

All in all, in this subsection, I have shown that the compatibility of the universal interpretation in PrP sentences of activity predicates is mainly dependent on the conceptualization of the present tense in English, the subinterval property and the type of interval asserted in temporal constructions that state a bound on the right boundary of the time interval such as *since* or *until*. In languages such as Catalan, the temporal interval encoded by the present tense is not as restricted as in English and does not impose any type of grammatical constraints on temporal constructions that contain the utterance time. In the following subsection, I will further look at the relation between the PTS and the reference time.

#### 4.7.2 *The temporal relation between the PTS and the reference time*

As was pointed out in §2.5.1, the source of cross-linguistic variation in the PrP relies on the temporal relationship between the Perfect Time Span (PTS) and the reference time (Pancheva & von Stechow 2004). To account for the Catalan data, I assume a weak semantics of the PTS and distinguish the PTS from the reference time (Pancheva & von Stechow 2004). I claim that the PTS encoded by the PrP in Catalan asserts a time span that can be equal or intersect with the present reference time. The temporal relationship of intersection between the PTS and the reference time allows us to account for hodiernal readings of the Catalan PrP, see §2.5, and, as I will show in this subsection, it also has relevant consequences for the derivation of the universal reading.

As was outlined in §4.5.1, one of the main empirical tests that Iatridou *et al.*

(2001) use to show that a sentence qualifies as unambiguously universal is the (non)cancellable inclusion of the utterance time in the predicate, see (83) (=45), from §4.5.1, example Iatridou *et al.* 2001:159).

- (83) a. \*She has been sick at least/ever since 1990 but she is fine now.  
b. \*She has always lived here but she doesn't anymore.

Iatridou *et al.* (2001) claim that time adverbials such as *at least since*, *ever since*, *always* or *for five days now* yield unambiguous universal readings of PrP sentences where the event time cannot be cancelled at the utterance time. However, as was noted before, it seems that this statement appears to be very strong. For instance, in (44), I provided a context found in spoken language in which someone utters a PrP sentence modified by an *ever since*-adverbial. The sentence denotes that there is someone who has been sick since last week, however, the subject who visits the patient finds out that she is fine on the current day. A quantificational element like *ever* or *at least* asserts the starting point of the event time (i.e., *ever since*, *at least since*), but does not guarantee that the event holds at the utterance time.

The (non)cancellability is also used in Iatridou *et al.* (2001) to show that the perfect of the progressive does not yield a universal interpretation. Consider the example given in (84) (=41), from §4.5, example from Iatridou *et al.* 2001:162).

- (84) I have been cooking.

According to Vlach (1993) and Portner (2003), a sentence such as the one illustrated above has a universal interpretation, i.e., the event holds throughout the time interval encoded by the perfect. However, the described eventuality is not asserted at the utterance time, and the event time does not necessarily overlap with the utterance time, i.e., example (84) can be continued by *but I'm done now*. As has been claimed throughout the chapter, examples such as (84) show that the assertion of the event time at the utterance time is not encoded in the meaning of the universal reading of the PrP. Rather, in (84), it is mainly an effect of termination of the predicate, i.e., the endpoint of stative predicates can be pragmatically inferred.

Hence, rather than the assertion of the event time at the utterance time, what appears to be the main empirical fact that defines English PrP sentences is that temporal

constructions that include a present reference time in English cannot state a right boundary on an interval that does not contain the utterance time. As was sketched in §4.6, this is the main contrast between the Catalan and English PrP since the former encodes a perfect time interval that does not necessarily include the utterance time, cf. (85a) (=59b), from §4.6.3) and (85b).

- (85) a. Hem viscut en aquest poble fins ara fa poc.  
 have.2pl lived in this town until now makes little  
 ‘We lived here until some time ago.’  
 b. \*We have lived in this town until some time ago.

The PrP sentence illustrated in (85a) allows for a universal interpretation of the PrP even though the the right boundary of the PTS specified by *fins fa poc* ‘until makes little’ delimits a time interval that is preceded by a certain lapse of time from the utterance time. In contrast to Catalan, the corresponding English counterpart is ruled out as shown in (85b).

As has been said above, Smith (1991) claims that the characteristics of the present tense are inherited in temporal constructions that contain a present reference time as is the case of PrP sentences. I claim that the ungrammaticality of a sentence such as (85b) in English is straightforwardly connected to the semantics of the present tense, which is inherited in the PrP. The PrP in English encodes an extended now interval, as was originally posited by McCoard (1978). Iatridou *et al.* (2001) propose that the right boundary of the extended now or PTS in English is set up by the present tense of the auxiliary verb. As discussed above, the present tense in English encodes a narrow time span that is associated with the instantaneous moment *now*, and, hence, the specification of the extended now or PTS by temporal modifiers that do not contain the present moment are ruled out as in (85b).

The semantics of the PTS in English does not hold cross-linguistically. In chapter 2, I outlined Pancheva & von Stechow’s (2004) analysis of the PTS in German. They split the PTS interval from the reference time and base their observations on the contrasts between the present tense in English and in German to account for the differences between these two languages. Pancheva & von Stechow (2004) assume a PTS with weaker restrictions, which may ‘precede or partially overlap with the reference time, or it may entirely precede it’. In contrast to English, the past and the PrP

do not compete in German, and, hence, the relation of precedence between the PTS and the reference time is available with the perfect. Their account can explain the availability of past time adverbials in German, see §2.5.1, as well as the differences with respect to the universal interpretation of the PrP in English and in German. In contrast to English, which disallows sentences such as (85b), the grammaticality of examples such as (86) (=63), from §2.5.1; example from Rothstein 2008:56) illustrate that the PTS in German can precede the reference time.

- (86) Véronique hat immer in Frankreich gewohnt.  
 Véronique have.3sg always in France lived  
 1999 ist sie nach Deutschland gezogen.  
 1999 is she to Germany moved  
 ‘Véronique always lived in France. In 1999, she moved to Germany.’  
 (German)

The time adverbial *immer* ‘always’ yields a universal reading in which the eventuality described by the PrP holds throughout the PTS interval. The reference time is located in 2015 (i.e., the time in which I am writing this section), but the eventuality of *living in France* ends in 1999. In other words, the event time of *living in France* holds throughout the PTS which ends in 1999, a time interval that entirely precedes the reference time.

In contrast to German, the PTS cannot completely precede the reference time in Catalan. As was illustrated in chapter 2, past time adverbials are disallowed with the PrP, but certain locating time adverbials such as punctual time adverbials can set up a boundary on the interval encoded by the perfect, see (87) (=21b-c), from §2.3.3).

- (87) a. Hem anat al mercat a les deu.  
 have.1pl gone to.the market in the ten  
 ‘We went to the market at ten.’  
 b. Ha arribat fa una hora.  
 have.3sg arrived makes an hour  
 ‘He arrived one hour ago.’



The locating time adverbials *a les deu* ‘in the ten’ and *fa una hora* ‘makes one hour’ modify the event time that intersects with the reference time of the PrP construction illustrated in (87a) and (87b), respectively. In chapter 2, I claimed that this is mainly due to the present progressive meaning of the present tense in Catalan. As shown in (82), the event time can intersect with the utterance time in Catalan present sentences.

From this empirical generalization, I claimed that the temporal relation between the PTS and the reference time in Catalan can be that of identity or overlap, see (88) (=84), from §2.5.1).<sup>7</sup>

$$(84) \quad [[\text{PRESENT}_1 \circ \text{PERFECT}]] = \lambda P \lambda t [t_c \subseteq t \ \& \ P(t)] \ \& \ \neg \exists t' [t' \subseteq t \ \& \ t' > t_c] \ (\lambda t \exists t_1 [t_1 \sqcap t] \ \& \ \text{AspP}) \Rightarrow$$

$$\lambda t [t_c \subseteq t \ \& \ (\lambda t \exists t_1 [t_1 \sqcap t] \ \& \ \text{AspP})(t) \ \& \ \neg \exists t' [t' \subseteq t \ \& \ t' > t_c] \Rightarrow$$

$$\lambda t [t_c \subseteq t \ \& \ \exists t_1 [t_1 \sqcap t] \ \& \ \text{AspP} \ \& \ \neg \exists t' [t' \subseteq t \ \& \ t' > t_c] \Rightarrow$$

$$\lambda t \exists t_1 [t_c \subseteq t \ \& \ t_1 \sqcap t \ \& \ \neg \exists t' [t' \subseteq t \ \& \ t' > t_c] \ \& \ \text{AspP}]$$

In Catalan, the PrP and the periphrastic past are in a complementary distribution, i.e., the latter verbal form is specialized to pre-hodiernal readings and the relation of precedence between  $t_2$  and  $t_1$  is encoded by the latter verbal form. The PrP, hence, denotes a PTS (i.e.,  $t_1$ ), which can be equal to or overlap with the reference time (i.e.,  $t$ ). The present tense introduces a reference time (i.e.,  $t$ ) which contains the utterance time (i.e.,  $t_c$ ). This temporal relation of overlap holds if and only if there is no subinterval ( $t'$ ) contained in  $t$  such that it follows the reference time, i.e., the reference time is set up by the present tense of the auxiliary verb and it cannot expand beyond the utterance time since it does not admit pure future interpretations as in German.

The temporal relation of overlap between the PTS and the reference time in Catalan can be made explicit via temporal modifiers as shown in (85a). The PTS is not coextensive with the utterance time. Rather, the RB of specified by *ara fa poc* ‘now makes little’ intersects with the reference time, which contains the utterance time.

In this subsection, I have focused on the differences regarding the temporal relation between the PTS and the reference time, and, in particular, on the relation between the right boundary of the PTS and the reference time in Catalan. I have shown

<sup>7</sup> For the above notations:  $t$  = reference time;  $t_1$  = PTS;  $t_c$  = utterance time.

that the main empirical contrast between Catalan and English has to do with the possibility of stating a bound on temporal constructions that include the present time. In contrast to English, the present reference time in Catalan is not as restricted as in English, i.e., the event time can intersect with the utterance time. In the context of PrP sentences, it is the PTS that can intersect with the reference time and, the PTS encoded by the perfect does not necessarily need to contain the utterance time.

#### 4.8 Summary of Chapter 4

In the first part of this chapter, I was concerned with the English data to show that, in the definition of the universal reading of the PrP, the literature has often mixed two independent factors, which are not part of the meaning of the perfect: (i) the eventuality holds throughout a time interval and (ii) the event time overlaps with the utterance time. I have shown that these factors depend on the properties of the predicate and/or adverbial support. I first addressed properties of predicates. For this, I looked into different types of stative predicates and their interpretation in (un)modified PrP sentences. I have found that there are no relevant differences between the IL/SL and the Davidsonian/Kimian states with respect to universal readings. Second, I dealt with time modification and claimed that the universal reading is always ensured via adverbial support. Unambiguous universal readings in English require universal quantification over times via adverbs of quantification (e.g., *always*) or position definite readings of the time adverbial, which are anchored to a deictic centre (i.e., the utterance time). I have also challenged the claim that initial durational PPs always have a definite position on the time axis and always yield a universal interpretation.

In the second part of this chapter, I considered the Catalan data. Like in English, I have shown that the two linguistic factors that have been associated with the universal interpretation do not belong to the semantics of the perfect. The universal interpretation of the PrP requires homogeneity and adverbial support ensures a universal interpretation. Universal adverbs of quantification like *sempre* 'always' or the position definite reading of temporal adverbials such as *des de XP (que)* 'from XP that' or *tot XP (que)* 'all XP that' guarantee a universal interpretation of the PrP in Catalan. The main empirical contrast between Catalan and English has to do with the fact that in Catalan it is possible to state an explicit right boundary on the time interval denoted by the perfect as in (85a), which is not coextensive with the utterance time.

In this chapter, I have shown that the incompatibility of universal readings of the PrP of activity predicates in English is directly connected to the type of interval that modifies the PrP, the semantics of the present tense and the subinterval property of activity predicates. Temporal constructions that state a bound on an interval including the present (i.e., *since*, *until now*) require quantification over subparts that are true down to moments. In English, the PrP encodes an Extended Now that inherits the meaning of the present tense, which is conceptualized as a point (i.e., *now*), and, hence, only predicates that are true at moments can be identified with the right boundary of an interval asserted by *since* or *until now*. In contrast to English, the present tense in Catalan encodes a time interval that is not as restricted as in English and does not impose these grammatical constraints on temporal constructions that contain the present time.

As in chapter 2, I have assumed a weak semantics of the PTS for Catalan and have distinguished the PTS from the reference time. The temporal relation of coextension or precedence between the PTS and the reference time cannot fully explain the Catalan data. Unlike in the case of the English PrP, whose PTS directly relates to the utterance time, the PTS in Catalan does not necessarily intersect with the utterance time, but, at the same time, it cannot completely precede the reference time as in German. To account for this empirical fact, I have applied the typological relation of overlapping between the PTS and the reference time, i.e., the PTS can overlap with the reference time interval. Such a temporal relationship of overlap is made explicit via the contribution of temporal modifiers. In the context of the universal reading of the PrP, this temporal relationship of overlap can account for the presence of the specification of the right boundary of the PTS via time adverbials that intersect with the present reference time, but are not necessarily coextensive with the utterance time.



## Chapter 5

### The grammatical properties of *since*

#### 5.1 Introduction

After looking at the grammatical ingredients that give rise to the universal reading of the PrP in chapter 4, I will investigate whether the different components of the *since* PP, the prototypical perfect time adverbial in English, that contributes to the availability of the existential or universal reading in English as well as in Catalan. The ambiguity between the universal and existential reading of the PrP of a sentence such as (1) in English has been amply discussed in the literature (from Mittwoch 1988:201).

(1) Sam has been in Boston since Tuesday.

The example illustrated in (1) may have a universal reading, i.e., the eventuality stretches from Tuesday up to now, or for an existential reading, which is more marginal, i.e., the eventuality of being in Boston may be located at some interval between *Tuesday* and now. Such an existential interpretation is enforced in (2) (from Iatridou *et al.* 2001:169).

(2) Since 1991, I have been to Cape Cod only once, namely, in the fall of 1993.

In Catalan, *des de* 'from' PPs allow for both universal and existential readings. The latter is enforced by numerically quantified phrases (see Martínez-Atienza 2006, 2010 and García Fernández 2000a, for the case of Spanish), cf. (3a) and (3b).

- (3) a. He            viscut    a Boston des de 2000.  
         have.1sg   live     in Boston from 2000.  
         'I have lived in Boston since 2000.'
- b. He            viscut    a Boston dos cops des de 2000.  
         have.1sg   live     in Boston two times from 2000.  
         'I have lived in Boston twice since 2000.'

The nature of the right boundary of the *since*-interval and the (un)availability of an explicit right-side delimiter differs cross-linguistically. Consider the following empirical contrast between Catalan and English.

- (4) a. Sam has lived in Boston since 1990 (\*until now).  
 b. He viscut a Boston des de 2000 fins ara/ fa poc.  
 have.1sg lived in Boston from 2000 until now/ make.3sg little  
 ‘Intended: I have lived in Boston since 2000 until now/recently.’

Example (4) shows that the preposition *since* has an implicit right boundary that stretches up to the reference time, which is cotemporal with the utterance time in PrP sentences. In contrast to English, *des de*-adverbials allow for an explicit right-side delimiter, which may refer to a time interval different from the utterance time (i.e., *fa poc* ‘makes little’) in PrP sentences.

*Des de* PPs are also used in spatial domains in Romance languages such as Catalan and I will consider the relevant parallels between the temporal and spatial uses of *des de* PPs to see if the availability of universal and existential readings is related to the type of path encoded by the preposition, see (5).

- (5) Vam caminar {des de/ \* de} Tossa.  
 go.2pl walk from of Tossa  
 ‘We walked from Tossa.’

The verbal predicate *caminar* ‘walk’ is a verb of motion that requires a directional PP as a complement. Hence, in example (5), the use of *de* is ruled out because it only encodes the origin of the path, but not a direction. Such an example only admits the compound preposition *des de*, which delimits the starting point of a spatial path that begins in *Tossa*.

The main goal of this chapter is to investigate the internal structure of *since*-type of PPs and the so-called universal-existential ambiguity that arises with this time adverbial cross-linguistically, in particular, in Catalan and English. The grammatical properties of *since* PPs are known to differ across languages (Schaden 2005a, 2005b, 2007; Bosque & Bravo 2015). The relevant question does not seem to be how many

types of *since*-adverbials should be distinguished in some particular language, but rather how boundaries of time intervals can be grammatically licensed across languages. I will show that a compositional account that takes into consideration the conditions of the left and right boundary of *since*-adverbials can contribute to a more fine-grained solution to the universal-existential dichotomy of PrP sentences.

The relevant analogies between spatial and temporal uses of *des de* reveal that *des de* encodes an egressive-type path in the temporal domain, which delimits the left boundary of a time interval. In contrast to Catalan, *since* PPs in English encode a two-sided temporal interval. It is a preposition that asserts the starting point of a temporal path and includes the right boundary in its denotation. I will show that the type of a temporal path that *des de* and *since* encode has relevant consequences for universal and existential interpretations in PrP sentences.

In the first part of the chapter, I will describe the grammatical properties of *since* PPs in a variety of Germanic and Romance languages, with a special focus on English and Catalan, see §5.2 and §5.3. I will consider some similarities between the temporal and spatial uses of *since*-intervals in §5.4. In §5.5, I will study the role of *des de*-intervals in PrP sentences. To conclude, §5.6 summarizes the chapter.

## 5.2 Grammatical properties of *since*

The present section examines the main cross-linguistic differences between Catalan and English to find out which is the base meaning of the preposition *since*. I am going to argue that the crucial difference between Catalan and English has to do with the nature of the right boundary of the *since* interval and the (un)availability of the preposition to appear in spatial domains. In Catalan, the right boundary is not encoded in the base meaning of the preposition. Unlike in languages such as English and German, Catalan allows for the presence of an explicit right-side delimiter. It is only with the adverb *ençà* as well as the spatiotemporal marker *que* ‘that’ that *des de*-intervals in Catalan are able to denote a deictic right boundary and require the use of the present tense or the PrP. In addition, in contrast to English, Catalan allows for spatial uses of the preposition, which delimits the starting point of a spatial path.

### 5.2.1 *English since-adverbials*

Within the temporal domain, English has *since*, a preposition with a special status. It has been analysed as a frame adverbial (Bennett & Partee 1972), perfect-level adverbial (Dowty 1979; Vlach 1993; Iatridou *et al.* 2001; among others) or durational adverbial (McCoard 1978). The *Oxford Etymology Dictionary* defines it as ‘thereupon; from then till now; ago; before now’. In English, *since* PPs can be defined as perfect-level adverbials because they can only combine with perfect sentences as illustrated in (6) (Iatridou *et al.* 2001:163), or past, future and non-finite perfects as in (7) (from Quirk *et al.* 1999:1017).

- (6) a. I have been sick since yesterday.  
b. \*I am sick since yesterday.  
c. \*I was sick since 1990.
- (7) a. It had revised its constitution twice, since the country had achieved independence.  
b. By tomorrow Daniel will have been in bed for a week since he caught the flu.  
c. He must have been sick since Christmas.

However, the presence of complements such as *long* allows *since*-adverbials to co-occur with the preterite as well (from McCoard 1978:135):

- (8) I {have/was} retired long since.

In informal American English as well as informal British English, we can also find preterite sentences modified by *since*-adverbials (from Quirk *et al.* 1999:1016).

- (9) a. I lost ten pounds since I started swimming.  
b. Since leaving home, Larry wrote to his parents just once.

In English, *since* PPs can occur with durative predicates, i.e., states, see (10a), and activities, see (10b), accomplishments, see (10c). Punctual predicates such as achievements are ruled out, see (10d).

- (10) a. I have been sick since yesterday.  
b. I have played since seven.



- c. I have built a house since 1990.
- d. \*I have arrived since seven.

Moreover, the object of the preposition is restricted to localizing temporal expressions, which specify the left boundary of the perfect time interval: locating time adverbials, see (11a), time and event denoting noun phrases, see (11b), or clausal complements, see (11c). It is incompatible with numerically quantified phrases, like *two days*, see (12) (from Schaden 2005a:88).

- (11) a. John has been in Boston since yesterday.
- b. John has been in Boston since his graduation ceremony.
- c. John has been in Boston since he graduated from school.

- (12) \*John has been in Boston since two days.

In English, quantified temporal expressions can be used with *since* only in the presence of *ago* (i.e., *since XP ago*):

- (13) John has been in Boston since two days \*(ago).

As for the right boundary of the *since*-adverbial, it always stretches up to the point of reference (Schaden 2005a:91), but an explicit specification for the right boundary is impossible, see (14).

- (14) John has been in Boston since Friday (\*until now/recently).

In (14), the *since* PP specifies a time interval whose left boundary is set up on *Friday* and the right boundary has to stretch up to the reference time, which is cotemporal with the utterance time. Since the right boundary is identified with the utterance time, an explicit specification of the right boundary like *until now/recently* is disallowed.

The fact that the preposition encodes an interval that stretches up to the utterance time explains the reason why it cannot combine with time adverbials that refer to future, like *tomorrow* in (15) (from Schaden 2007:105).

- (15) \*I will do sports since tomorrow.

In English, *since* PPs are mostly restricted to temporal uses, it is only possible to find spatial uses occasionally in sentences such as (16) (from Schaden 2007:106). All the other, more canonical spatial uses such as spatial localizing phrases, see (17a), or numerically quantified phrases, see (17b), are ruled out.

(16) John hasn't said a word since Strasbourg.

(17) a. \*He walked since the school.

b. \*John walked since 10 km.

The spatial expression *since Strasbourg* in (16), which corresponds to an eventive interpretation (i.e., *since we left Strasbourg*) is the only one accepted by the preposition *since*.

### 5.2.2 Catalan *des de*-adverbials

In Catalan, *des de X time* is a complex preposition that delimits the left boundary of a temporal interval. It can co-occur with tenses other than the perfect, see (18), and it combines with durative predicates that take time, including accomplishments, see (19). Like in English, achievement predicates are not durative predicates and are ruled out, see (19d).

(18) a. Viu a Boston des de 2004.

live.3sg in Boston from 2004

Intended: 'I live in Boston since 2004.'

b. Va viure a Boston des de 2004.

aux.3sg live in Boston from 2004

Intended: 'I lived in Boston since 2004.'

c. Vivia a Boston des de 2004.

lived.imp.3sg in Boston from 2004

Intended: 'He was living in Boston since 2004.'

d. Havia viscut a Boston des de 2004.

had.3sg lived in Boston from 2004

'He had lived in Boston since 2004.'

- e. Viurà a Boston des de demà  
 live.3sg in Boston from tomorrow  
 Intended: ‘He will live in Boston since tomorrow.’

- (19) a. Ha estat malalt des de dimarts.  
 have.3sg been sick from Tuesday  
 ‘He has been sick since Tuesday.’  
 b. Ha treballat des de les tres.  
 have.3sg worked from the three  
 ‘He has worked since three.’  
 c. Ha escrit quatre pàgines des d’aquest matí.  
 have.3sg written four pages from this mornig  
 ‘He has written four pages since this morning.’  
 d. \*Ha arribat des de les set del matí.  
 have.3sg arrived from the seven.of.the.morning

Even though (19d) is ungrammatical, it is important to note that there are Spanish varieties, such as Mexican and Caribbean Spanish, which allow for punctual verbal predicates with *desde* (Kany 1945; García Fernández 2000a; Bosque and Bravo 2015). According to Bosque & Bravo (2015:6), *desde el lunes* ‘since Monday’ in (20) refers to an interval that is subsequent to the event time. These examples are with the past form of the verb.

- (20) a. Desde el lunes llegó.  
 from the Monday arrived.3sg  
 Intended: ‘He arrived since Monday.’  
 b. Encontré las llaves desdehace una hora.  
 found.3sg the keys from make.3sg one hour  
 Intended: ‘He found the keys since an hour ago.’

The complement to *des de XP*, which specifies the left boundary of the time interval, can be a localizing temporal expression: a locating time adverbial (i.e., *Tuesday*), a noun

phrase that describes a situation (i.e., *the meeting*), see (21a), or a clausal complement (i.e., *des que XP*), see (21b).<sup>1</sup>

- (21) a. des de {dimarts/la reunió}  
 from Tuesday/the meeting  
 ‘since {Tuesday/the meeting}’  
 b. des que va començar la reunió.  
 from that aux.3sg start the meeting  
 ‘since it started the meeting’

The properties of the Catalan counterpart of *since* PPs seem to be almost the same as in English. However, unlike English *since* PPs, the right boundary of *des de*-intervals is not encoded in Catalan and sentences presented in (22) allow for an explicit right-side delimiter (i.e., *fins XP* ‘until XP’). In the case of the PrP, the delimiter can refer to a time interval different from the utterance time (i.e., *fins avui/aquest matí/les tres/fa poc* ‘until today/this morning/the three/makes little’), see (22).

- (22) a. Ha estat a Boston des de dimarts fins fa poc.  
 have.3sg been in Boston from Tuesday until makes little  
 Intended: ‘He has been in Boston since Tuesday until recently.’  
 b. \*He has been in Boston since Tuesday until recently.

*Des de* PPs can appear with the impersonal verb *fa* ‘makes’ in *des de fa* ‘since makes’. The impersonal verb appears in the present, see (23), or imperfective, see (24), and restricts the tense used in the clause. When it appears in the present tense, it only allows for the use of present or PrP:

- (23) a. Treballa/ ha treballat aquí des de fa dos anys.  
 work.3sg have3sg worked here from makes two years  
 ‘I have worked here since two years ago.’  
 b. \*Va treballar aquí des de fa dos anys.  
 aux.3sg work here from makes two years

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<sup>1</sup> The preposition *de* is omitted when *des de* takes a clausal complement in Catalan.

- (24) Treballava/ havia treballat aquí des de feia dos anys.  
 worked.imp.3sg/had.3sg worked here from made.imp.3sg two years  
 Intended: ‘I worked/had worked here since two years ago.’

Apart from *des de*, there is a complex PP in Catalan *d'ençà XP/de XP ençà* ‘since XP’, which shares most of the relevant properties with the English *since*-interval. According to Solà (1999) this complex PP can only appear with the present tense or the PrP. Hence, like in the case of *since*-intervals, the complement of the preposition specifies the left boundary of the time interval and the right boundary is set up by tense and also stretches up to the reference time, which is, in the case of the PrP or simple present, cotemporal with the utterance time. Consider the following example (from Sancho Cremades 2002:1783):

- (25) La Cecília es va doctorar el 1985. D'aleshores ençà  
 the Cecilia cl.3sg aux.3sg graduate the 1985 of then up.to.here  
 és/ ha estat professora de la Universitat Pompeu Fabra.  
 be.3sg/ have.3sg been teacher of the Universitat Pompeu Fabra.  
 ‘Cecilia graduated in 1985. She has been a teacher at Pompeu Fabra  
 University since then.’

The preposition *d'aleshores ençà* ‘since up to here’ in example (25) anaphorically refers to the left boundary (i.e., 1958) introduced in the previous sentence and, at the same time, sets the right boundary of the time interval, which is the reference time. In the context of the PrP, the reference time is cotemporal with the utterance time.

As was discussed in the previous chapter, there are other temporal-aspectual markers such as *que* in preposed time modifiers such as *des de XP que/de XP que/des d'ençà XP que* which require the presence of the present tense or PrP, I illustrate it again in (26) (=4b), from §4.1).

- (26) Des de diumenge que plou / ha plogut.  
 from Sunday that rain.3sg / have.3sg rained  
 ‘It has been raining since Sunday’

As was discussed in §2.5.5, for the case of temporal constructions such as *fa XP que* ‘makes XP that’, and in §4.6.3, for the case of *tot XP que* ‘all XP that’, in *des de XP que* ‘from XP that’, the marker *que* ‘that’ in (26), which is identified as a temporal-aspectual marker in Rigau (2001a, 2001b), anchors the time adverbial to the utterance time.

Last but not least, Catalan *des de* PPs are not specialized for temporal uses, they allow for spatial arguments too, see (27). The properties of spatial uses of *des de*-intervals are further discussed in §5.4.

- (27) Camina des de l’ escola.  
 walk.3sg from the school  
 ‘\*I walk since the school.’

### 5.2.3 Summary of section 5.2

This subsection has presented the main properties of *since* PPs in English and *des de* PPs in Catalan. The following table summarizes the results so far:

- (28) The properties of *since* PPs in Catalan and English

Properties	<i>since</i>	<i>des de</i>
Other tenses apart from PrP	X	Ok
Localizing phrase	Ok	Ok
Numerically quantified phrase	X	X
Explicit RB	X	Ok
Spatial use	X	Ok

My main hypothesis is that the main differences between Catalan and English *since*-intervals have to do with the nature of the right boundary. In Catalan, the right boundary of *des de* PPs is left unspecified, it does not necessarily stretch up to the utterance time and that is why it can combine with different tenses, see (18) and allow for an explicit right-side delimiter, see (22a). Catalan requires the adverb *ençà* or a spatiotemporal marker *que* ‘that’ to denote a time interval whose right boundary has a deictic nature and requires the use of the present tense or PrP, see (25) and (26). In the case of the English *since* PP, the right-side delimiter of *since*-intervals always stretches up to the

reference time, which is cotemporal with the utterance time in PrP sentences, and, thus, it disallows the explicit expression of the right boundary, see (22b). Moreover, unlike English *since*-intervals, which are restricted to temporal uses, *des de* PPs can also be used with spatial complements, cf. (17) and (27).

### 5.3 More relevant cross-linguistic data

This section provides an overview of the grammatical properties of *since* PPs in German and French. In German, like in English, *seit*-adverbials are specialized for temporal uses, but in German the preposition can co-occur with different tenses and allows numerically quantified phrases. In French, *depuis*-adverbials can also combine with different tenses and allow numerically quantified phrases. However, in contrast to German, the preposition can also have spatial uses and it admits the presence of an explicit right boundary.

#### 5.3.1 German *seit*-adverbials

In German, *seit*-adverbials can combine with different tenses, i.e., present tense, present perfect, preterite, pluperfect. Here are some examples:<sup>2</sup>

- (29) a. Hans ist seit Freitag in Boston.  
       Hans be.3sg since Friday in Boston  
       Intended: ‘Hans is in Boston since Friday.’
- b. Hans ist seit Freitag in Boston gewesen.  
       Hans be.3sg since Friday in Boston been  
       ‘Hans has been in Boston since Friday.’
- c. Hans war seit Freitag in Boston.  
       Hans was.3sg since Friday in Boston  
       Intended: ‘Hans was in Boston since Friday.’
- d. Hans war seit Freitag in Boston gewesen.  
       Hans was since Friday in Boston been  
       ‘Hans had been in Boston since Friday.’

Like in English, *seit* PPs are restricted to temporal uses and can combine with durative predicates. However, consider example (30) (from Schaden 2005b:289), which

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<sup>2</sup> Thanks to Berith Gerhke and Peter Herbeck for their comments. All errors are my own.

illustrates that in German, PrP sentences modified by *seit* PPs also allow for punctual predicates.

- (30) Wolfgang hat Diano seit Freitag verlassen.  
Wolfgang have.3sg Diano since Friday left  
'Wolfgang has left Diano (has been out of) Diano since Friday.'

In (30), the event of leaving is properly anterior to the interval specified by the *seit*-adverbial.

*Seit* PPs can select quantified phrases as well as locating temporal expressions and event descriptions, cf. (31a) and (31b) (from Musan 2003:255):<sup>3</sup>

- (31) a. Max hat seit einer Stunde gegessen.  
Max have.3sg since an hour eaten  
'Max has been eating for an hour.'
- b. Max hat seit heute morgen gegessen.  
Max have.3sg since today morning eaten  
'Max has eaten something in the time between today's morning and now.'

The numerically quantified phrase in (31a) covers the whole one-hour interval through which the eventuality holds. The positional time adverbial in (31b) delimits the starting point of the *seit*-interval in the morning of the current day, but, in contrast to (31a), it does not necessarily assert that the eventuality holds at every subinterval of the interval encoded by *seit*.

However, like in the case of English, *seit*-adverbials have to stretch up to the time of reference and do not allow an explicit right-side delimiter (from Schaden 2005a:91):

- (32) ??/\*Hans ist seit Freitag bis nächsten Montag in Boston.  
Hans be.3sg since Friday until next Monday in Boston  
'Hans will be in Boston from Friday until next Monday.'

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<sup>3</sup> Musan (2003) claims that in German there are two different types of *seit*-adverbials: *seit*-durational-adverbials, see (31a), and *seit*-positional-adverbials (i.e., pseudo-durative), see (31b).



According to Schaden (2005a:92), sentences such as (32) become acceptable only when both temporal phrases are coordinated:

- (33) Hans ist seit Freitag und bis nächsten Montag in Boston.  
Hans be.3sg since Friday and until next Monday in Boston  
'Hans will be in Boston from Friday and until next Monday'.

In German, it is also possible to find spatial uses in sentences such as (34) (from Schaden 2007:106).

- (34) a. John hat seit Straßburg kein Wort mehr gesagt.  
John have.3sg since Strasbourgh no word more said  
'John hasn't said a word since Strasbourgh.'  
b. John hat seit 100 km kein Wort mehr gesagt.  
John have.3sg since 100 km no word more said  
Intended: 'John hasn't said a word since 100 km.'

Like in the case of English *since*-intervals, the complement selected by *seit* in (34a) has an eventive interpretation, i.e., *since we left Strasbourgh*. However, temporal as well as spatial numerically quantified phrases are available in German as illustrated in (34b). The measure phrase *100 km* covers the whole extension through which the subject is in silence.

### 5.3.2 French *depuis*-intervals

Apart from localizing temporal phrases, *depuis*-adverbials can combine with numerically quantified phrases (from Schaden 2005a:90), cf. (35a) and (35b).

- (35) a. Il est à Paris depuis deux mois  
he be.3sg in Paris since two months  
Intended: 'He is in Paris since two months.'  
b. Il est à Paris depuis hier  
he be.3sg in Paris since yesterday  
Intended: 'He is in Paris since yesterday.'

Like in the case of German, *depuis*-adverbials can co-occur with any type of *Aktionsart* : states, see (36a) (from Schadem 2007 :87), activities, see (36b) (from Schaden 2007:119), accomplishments and achievements, see (36c) and (36d), respectively (from Schaden 2007:113).

- (36) a. Jaques a vécu seul depuis la mort de son père.  
 Jaques have.3sg lived alone since the death of his father  
 ‘Jaques has lived alone since his father died.’
- b. Jean a écrit depuis six heures du matin.  
 Jean have.3sg written since six hours of morning  
 ‘Jean has written since 6 in the morning.’
- b. Cunégonde a mangé trois pommes depuis midi.  
 Cunégonde have.3sg eaten three apples since midday  
 ‘Cunégonde has eaten three apples since midday.’
- c. Cunégonde est partie depuis midi.  
 Cunégonde be.3sg left since midday  
 ‘Cuéngonde has left since midday.’

Moreover, they can also combine with different tenses, i.e., with the present tense, see (37a), the PrP, see (37b), the past imperfective, see (37c), and the past perfect, see (37d).<sup>4</sup>

- (37) a. Jaques vit à Paris depuis 2000.  
 Jaques live.3sg in Paris since 2000  
 ‘Intended: Jaques lives alone since 2000.’
- b. Jaques a vécu à Paris depuis 2000.  
 Jaques have.3sg lived in Paris since 2000  
 ‘Jaques has lived alone since 2000.’
- c. Jaques vivait à Paris depuis 2000.  
 Jaques lived.imp.3sg in Paris since 2000  
 ‘Jaques has lived alone since 2000.’

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<sup>4</sup> Thanks to Gerhard Schaden for his comments. According to Gerhard Schaden (p.c.), the interpretation of (37c) and (37d) require some contextual reference point between 2000 and now.

d. Jaques avait vécu à Paris depuis 2000.  
 Jaques had.3sg lived in Paris since 2000  
 ‘Jaques had lived in Paris since 2000.’

Like in the case of Catalan, in French, *depuis*-intervals do not have to stretch up to the point of reference and that is why they allow for an explicit right-sided boundary (from Schaden 2005a:92), see (38).

(38) Le Chan conserve et communique les archives de la France  
 the Chan conserve.3sg and communicate.3sg the archives of the France  
 depuis les Mérovingiens jusqu’en 1958.  
 since the Merovingians up.to 1958  
 ‘The Chan conserves and communicates the archives of France from the time of the Merovingians up to 1958’

Moreover, in French, the future reference is only possible with an explicit right-delimiting expression (from Schaden 2007:105):<sup>5</sup>

(39) Octave sera absent depuis Derain jusqu’à lundi soir.  
 Octave will.be.3sg absent since Derain up.to Monday evening  
 Intended: ‘Octave will be absent since Derain up to Monday evening.’

Like in Catalan, *depuis*-adverbials also allow spatial uses (from Schaden 2007:107, cited in Grevisse & Goose 1993):

(40) La France s’ étend depuis les Alpes jusqu’à l’ Océan.  
 the France cl.refl extend since the Alps up.to the Ocean  
 ‘France stretches from the Alps up to the Ocean.’

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5

### 5.3.3 Summary of section 5.3

This section has presented the main properties of *since*-intervals in German and French. The results so far are summarised in the following table:

(41) The properties of *since*-intervals in German and in French.

Properties	<i>seit XP</i>	<i>depuis XP</i>
Other tenses apart from PrP	Ok	Ok
Localizing phrase	Ok	Ok
Numerically quantified phrase	Ok	Ok
Explicit RB	X	Ok
Spatial use	Ok	Ok

The main differences between *seit*-adverbials in German and *since*-adverbials in English have to do with the tenses they can combine and with the type of argument that the preposition can take. In German, *seit*-adverbials can co-occur with other tenses apart from the perfect, see (29). Moreover, *seit* PPs can take, apart from localizing temporal expressions, numerically quantified phrases, see (31). This latter type of phrases admits spatial uses, see (34b). In French, *depuis*-adverbials can also combine with different tenses, see (37), and allow numerically quantified phrases, see (36). Like in the case of Catalan *des de* PPs, *despuis*-adverbials allow an explicit right-side delimiter, see (38), and they are also compatible with spatial arguments, see (40).<sup>6</sup> In §5.4 will discuss the grammatical properties of *since*-intervals that admit spatial uses.

## 5.4 Spatial uses of *des de*

As was introduced in §5.2, one of the main contrasts between *since* PPs in English and *des de* PPs in Catalan is that the latter is not specialised for temporal uses, and they can also be used in the spatial domain. I discuss the type of source path that *des de* and *de* encode in the spatial domain following Pantcheva's (2011) typology of paths.

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<sup>6</sup> The properties of *depuis*-adverbials summarised in (40) also apply to Italian.

#### 5.4.1 *Since-adverbials*

As I have outlined above, English *since* PPs are mostly restricted to temporal uses. They only accept expressions that have an eventive interpretation (i.e., *since we left Strasbourg*), which is comparable to a clausal complement, see (42a) (=16), from §5.2, example from Schaden 2007:106). In this context, *since*-adverbials also disallow the specification of an explicit right boundary, see (42b).

- (42) a. John hasn't said a word since Strasbourg.  
b. \* John hasn't said a word since Strasbourg until Frankfurt.

Schaden (2007) shows that the impossibility to legitimate an explicit spatial argument that specifies the right boundary in English is not straightforwardly connected to the necessity of having a deictic spatial centre (i.e., *here*), which would be equivalent to the reference time in the temporal domain. For instance, consider the following example provided by Schaden (2007:108):

- (43) George Bush has been speaking to us since the White House.

The PP *since the White House* in (43) disallows a pure spatial physical use, which we would interpret as the deictic centre from which the subject is located at the utterance time, i.e., *he is speaking from the White House*. The only interpretation available corresponds to an eventive interpretation of the complement of *since* (i.e., *the White House*), which corresponds to a clausal phrase *since we left from the White House*. The same applies to German.

In English, proper spatial uses of sentences such as (44) require the preposition *from*, which is used to encode the source of spatial trajectories and it is classified as a source preposition (see Jackendoff 1983). The *Oxford Etymology Dictionary* defines *from* as a preposition which originally meant 'forward'. Consider the following example provided in Zwarts & Winter (2000:201):

- (44) The letter was sent from the office.

The preposition *from* in (44) specifies the starting point of the path. Zwarts & Winter (2000:201) analyse the preposition *from* as a directional preposition, which is 'used to

describe a change in location with respect to the reference object'. They note that there are relevant analogies between directional and locative prepositions (see Jackendoff 1983) that allow them to define the meaning of directional prepositions. The directional preposition *from* is connected to the locative preposition *at* (Jackendoff 1983; Zwarts & Winter 2000), as illustrated in the following entailment:

(45) The letter was sent from the office  $\Rightarrow$  The letter was at the office.

The preposition *from* in (44) specifies the starting point of the path, and the reference object (i.e., *the letter*) is located at this initial point.

According to Gehrke (2008), the source preposition *from* is different from the rest of source prepositions (i.e., *off*, *out of*). She shows that this preposition needs an additional directional component to be licensed. Consider the following examples (from Gehrke 2008:256).

- (46) a. ?? John drove from New York.  
b. John drove from New York to Boston.

Gehrke (2008) shows that the *from*-paths cannot license a spatial trajectory on their own as in (46a) and require other elements such as the goal phrase *to Boston* in (46b) to express directionality. Gehrke (2008:256) suggests that source paths encoded by *from* license directional paths under certain conditions that are similar to the ones required by locative prepositions such as *in*, *on*, *under* or *behind*. Locative prepositions also require additional elements that encode directionality to license a spatial trajectory. For example, *into* in English is a complex preposition formed by the locative preposition *in* and the goal path *to* to encode a directional reading.

The property of delimitation is also relevant for the description of source oriented paths. Pantcheva's (2011) thesis on the decomposition of spatial paths is one of the most recent works that provides a typological classification of different types of transitional oriented source paths based on the property of delimitation. She defines *from* as a non-delimited cointial path. Consider the graphic representation of a cointial path (from Pantcheva 2011:30).



- b. ... *des la vall fonda* (Costa i Llobera, *L'Ogre de la terra*, 77)  
 from the valley deep  
 'from the deep valley'

As in the temporal domain, both types of prepositions allow for localizing phrases and reject numerically quantified phrases, cf. (49a) and (49b). In Catalan, the source of a spatial trajectory can be expressed by the preposition *de* and *des de*. The preposition *de* encodes origin when it takes spatial complements, whereas *des de*, the onset of a spatial trajectory (Sancho Cremades 2002:1781).

- (49) a. *En Joan ve {de/ des de} Madrid.*  
 the Joan come.3sg of from Madrid  
 'John comes from Madrid.'
- b. \**En Joan ve {de/ des de} 100 quilòmetres.*  
 the Joan come.3sg of from 100 kilometres

As example (49a) shows, both types of source prepositions are available if the directional component of the path is encoded in the meaning of the verbal predicate. The meaning of *venir* 'come' expresses direction with respect to an endpoint that coincides with the speaker, and allows for both types of source prepositions.

However, *de* and *des de* are not always interchangeable. Consider the following example.

- (50) *Vam caminar {des de/ \*de} Tossa.*  
 aux.2pl walk from of Tossa  
 'We walked from Tossa.'

The verbal predicate *caminar* 'walk' is a verb of motion that takes a directional PP complement, and, hence, example (50) cannot appear with *de*, which encodes the origin of a spatial path, but not a direction. (50) only allows for the compound directional preposition *des de* 'from', which delimits the starting point of a spatial trajectory that begins in Tossa.



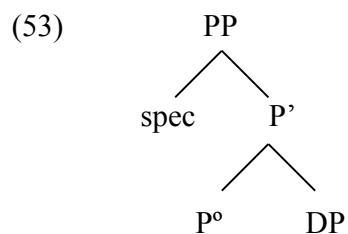
The PP *de Tossa* becomes grammatical in (51) when it combines with the PPs *a XP* ‘to XP’ or *fins (a)*<sup>7</sup> ‘until (to)’:

- (51) Vam caminar de Tossa fins a Blanes.  
 aux.2pl walk from Tossa until to Blanes  
 ‘We walked from Tossa to Blanes.’

The directional path in (51) is expressed by the addition of the goal path *fins a Blanes* ‘until to Blanes’, which can be used without the specification of the source path:

- (52) Vam caminar fins a Blanes.  
 aux.2pl walk until to Blanes  
 ‘We walked to Blanes.’

The directional path illustrated in (51) is obtained by syntactic means. The literature on the syntax of prepositions has generally assumed that PPs are internally complex (see den Dikken 2003, 2006; Svenonius 2004; among others). The structure of a PP is shown below.



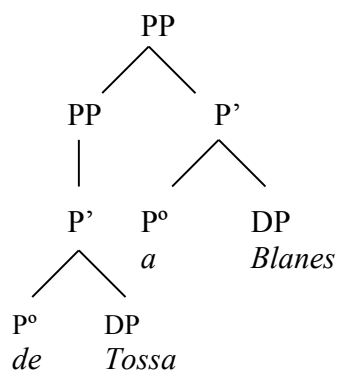
The minimal structure of a PP in (53) consists of a head (P°), which takes a complement DP and can introduce an optional specifier (spec).

The syntactic analysis that I suggest for *de Tossa a Blanes* and *de Tossa fins a Blanes* is given in (54) and (55), respectively.<sup>8</sup>

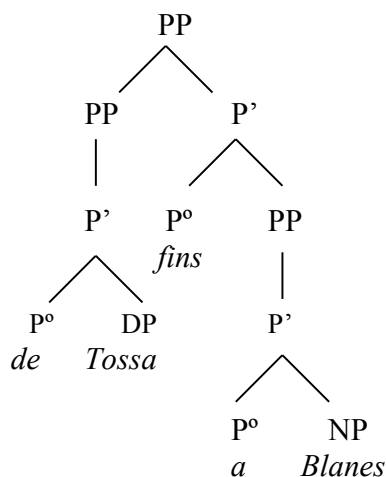
<sup>7</sup> The preposition *a* is omitted when *fins* takes a clausal complement (i.e., *fins que nosaltres vam arribar* ‘until that we arrived’) or an adverb (i.e., *fins aquí* ‘until here’).

<sup>8</sup> Thanks to Josep Maria Brucart for his comments. All remaining errors are mine.

(54) de Tossa a Blanes



(55) de Tossa fins a Blanes



The PP *de Tossa* ‘of Tossa’ sets the origin of a spatial trajectory and it cannot license directional paths by itself, but it can combine with other PPs, as in (54) and (55). In (54), the PP *a Blanes* ‘to Blanes’ encodes a goal path and is the head of the complex PP. The PP *de Tossa* ‘of Tossa’ is the specifier of this complex PP and cannot stand on its own, as shown in (50). In (55), the head is the PP *fins a Blanes* ‘until to Blanes’, which encodes the right boundary of a spatial trajectory. This head phrase combines with a specifier in (55), where the path *de Tossa* ‘of Tossa’ encodes the source of the spatial trajectory, but it can also appear without it, as shown in (52).

As was pointed out in the previous subsection for the case of *from*-paths, Pantcheva (2011) classifies different transitional source oriented paths on the basis of the property of delimitation. She distinguishes between non-delimited (i.e., coinital), and delimited (i.e., egressive) transitional source oriented paths. Consider the following graphic representations given in Pantcheva (2011:30).

(56) Types of transitional oriented source paths:

a. Coinitial ( <i>from-path</i> )	++++-----
	0            1
b. Egressive ( <i>starting from-path</i> )	+-----
	0            1

Coinitial paths are non-delimited, whereas egressive paths are delimited, cf. (56a) and (56b). Graphically, both types of paths differ in the number of plusses at the starting point of the path, where the locative relationship between the figure and the ground is obtained. Coinitial paths contain a sequence of plusses reflecting positions in which the figure is located within the ground. Egressive paths, by contrast, set the start of the path at the first point where the ground is located and include just one plus. As Pantcheva (2011) claims, egressive paths explicitly set the left boundary of the path.

Pantcheva (2011:26) supports the distinction above with data from some Uralic languages which use case morphemes to encode spatial paths. Here I use two examples from Komi Permyak<sup>9</sup>, which uses an egressive or an elative cases<sup>10</sup> to encode a coinital or egressive path, respectively.

- (57) a. Céljadj lóktěņī škóla-išj.  
 children come school-elative  
 ‘The children are coming from school.’
- b. Volgograd-šjanj Eljba vá-ědz  
 Volgograd-egressive Elba river-terminative  
 ‘from Volgograd to Elba river.’

The elative case in (57a) encodes a coinital path in which the figure (i.e., *the children*) moves out of the ground (i.e., *school*). The relation of containment between the figure and the ground is graphically represented in the positive phase of the path by a whole sequence of positive locations as in (56a). In example (57b), the egressive case corresponds to an egressive path, which delimits the starting point and indicates that the

<sup>9</sup> Komi Permyak is a variety of Komi which is an Uralic language.

<sup>10</sup> Elative is a locative case that indicates movement out of a place, whereas egressive case marks the limit of a trajectory.

ground (i.e., *Volgograd*) sets the left boundary of a spatial path. This interpretation is graphically represented in (56b): the starting point involves just one point in the positive phase before the transition.

More empirical support from Komi language is found in (58) (examples from Kuznetsov 2012:375-376, his translation):

- (58) a. Mijan sikt-ö kar-ys'(elative) voöm velödys' jasyd...  
 'The teachers who have arrived to our village from a city.  
 b. Dar' ja bereg-sjan'(egressive) vidzödö  
 'Darja is looking from the direction of the coast.

The elative case in (58a) encodes a coinital path in which the ground (i.e., *a city*) is the source of the motion, and the figure (i.e., *the teachers*) moves out of the ground. In (58b), by contrast, the egressive case corresponds to an egressive path in which the ground (i.e., *the direction of the coast*) sets the left boundary of the path, where the figure (i.e., *Darja*) is located.

Romeu (2014:190) shows that Spanish also uses different prepositions to encode (non)-delimited source paths: the preposition *de* exemplified in (59a) patterns with the coinital path (i.e., *from-path*). *De*-paths establish a locative relation between the figure and the ground, i.e., the figure is located at the ground and it moves “out of” it. In contrast, *des de*-paths encode the egressive type, i.e., the figure moves “from out of” the ground, cf. (59b).

- (59) a. Juan cayó                    {de/#desde} la silla.  
 Juan fell.down.3sg of/ from the chair  
 'Juan fell down from the chair.'  
 a. Juan saltó                    {#de/desde} la ventana.  
 Juan jumped.3sg of/ from the window  
 'Juan jumped from the window.'

The locative relationship between the figure and the ground is clearly expressed in (59a): the subject is sitting down on the chair and falls off this location. By contrast, the location encoded by the complement of the locative preposition in example (59b) is

interpreted as the initial boundary of a trajectory and, in this context, the use of *desde* is more appropriate.

I suggest that the same analysis can be applied to Catalan. Consider example (50) illustrated above, where the PP headed by *de*, which encodes a containment relation between the figure (i.e., the subject) and the ground (i.e., *Tossa*). The path encoded by *de* moves the figure out of the ground, but this leads to an ungrammatical result in (50). The predicate is a verb of motion (i.e., *caminar* ‘walk’) that requires a directional PP rather than a PP such as *de Tossa*, which merely indicates the source of the motion. Example (50) requires the source path encoded by *des de* ‘from’, which sets the initial point of a trajectory. The onset of the path is lexically encoded in the preposition *des*. The PP *des de* locates the figure (i.e., the subject) at the ground (i.e., *Tossa*) and sets the limit for movement, i.e., the figure moves ‘from out of’ *Tossa*.

#### 5.4.3 Summary of section 5.4

Section 5.4 has examined the relevant properties of spatial uses of (*des*) *de*-paths that set them apart from *since*-intervals in English. In English, *since* PPs have a special status. They are specialised for temporal uses and only admit spatial complements that have an eventive interpretation, see (16). I have shown that *since* PPs contrast with *from* PPs in that the latter allows for proper spatial uses. The preposition *from* expresses directionality and encodes a coinital source path (Pantcheva 2011). The source of a spatial path can be expressed by *des de* and *de* in Catalan. *Des de* has a more complex structure than its counterpart preposition *de*. In addition to origin, *des de* also has a directional component and sets the initial boundary of a spatial path. Following Pantcheva’s (2011) and Romeu’s (2014) classification of source paths, I have illustrated that *de* PPs pattern with coinital paths. They encode a non-delimited trajectory in which the figure establishes a relation of containment with the ground at the initial point of the path. *Des de* PPs, by contrast, encode a directional path, which is a delimited path that fixes the initial point of the trajectory, see (50). Empirical evidence comes from examples such as (50), which show that verbs of motion (i.e., *run*, *walk* or *carry*) require oriented paths, and, hence, do not combine with *de* PPs. With *de* PPs, the orientation of the path can be obtained by syntactic means, i.e, the directional PP *fins a XP* ‘to XP’ is the head of the complex PP *de XP fins a XP* ‘from XP until to XP’ in (51). In §5.5, I will discuss whether the grammatical properties of *des de*-paths also hold in the temporal domain.

## 5.5 The present perfect and *des de*-paths

In this section, I study the source of the universal and existential interpretation with PrP sentences modified by *since* PPs, which have been prototypically analysed as perfect time span adverbials in English. I will look into the ingredients of these modified PrP sentences. Crucially, I will focus on the conditions imposed on the left boundary and the right boundary of *since* PPs in Catalan and English. I will also study the interaction of these PPs and the aspectual class of the predicate and the type of modification they convey.

### 5.5.1 Previous attempts to derive the universal-existential ambiguity with *since* PPs

It has been claimed in the literature that a possible source of the universal-existential ambiguity in perfect sentences modified by *since* PPs could be the lexical ambiguity of *since*-type of adverbials (Mittwoch 1988; Vlach 1993; Iatridou *et al.* 2001; among others). In this subsection, I review the main claims about *since* in Hitzeman (1995, 1997a), Demirdache & Uribe-Etxebarria (2000), von Stechow & Iatridou (2005), Schaden (2007). In particular, I will illustrate that (i) an existential interpretation does not always exclude all the set of possible intervals in which the eventuality holds, (ii) universal interpretations may arise with other tenses and the presence of other time adverbials, (iii) the initial position of the time adverbial does not always yield a universal interpretation and (iv) proposals that derive the different readings from structure and the type of modification, i.e., event time vs. reference time modification, cannot account for the properties of the time intervals asserted by the preposition, which always have a fixed position on the timeline.

Dowty (1979:344) identifies *since* as an Extended Now adverbial and derives the meaning of a sentence such as (60a). It is the following analysis:

(60) a. John has slept since midnight.

b.  $\forall t_2$  [[midnight <  $t_2$   $\wedge$  XN ( $t_2$ )]  $\rightarrow$  [XN ( $t_2$ )  $\wedge$  AT ( $t_2$ , sleep (j))]]

The temporal adverbial *midnight* is placed at some time before the eventuality and the eventuality of *sleeping* ranges over all the subintervals of the Extended Now interval denoted by *since*. According to Alexiadou, Rathert & von Stechow (2003), the aspectual

analysis of *since* shown above cannot account for examples such as (61) (example from Alexiadou, Rathert, von Stechow 2003:xxxiii).

(61) I have lost my glasses three times since last month.

The predicate of *losing my glasses* does not hold at all subintervals of the interval asserted by *since*. *Since* licenses readings such as the one shown in (61) where the noun phrase *three times* multiplies the number of occurrences of the described eventuality.

Although Dowty (1979) does not posit the lexical ambiguity of *since*-adverbials, this has been claimed to be one possible source of the universal-existential ambiguity in the literature (Mittwoch 1988; Vlach 1993; Iatridou *et al.* 2001; among others). For instance, Mittwoch (1988:207) argues that *since* has two different meanings. The first sense corresponds to a durational adverbial, which means *from XP till now*, and is expressed by means of a universal quantifier. The second meaning is an extended time or frame adverbial, which can be paraphrased by *between XP and now*, and corresponds to an existential quantifier, cf. (62a) and (62b).<sup>11</sup>

(62) Sam has been in Boston since Tuesday.

- a. *Since*  $\forall$ : Tuesday is asserted to be part of the interval throughout which Sam is in Boston.
- b. *Since*  $\exists$ : Tuesday is not included in the set of possible intervals at which the state of Sam's being in Boston holds.

Along similar lines, Iatridou *et al.* (2001:165) analyse *since* as a perfect-level adverbial that can introduce a universal or existential quantification over the Perfect Time Span (PTS), yielding universal or existential perfects, respectively. The formal representation given in (63a) corresponds to a universal perfect that is derived by the universal interpretation of the *since*-interval, which introduces a universal quantifier. In (63b), the existential quantifier is provided by the existential variant of *since*, yielding an existential perfect:

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<sup>11</sup> Vlach (1993) calls the universal and existential interpretations 'inclusive' and 'exclusive', respectively.

- (63) Since 1990 I have been sick.
- a.  $\exists i$  (LB= 1990 & RB = NOW &  $\forall t \in i$  (Eventuality (t)))
- b.  $\exists i$  (LB= 1990 & RB = NOW &  $\exists t \in i$  (Eventuality (t)))

Schaden (2007) argues against the lexical ambiguity of *since*. He takes into account the role of the complement of the preposition *since* to provide empirical support against the distinction of two different types of *since*-intervals, i.e., existential vs. universal. Consider example (64) (from Schaden 2007:91).

- (64) a. Bruno has been married since 2000.
- b. Bruno has been married since 2001.

Schaden (2007:91) shows that, in a situation in which Bruno was married in February 2000, only (64b) could be analysed as a universal *since* on Mittwoch (1988) and Iatridou *et al.*'s (2001) view. According to Mittwoch (1988) and Iatridou *et al.* (2001), the universal meaning of *since* requires the interval 2001 to be part of the interval throughout which Bruno is married as in (64b). By contrast, this is not the case in (64a), where the starting point of the *since*-interval, which is specified by 2000, does not assert that the eventuality of being married holds throughout the whole time interval that includes 2000 (i.e., the subject is married in February 2000). However, even though there is a subinterval of 2000 that is not asserted to be part of the interval through which the eventuality holds, i.e., the month of January, the PrP sentence (64a) has a universal interpretation.

Schaden (2007) also considers French, German and Spanish *since*-type of intervals which pattern with *since* in English. Let us consider Spanish *desde* PPs in present tense sentences. Schaden (2007:91) provides the same context as in (64) and concludes that *desde 2000* in (65a), like in the case of *desde 2001* in (65b), allows for a universal interpretation even in the context in which there is a lapse of time of the interval asserted by 2000 which is not asserted to be part of the interval through which the eventuality of *being married* holds.

- (65) a. Bruno está casado desde 2000.  
 Bruno be.3sg married from 2000  
 'Bruno has been married since 2000.'



- b. Bruno está casado desde 2001.  
 Bruno be.3sg married from 2001  
 ‘Bruno has been married since 2001.’

(Spanish)

However, I claim these differences are mainly dependent on the type of complement selected by *desde* or *since*. If this preposition selected other type of locating time adverbials such as punctual time adverbials, these differences could not be elucidated. In contrast to punctual time adverbials, which denote a moment in time, *2000* asserts a temporal interval. In (65a), *desde 2000* ‘from 2000’ encodes the starting point of the temporal trajectory that takes place at some point in the time interval denoted by *2000*, it may be January or February. A universal interpretation is obtained when there is an eventuality that holds throughout a time interval that starts at some point in the temporal period denoted by *2000* and holds up to now. If *desde* ‘from’ selected *las tres* ‘the three’, for example, the eventuality would be wholly located at the starting point of the path. It is not possible to exclude a subinterval of *las tres* ‘the three’.

Schaden (2007:91-92) also illustrates that *since*-type of adverbials that yield an existential reading do not necessarily exclude the interval or temporal location specified by the left boundary. The same applies to French, German and Spanish. Consider (66) and (67) now.

- (66) Bruno has sold four cars since last year.

- (67) Bruno ha vendido cuatro coches desde el año pasado.  
 Bruno have.3sg sold four cars from the year past  
 ‘Bruno has sold four cars since last year.’

(Spanish)

According to Schaden (2007), Mittwoch’s (1988) proposal that an existential *since* excludes *last year* as the set of possible intervals at which the event time holds cannot account for the sentences illustrated above. The starting point of the *since*-interval, which is specified by *last year*, is included in the set of possible intervals in which the eventuality of *buying four cars* takes place. In the context in which the first occurrence of *buying a car* is located on the month of September from last year, the interval

denoted by *since* and *desde* does not assert that the whole time interval *last year* is excluded, but only a subinterval of *last year*.

As shown above, I claim that the possibility of excluding or including a time interval has to do with the semantics of the locating time adverbial. In (66), the eventuality of *selling a car* is multiplied and it takes place four different times between the temporal period that starts *el año pasado* ‘the year past’ and now. If *desde* ‘from’ selected a punctual time adverbial such as *las tres* ‘the three’, the time adverbial would assert that the initial point of the path starts at the temporal point denoted by *las tres* ‘the three’. An existential interpretation would be obtained regardless of the inclusion or exclusion of the first occurrence of *selling a car* at the starting point of the path (i.e., *las tres* ‘the three’).

Apart from *since* PPs, there are other time adverbials which can have both a universal and an existential reading as illustrated in (68).

(68) He was at home between 4 and 5.

According to Iatridou *et al.* (2001:164), the time adverbial *between 4 and 5* has two different interpretations, i.e, a universal and an existential one.<sup>12</sup> The existential reading in (68) corresponds to a situation when the subject is at home at some time between the time interval that starts at 4 and ends up at 5. The universal is obtained when the eventuality of *being at home* holds throughout the whole time interval, i.e., the subject is at home between 4 and 5.

The universal/existential dichotomy observed with different type of time adverbials and positing a lexical ambiguity to all of them has the disadvantage of being uneconomical (see Hitzeman 1995, 1997a; von Stechow & Iatridou 2005). Von Stechow & Iatridou (2005) propose a more economical solution for deriving the existential and universal readings taking into account the function of the *Aktionsart* as shown in (69) and (70).

- (69) a. Tony has been living on Cape Cod since 1990.  
 b. [<sub>TP</sub> Present [<sub>Perf</sub> since 1990 [<sub>AspP</sub> Imperfective [<sub>VP</sub> Tony live on Cape Cod]]]]  
 c.  $\exists t: RB(u,t) \& (LB(1990,t) \& \exists t' \supseteq t : Tony \text{ live on Cape Cod at } t')$

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<sup>12</sup> Iatridou *et al.* (2001) refer to ‘durative’ and ‘inclusive’ interpretations of the time adverbial rather than universal and existential interpretations.

- (70) a. Tony has visited Cape Cod since 1990.  
 b. [<sub>TP</sub> Present [<sub>Perf</sub> since 1990 [<sub>AspP</sub> Perfective [<sub>VP</sub> Tony visit Cape Cod]]]]  
 c.  $\exists t: RB(u,t) \& (LB(1990,t) \& \exists t' \subseteq t : \text{Tony visit on Cape Cod at } t')$

Imperfective aspect gives rise to a temporal relation of containment in which the eventuality forms parts of the whole temporal interval denoted by PTS (i.e.,  $t' \supseteq t$ ), and perfective aspect, to a temporal relation of containment in which the PTS contains an interval in which the eventuality holds (i.e.,  $t' \subseteq t$ ). The universal reading of (69) is derived as follows. There is a PTS specified by the time adverbial that starts in 1990 and reaches up to now, which is part of the potentially larger interval at which *Tony lives in Cape Cod*. As for the existential meaning illustrated in (70), the same PTS modified by *since 1990* is claimed to contain an interval at which *Tony visits Cape Cod*.

Moreover, predicates that have the subinterval property also allow for an existential reading even though they are more marginal. This reading can be enforced by explicit existential operators, cf. (71a) and (71b) (example from von Stechow & Iatridou 2005:6).

- (71) a. Tony has lived on Cape Cod since 1990.  
 b. Tony has lived on Cape Cod at least once since 1990.

The eventuality of *living in Cape Cod* in (71a) may hold at some time interval of the interval asserted by 1990. In (71), this reading is explicitly expressed by the quantificational phrase *at least once*. According to von Stechow & Iatridou (2005), the existential interpretation in (71a) can be obtained via (i) adding another Perfect projection on top of the subinterval predicate even if it has imperfective aspect or (ii) positing an extra layer of existential quantification analogous to *at least once*, which quantifies over parts of the perfect time interval.

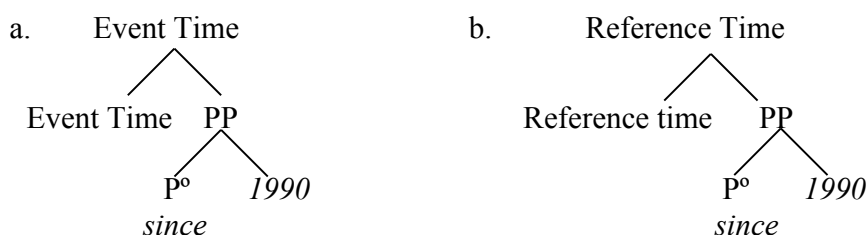
The position of time adverbials has also been claimed to be relevant for the availability of the universal reading of the perfect. However, as was already shown in §4.5, the correlation between the initial position of the time adverbial, the position-definite reading and the universal reading is not absolute. Consider example (72) in English (= (49), from §4.5.2).

(72) Since 1990, I have been sick (once).

*Since* always has a position definite reading on the timeline in initial and final position. The initial time adverbial in sentence (72) denotes an interval that stretches up to the reference time, which is cotemporal with the utterance time, but the event time does not necessarily hold throughout all the subintervals of the given interval asserted by *since*. The sentence can have an existential interpretation in which there is at least one occurrence of *being sick* that takes place within a time period that starts in 1990 and holds up to now.

Some proposals in the literature try to solve the universal/existential ambiguity on the basis of the type of modification, i.e., event time vs. reference time modification. This is the analysis given in Demirdache & Uribe-Etxebarria (2002, 2004). In their neo-Reichenbachian framework, prepositions are analysed as spatiotemporal predicates that take two arguments. For *since* PPs, Demirdache & Uribe-Etxebarria (2004:160) show that they set the initial bound of a temporal trajectory by establishing a relation of non-central centrifugal coincidence between the event time or the reference time<sup>13</sup> and the time denoted by the complement of the preposition. Thus, the PP in (73) can locate the event time or reference time after/from 1990. The PP *since 1990* specifies the trajectory of the figure (i.e., the event time or the reference time), which begins at the ground (i.e., 1990).

(73) Tony has lived in Boston since 1990.



The syntactic structures illustrated in (73) yield different readings when the event time and the reference time do not corefer, as is the case of perfect sentences. PrP sentences modified by *since PPs* give rise to an existential reading of the PrP when the PP specifies the starting point of the trajectory of the event time, whereas the universal

<sup>13</sup> The Reference Time corresponds to the Assertion Time in Demirdache & Uribe-Etxebarria (2000; 2002; 2004).

interpretation is obtained when the PP specifies the reference time (Demirdache & Uribe-Etxebarria 2002). However, this analysis cannot capture the meaning of *since*, which has a position definite reading on the timeline, i.e., it is anchored to the utterance time in PrP sentences. *Since*-paths in English assert a two-sided time interval that includes its right boundary, which is directly related to the utterance time in PrP sentences.

As a collorary summary, this subsection has shown that analyses based on the lexical ambiguity of *since* (see Mittwoch 1988; Iatridou *et al.* 2001) miss a generalization. A universal *since* as well as an existential *since* do not always assert the inclusion of the entire time interval, see (64) and (67), and the universal and existential reading may arise with different type of time adverbials as in (68). Moreover, there is no absolute relation between the position of the time adverbial, the position-definite reading and the universal interpretation, see (72). Thus, following Hitzeman (1995, 1997a), von Stechow & Iatridou (2005), Schaden's (2007), among others, I adopt the claim that the universal/existential ambiguity of PrP sentences cannot be due to the lexical ambiguity of time adverbials such as *since* PPs. I have also considered a proposal that solves the universal/existential ambiguity at the structural level, i.e., event time vs. reference time modification (Demirdache & Uribe-Etxebarria 2002, 2004). However, this analysis cannot fully explain the deictic component of the preposition *since*, which encodes a two-sided interval that stretches up to the utterance time in PrP sentences. In the following subsections, I will attempt to determine the source of the universal/existential dichotomy with *des de* PPs in Catalan by having a closer look into the grammatical properties of the interval asserted by *des de* in comparison with the type of interval encoded by *since* and *from* PPs.

### 5.5.2 *Des de*-paths in the temporal domain

The main purpose of this section is to test whether the spatial paths encoded by *de* PPs and *des de* PPs in Catalan are also available in the temporal domain. I will show that the lack of directionality of *de*-paths blocks it from being used in the temporal domain. By contrast, *des de*-paths are licensed and encode egressive paths as in the spatial domain. The interval asserted by *des de* states an initial boundary of a temporal trajectory. In English, apart from *since* PPs, *from* PPs also license temporal trajectories. The main difference between the two is that *from* patterns with initial paths, whereas *since*, like in the case of *des de*, shares more similarities with egressive paths.



In (76), *des de Tossa* ‘from Tossa’ sets the initial point of the spatial trajectory. The *de*-path, by contrast, is ruled out, because *de Tossa* ‘from Tossa’ only encodes origin and the locative relation of containment between the figure (i.e., the *walking* event) and the ground (i.e., *Tossa*) at the initial point of the path clashes with the directional PP required by the predicate. As example (77) shows, the path encoded by the *de* PP is licensed in the presence of an explicit goal phrase such as *a XP* ‘to XP’. In (77), the goal path *a Blanes* ‘to Blanes’ is the head phrase of the complex prepositional construction *de XP a XP* and hosts the directional component of the path (see the syntactic structure given in (54)). Similar observations hold in the temporal domain:

- (78) a. Hem caminat de les tres \*(a les cinc/ fins a les cinc).  
 have.2pl walked of the three to the five/ until to the five  
 Intended: ‘We have walked of three \*(to five).’
- b. Hem caminat des de les tres (a les cinc/fins a les cinc).  
 have.2pl walked from the three to the five until to the five  
 Intended: ‘We have walked from three (until five).’

As in (76), the temporal path *de les tres* ‘of the three’ in example (78a) is blocked. The preposition cannot establish a locative relation of containment between the event of *walking* (the figure) and the punctual time adverbial *les tres* ‘the three’ that asserts a moment in time (the ground). The PP *de les tres* ‘of the three’ in (78a) is licensed with an explicit delimiter such as *a les cinc* ‘to the five’ or *fins a les cinc* ‘until the five’, which is the head of the complex prepositional phrase *de les tres a les cinc/fins a les cinc*. The PP *des de les tres* ‘from the three’ in (78b) delimits the starting point and excludes its endpoint. A temporal bound such as *fins a XP* ‘until to XP’ is optional. Like in the spatial domain, the preposition *des de* specifies the limit of a temporal trajectory, which starts at three in (78b). This example shows that the optionality of the *a* PP or *fins (a)* PP is the main empirical factor that shows that *des de*, in contrast to *de*, encodes the onset of a temporal trajectory and patterns with egressive paths, see (75).

*De* PPs can be found in fixed temporal expressions such as *de dia* ‘of daytime’ or *de nit* ‘of night’. Let us consider (79).

- (79) Hem        caminat    {\*des de/ de} dia  
 have.2pl    walked        from    of    daytime  
 Intended: ‘We have walked of daytime.’

In (79), the preposition *de* imposes a locative relation of containment on the starting point of the path. The figure, that is, the eventuality of *walking*, is wholly contained within the ground and starts moving along the path during the daytime. In contrast to the preposition *de*, the PP headed by *des de* cannot combine with this type of noun phrase because it cannot be used to set up a limit of a temporal trajectory. The preposition *des de* would require a definite noun phrase instead (i.e., *el dia que vam arribar* ‘the day that we arrived’).

*From*-paths in English are also used in the temporal domain. Consider the following pair of examples in (80).

- (80) a. We have been at the office from three \*(until now).  
 b. We have been at the office since three.

*From* PPs encode a coinital source path that imposes a locative relation of containment at the starting point of the path. However, this relation is not available in (80a) since the ground (i.e., *three*) refers to a moment in time and the interval encoded by the punctual time adverbial cannot contain the figure (i.e., *being at the office*). Like *de*-paths, *from three* in (80a) requires a PP such as *until now* to be licensed, which is the head of the complex prepositional phrase *from XP until XP*. The source path *from three* specifies the left boundary and *until now*, the right boundary of a temporal interval. *Since* PPs do not impose such a locative relationship between the figure and the ground, and *since three* in (80b) asserts the starting point of the temporal interval that refers to a moment in time.

It is important to note that *from*-paths can combine with noun phrases as in (81a) (from Declerck *et al.* 2006:230). *Since* PPs can also take this type of complements, see (81b).

- (81) a. From childhood, she has had a timid character.  
 b. Since childhood, she has had a timid character.



In (81a), the cointial path encoded by *from* is licensed because the locative condition between the figure (i.e., *having a timid character*) and the ground (i.e., *childhood*) holds. The eventuality of *having a timid character* starts moving along the path while being within the time interval denoted by *childhood*. By contrast, *since* seems to pattern with egressive paths. The PP illustrated in (81b) asserts an interval whose figure (i.e., *having a timid character*) delimits the starting point of the path at the ground (i.e., *childhood*). However, as I will discuss in §5.5.4, the temporal path encoded by *since* is more complex than the egressive path illustrated in (75), because it also includes the right boundary in its denotation. The context in (82) elucidates the differences between *from* and *since* that have been outlined above.

- (82) A: How long have you had a timid character?  
 B: Since childhood. / \*From childhood.

The speaker B in (82) can use only the preposition *since* to encode a delimited temporal path that sets the lower bound of the temporal trajectory, i.e., *childhood* is the temporal period that is used to delimit the starting point of the path that stretches up to now. In this context, the use of *from* is ruled out, i.e., its locative relation of containment between the figure and the ground clashes with the temporal trajectory required by the question.

This subsection has shown that there are relevant analogies between spatial and temporal uses of *des de*. Crucially, I have provided empirical data to support the view of analysing *des de* PPs as instances of egressive paths in the temporal domain: (i) *des de* PPs delimit the starting point of a temporal interval, (ii) in contrast to *de* PPs, the expression of the right boundary of the temporal trajectory is optional (i.e., *a/fins a les cinc* ‘to/until the five’), cf. (78a) and (78b). I have also considered *from* PPs and shown that, in contrast to *since* PPs in English, they encode a cointial path, whereas the latter patterns with a type of egressive path in the temporal domain like in the case of *des de*, see (82). The empirical consequences that these types of temporal paths have for universal and existential readings of the PrP are discussed in §5.5.3.

### 5.5.3 *Universal and existential readings with des de-paths*

Let us turn now to the contrast between universal and existential readings. In this section, I will make use of different grammatical properties of temporal paths, namely,

(i) the property of delimitation, and (ii) the relation between the figure and the ground to be able to derive universal and existential readings. I will show that only coinital paths (i.e., *from*-paths), in combination with PrP sentences in English, allow for unequivocal universal readings. This reading is ensured via the locative relation of containment between the figure and the ground at the starting point of the path. As for *since* and *des de*-paths, they delimit the starting point of a temporal trajectory and do not impose such a locative relation, so that both universal and existential readings are allowed. In *des de*-paths in Catalan, the right boundary is left vague and the existential interpretation is obtained by means of explicit quantified phrases. In contrast to *des de*, *since* asserts an interval that also includes an endpoint, which, in PrP sentences, is the utterance time. *Since* PPs always occur with the perfect and modify the interval denoted by the perfect (i.e., the PTS), in/throughout which there is an eventuality.

As shown above, *from* PPs license coinital temporal paths, see (81a), which, in contrast to *since*-intervals, impose a locative relation of containment between the figure and the ground. Declerck *et al.* (2006:630) show that *from* PPs occur with the PrP and always yield a universal interpretation, see (83).

(83) I have been fascinated by insects from childhood.

As Declerck *et al.* (2006) put it, *from*-paths always yield universal interpretations and do not allow for existential interpretations with an indefinite noun phrase or an explicit quantified phrase as in (84a) and (84b), respectively (from Declerck *et al.* 2006:600).

- (84) a. \*I've seen a dragonfly from childhood.  
 b. \*I've been in France exactly six times from childhood.

In Declerck *et al.* (2006), the unambiguous universal reading in examples (83) and (84) is connected to the non-specification of the right boundary. The temporal adverbial is not bounded and the described eventuality cannot come to an end before the utterance time.<sup>14</sup> However, in this chapter, I claim that an unequivocal universal reading is ultimately available due to the containment relation imposed by coinital paths. In (83), the *from*-path asserts a temporal path in which the figure (i.e., the state of *being*

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<sup>14</sup> Declerck *et al.* (2006:600) refers to *from* PPs as 'situation-unbounding' adverbials, i.e., the endpoint of the adverbial is unspecified.

*fascinated*) is contained within the ground (i.e., the subject's *childhood*). This relation of containment is obtained at the starting point of the path, where the figure starts moving, and holds up to now.

*From*-paths can also be licensed in complex delimited paths being specifiers of a complex temporal trajectory, i.e., *from X until Y*, cf. (78a) and (80a). This type of temporal path allows for a universal reading of the PrP in (85a), but, in contrast to example (83), it is a two-sided interval that allows for an existential reading by means of explicit quantified phrases, see (85b) (from Declerck *et al.* 2006:599).

- (85) a. From the beginning of May until now I have been ill.  
b. From the beginning of May until now I have been ill three times.

In (85), the PP *until now* is the head of the complex temporal path. It specifies the right boundary of the PTS and the PP *from*, which is the specifier of the complex temporal path, encodes the left boundary. In contrast to (83), the delimited nature of the complex temporal path allows for existential readings, which are enforced via the explicit presence of quantified phrases (i.e., *three times*).

As was shown above, *des de* PPs share more grammatical properties with *since* PPs, i.e., they assert a delimited temporal path that sets the initial boundary of a temporal trajectory, cf. (78b) and (80b). The main difference between these two prepositions has to do with the inclusion of the endpoint of the temporal path. As for *since*, it is a preposition preposition that includes the right boundary in its denotation. According to Hitzeman (1997b), the reference time is part of the meaning of this preposition. In PrP sentences, the interval asserted by *since* refers to a time interval that is anchored to the utterance time. In contrast to *since*, the right boundary of a *des de* PP is left unspecified.

Another difference that has been noted for Spanish (see Martínez-Atienza 2006, 2010) is that the universal/existential dichotomy does not arise with *desde* PPs. According to Martínez-Atienza (2006, 2010), *desde* in Spanish is a durative preposition, which allows for an existential interpretation of the PrP with the presence of an explicit indefinite phrase or quantified phrase, see (86) (from Martínez-Atienza 2010:186). The same applies to Catalan, see (87) (=3b), from §5.1).

(86) He vivido en Nueva York (únicamente dos meses) desde 1982.  
 have.1sg lived in NY only two months from 1982  
 ‘I have lived in New York for only two months since 1982.’

(Spanish)

- (87) a. He escrit una pàgina des de les tres.  
 have.1sg written one page from the three  
 ‘I have written one page since three.’  
 b. He viscut a Boston dos cops des de 2000.  
 have.1sg lived in Boston two times from 2000  
 ‘I have lived in Boston twice since 2000.’

In this chapter, I claim that the reason why *des de* PPs give rise to a universal interpretation in PrP sentences as in (88) is connected to the egressive temporal path they encode, see (75).

(88) He viscut a Boston des de 2000.  
 have.1sg lived in Boston from 2000  
 ‘I have lived in Boston since 2000.’

*Des de* PPs assert a path that includes 0 (i.e., the starting point of the path) and excludes 1 (i.e., the endpoint of the path). In (88), the figure (i.e., the described eventuality of *living*) is at the starting point (graphically illustrated by a plus) where the ground is located (i.e., 2000) and sets the left boundary of the perfect time interval (PTS). In contrast to *fom*-paths, they lack the locative relation of containment between the figure and the ground, and, hence, they can enforce an existential quantification over times via the presence of quantified phrases, cf. (84) and (87).

*Since* PPs seem to pattern with egressive paths like *des de* PPs, i.e., they state the initial boundary of a temporal trajectory. However, they are prepositions that also include 1. The endpoint of the path refers to the reference time, and, in PrP sentences, it is coextensive with the utterance time. As Iatridou *et al.* (2001) claim, *since* PPs are perfect-level adverbials, i.e., they always occur with the perfect, and modify the perfect time interval (PTS). *Since* PPs, in contrast to *des de*, assert a two-sided path that modifies the PTS. The starting point is specified by the temporal period denoted by

*since* and the endpoint is set up by the present tense of the auxiliary verb. The left-side boundary of a PTS does not always correspond to the starting point of the described eventuality. In a similar way as in the case of egressive-paths, the figure (i.e., the left boundary of a PTS) is located at the first point where the ground is located (i.e., a temporal interval) and the right boundary is also included. (89) illustrates the graphic representation of *since*-paths in English:

(89) *Since*-path +-----+  
0 1

In contrast to *des de*-paths, *since*-paths allow for universal and existential interpretations, see (90) (=1), from §5.1).

(90) Sam has been in Boston since Tuesday.

The *since*-path in (90) locates the figure (i.e., the LB of a PTS) at the first point where the ground is located (i.e., *Tuesday*). If the described eventuality has the subinterval property, it may allow for a universal reading, i.e., all points of the perfect time span are points of *Sam being in Boston*, or for an existential interpretation, i.e., in that time span is an eventuality of *Sam being in Boston*. The latter interpretation is more marginal, and it is clearly available with explicit quantified phrases as in (91).

(91) Sam has been in Boston at least once since 1990.

In this section, I have derived the universal and existential readings in PrP sentences modified by prepositions that encode source paths taking into account their grammatical properties. The following table summarizes the results.

(92) Grammatical properties of temporal paths and the universal / existential reading

Temporal path	Delimitation	Relation F & G	QP	RB	U/E
<i>from</i> XP	non-delimited	F within G	-	-	U
<i>from X until Y</i>	delimited	F at G	+	+	U / E
<i>des de</i> XP	delimited	F at G	+	-	U / E
<i>since</i> XP	delimited	F at G	+	+	U / E

Unequivocal universal readings are available with cointial paths. *From*-paths assert a non-delimited source path that establishes a locative relation of containment between the figure and the ground, see (83). Such a locative relation blocks the existential quantification over times or quantified phrases, see (84). *From*-paths can license delimited intervals when they specify the initial boundary of a complex temporal path, i.e., *from X until now*, see (85a). This two-sided path can enforce an existential reading with quantified phrases, see (85b). In contrast to *from*-paths, *des de* PPs encode an egressive path in the temporal domain, i.e., they state the initial boundary of the path and do not impose a locative relation of containment between the figure and the ground. The lack of this locative condition allows for existential quantification over times in the presence of explicit quantified phrases, see (87). *Since*-paths, in contrast to *des de*, have a more complex internal structure, i.e., *since* has a predetermined right boundary, see (89). I have defined *since*-paths as PTS paths in/throughout which there is an eventuality. The subinterval property of the predicate can give rise to a universal or an existential interpretation. The nature of the right boundary in *des de*-paths and *since*-paths will be further discussed in the following section.

#### 5.5.4 *The nature of the right boundary*

As pointed out above, one of the most relevant differences between *des de* and *since*-intervals has to do with the nature of the right boundary. In this subsection, I illustrate that *since* has a more complex meaning. I follow Schaden's (2005a, 2007) claim for the case of French and Spanish that *depuis* and *desde* lack the denotation of a right-delimiter, and show that *since* and *des de* also differ due to the absence of the right boundary in the meaning of the preposition. In this subsection, I will also show that the the specification of the right boundary, which in the context of PrP sentences corresponds to the reference time, does not necessarily need to be coextensive with the utterance time to obtain a universal reading of PrP sentences modified by *des de*. As shown in chapter 4, the anchoring of the PTS to the utterance time is mainly due to the interaction of the subinterval property of the predicate and the grammatical properties of temporal adverbials. In the case of *des de* in Catalan, additional elements such as *ençà* 'up to here', the marker *que* 'that' or the locating phrase *fa XP* 'makes XP' are required to anchor the temporal path to the utterance time.

*Since* in English is a preposition that is specialized for temporal uses restricted to the pre-present time zone (Declerck *et al.* 2006). The perfect time interval encoded by the perfect (PTS) is a time interval that starts at some point in the past and stretches up to now. Schaden (2007:105) provides relevant examples that show that complements of *since* cannot have future reference, see (93) (=15), from §5.2.1).

(93) \*I will do sports since tomorrow.

This type of adverbials disallow for the presence of an explicit right boundary, see (94) (=14), from §5.2.1), illustrated again for convenience.

(94) John has been in Boston since Friday (\*until now/recently).

The explicit presence of a right boundary is ruled out because, as I pointed out above, it is encoded in the meaning of the *since*-path. Schaden (2005a:91) provides the following formalization of *since*-type of adverbials that correspond to English:<sup>15</sup>

(95) [since] =  $\lambda p \lambda q \lambda i \exists i' \exists i'' [i \subseteq i' \wedge \text{LB}(i') = i'' \wedge \text{RB}(i') = i \wedge p(i'') \wedge q(i')]$

According to Schaden (2005), the preposition *since* encodes an interval  $i'$ , which takes the interval  $i''$  as first argument (i.e., a locating temporal phrase such as *Friday* in (94)) that specifies the left boundary of the interval  $i'$ . The second argument taken by *since* is the interval  $i$ , which is the reference time and it is valued by *Tense*.

In PrP sentences, the second argument of *since* is valued by the present tense of the auxiliary verb, see (94). The properties of the present tense in English, i.e., the relation of coextension between the reference time and the utterance time, are inherited in the PrP. As has been shown in the preceding chapters, the English PrP encodes a PTS whose right boundary always includes the utterance time. As a result of the competition between the PrP and the past tense in English, the relation of precedence between the PTS and the utterance time is out, and, hence, the PTS encoded by the PrP directly relates to the utterance time (see Pancheva & von Stechow 2004).

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<sup>15</sup> In (95),  $p, q$  are propositional variables;  $i, i'$  and  $i''$  stand for intervals, more specifically: here  $i$  is the reference time of the sentence,  $i'$ , the interval encoded by *since* that has a LB and a RB, and  $i''$  is the denotation of the locating temporal expression.

In Romance languages such as Catalan, the use of *des de* is not restricted to any particular time zone. In contrast to *since*-paths, the complement to *des de* is available for future reference, see (96) (=18e), from §5.2.2).

- (96) Viurà a Boston des de demà  
 live.3sg in Boston from tomorrow  
 Intended: ‘He will live in Boston since tomorrow.’

As I have outlined above, *des de* PPs pattern with its spatial counterpart and encode egressive temporal paths, which delimit the left boundary. The right boundary of the temporal path is left unspecified. As has already been mentioned, Schaden (2007:109) argues that the meaning of *desde* PPs in Spanish and *depuis* PPs in French do not provide any specification of a right-delimiter.<sup>16</sup> I propose that this claim can also be extended to Catalan. Then, following Schaden’s formalization of the meaning of *since* in English, *des de* corresponds to the following lexical entry:<sup>17</sup>

- (97) [des de] =  $\lambda p \lambda q \exists i' \exists i'' [LB(i') = i'' \wedge p(i'') \wedge q(i')]$

The preposition *des de* encodes an interval  $i'$ , which takes the interval  $i''$ , which is a locating temporal phrase. For example, *demà* ‘tomorrow’ in (96) specifies the left boundary of an interval  $i'$ . The right boundary is not denoted in the lexical entry of *des de* and is unspecified. The temporal path does not establish any relation to the reference time and it is set up by tense. In (96), *des de* excludes the endpoint of the path, but tense asserts that it has a future reference time.

In contrast to *since*-paths, the right boundary can be expressed by an explicit right-side delimiter expression. Schaden (2007:109) points out that *desde* in Spanish and *depuis*-adverbials in French can take any type of interval as its right boundary.

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<sup>16</sup> Schaden (2007) distinguishes the utterance time and the point of perspective, which was introduced by Kamp & Reyle (1993). He provides a formal representation of the meaning of *desde* in Spanish and proposes that the right boundary of a *desde* PP is specified by the point of perspective. In this study, I do not distinguish the utterance time and the point of perspective.

<sup>17</sup> In (97),  $p, q$  are propositional variables;  $i'$  and  $i''$  stand for intervals, more specifically: here  $i'$  is the interval encoded by the preposition that denotes a LB, and  $i''$  is the denotation of the locating temporal adverbial.



Consider the following examples in Spanish, cf. (98a) (from García Fernández 2000a:117) and (98b) (from Martínez-Atienza 2010:196).

- (98) a. He            trabajado en esa obra desde abril hasta junio.  
           have.1sg worked on this work from April until June  
           Intended: ‘I have worked on this work from April until June.’
- b. He            estado enfermo desde 1992 hasta 1995.  
           have.1sg been sick from 1992 until 1995  
           Intended: ‘I have been sick from 1992 until 1995.’

The PrP as well as the past can be used in examples illustrated in (98). However, with PrP sentences as (98a), the perfect time interval encoded by the perfect overlaps with the reference time, i.e., the month of June overlaps with the current time unit, and locates the right boundary of the temporal path at the closest month of *June* before the utterance time. As for (98b), it seems that this sentence could only be accepted in a list-reading in which the subject is enumerating the events that took place between 1992 and 1995. It could be accepted as an answer to a question like *Qué te ha pasado desde 1992?* ‘What has happened to you since 1992?’

Let us consider now the following examples in Catalan, see (99) (example (99b) corresponds to (22), from §5.2.2).

- (99) a. Ha            estat a casa des de les tres fins les set.  
           have.3sg been in home from the three until the seven  
           Intended: ‘He has been at home from three until seven.’
- b. Ha            estat a Boston des de dimarts fins (ara) fa poc.  
           have.3sg been in Boston from Tuesday until now makes little  
           Intended: ‘He has been in Boston since Tuesday until some time ago.’
- c. Hem            treballat junts des del gener fins al març.  
           have.1pl worked together from.the January to.the March  
           Intended: ‘We have worked together from April to June.’

In PrP sentences, *des de* allows for the specification of a right boundary that refers to the closest relevant period before the utterance time, i.e., the preceding seven o’clock, a short time ago or the closest month of March, see (99a)-(99c), respectively.

However, we cannot find contexts that allow for the presence of temporal intervals that refer to a past time:

- (100) a. \*Ha estat a Boston des de dimarts fins ahir.  
 have.3sg been in Boston from Tuesday until yesterday  
 b. \*Ha estat a Boston des del 2000 fins el 2005.  
 have.3sg been in Boston from.the2000 until the 2005

The past time adverbial *ahir* ‘yesterday’ in (100a) or *2005* in (100b) specify a right boundary that precedes the present reference time and rules out the use of the PrP. It is important to note that there is variation among speakers, and a sentence such as (100a) could be accepted. However, it seems that (100b) is less acceptable in an out-of-the-blue-context. The PrP could only be accepted as a list-reading, as in (98b).

In Catalan, some additional elements such as the adverb *ençà* ‘up to here’, the spatiotemporal marker *que* ‘that’ or the durative-adverbial *fa XP* ‘makes XP’ are needed to ensure that, in PrP sentences, the PTS encoded by the perfect is anchored to the utterance time. In §5.2, I pointed out that the presence of these markers require the use of the present tense or PrP and the right boundary always overlaps with the utterance time. In these contexts, the explicit specification of the right boundary is quite restricted. Consider (101).

- (101) D’ aleshores ençà fins ara ha estat professor.  
 from then up.to.here until now have.3sg been teacher  
 Intended: ‘Since then until now he has been a teacher.’

The explicit expression of the right boundary with PPs such as *d’aleshores ençà* ‘from then up to here’ refers to the same moment of the utterance or to a moment linked to the day of speaking (i.e., *fins {ara/avui}* ‘until now/today’).

Likewise, an explicit expression specifying the right boundary is not likely to occur in sentences with preposed time modifiers such as *des de XP que* ‘from XP that’, see (102).

- (102) ?? Des del diumenge fins ara que ha plogut.  
 from.the Sunday until now that have.3sg rained

The marker *que* ‘that’ in (102) is identified as a temporal-aspectual marker in Rigau (2001a, 2001b), and asserts a time interval that is anchored to the utterance time. As in (101), the right boundary may be accepted if it expresses that the interval encoded by *des de* reaches up to the same moment of the utterance or to a certain time linked to the present (i.e., *fins {ara/avui}* ‘until now/today’).

As has been noted for the case of Spanish (García Fernández 1999:3196, 2000a:103; Schaden 2007:104), locating time adverbials such as *hace XP* ‘makes XP’ or *hacia XP* ‘made XP’ cannot appear with an explicit rightward boundary. For my present purposes, I consider *des de fa* PPs ‘from makes’ in PrP sentences in Catalan. *Fa deu anys* ‘makes ten years’ in (103) measures the event time of *being a professor* from the the utterance time and, hence, disallows the presence of an explicit-right side delimiter like *fa poc* ‘makes little’, which refers to a moment different from *now*, see (103a). It is not logical to delimit the right boundary at some time before the utterance time, because the measure phrase selected by the locating time adverbial *fa X time* ‘makes X time’ locates the the event time ten years backwards from the utterance time. It can only admit a right boundary that includes the moment of the utterance as in (103b):

- (103) a. \*Ha estat professor des de fa deu anys fins fa poc.  
 have3sg been teacher since make.3sg ten years until make.3sg little
- b. Ha estat professor des de fa deu anys fins ara.  
 have3sg been teacher since make.3sg ten years until now  
 ‘He has been a teacher for ten years up to now’

The main conclusion of this subsection is that the lexical entries of *since*-type adverbials differ cross-linguistically. I have focused on Catalan *des de*, which, unlike English *since*-adverbials, allows for an explicit delimiting temporal expression specifying the right boundary. Some additional elements such as the adverb *ençà* ‘up to here’, the marker *que* ‘that’ or the locating phrase *fa XP* ‘makes XP’ allow *des de*-paths to be fixed on the timeline with respect to the utterance time. *Ençà* ‘from up to here’ presupposes the right boundary, *que* ‘that’ anchors the eventuality with respect to the utterance time and *fa XP* measures a temporal period backwards from the utterance time. An explicit specification of the right boundary is, hence, less likely to occur in these

cases. If it is available, it mainly refers to the same moment as the utterance time (i.e., *fins ara* ‘until now’) or to some interval linked to the day of speaking (i.e., *fins avui* ‘until today’), see (101), (102) and (103). So far, I have set the main grammatical properties of the left and right boundaries of *des de*-adverbials, and the differences that distinguish them from *since*-type of adverbials. Next, I will focus on the lexical restrictions imposed by *des de*-paths and examine whether they have an effect on the available readings of the PrP.

#### 5.5.5 *The role of Aktionsart*

In this subsection, I focus on showing how the grammatical properties of *des de* interact with the *Aktionsart* to give existential/universal readings of the PrP. As has been previously discussed, *des de* does not have a universal or an existential variant, rather the preposition encodes an egressive-type path, which set the starting point of a time interval. In this subsection, I show that *des de*-paths are compatible with durative predicates that can develop along the temporal trajectory specified by the preposition. I claim that *des de* PPs are *Aktionsart* selectors and impose lexical semantic restrictions on the verbal predicate they combine with, i.e., they only allow for verbal predicates that take time. Only stative, activity and accomplishment predicates are durative and are compatible with *des de* modifiers. However, accomplishments cannot give rise to a universal interpretation of the PrP because they denote an event of change and such interpretation requires the subinterval property, i.e., states and activities.

As illustrated in (104) (=19, from §5.2.2), repeated again below, *des de*-adverbials are temporal adverbials that require predicates that take time, see (104a-c), achievement predicates are ruled out, see (104d).

- (104) a. Ha            estat malalt    des de    dimarts.  
           have.3sg    been sick        from    Tuesday  
           ‘He has been sick since Tuesday.’
- b. Ha            treballat    des de    les tres.  
           have.3sg    worked        from    the three  
           ‘He has worked since three.’
- c. Ha            escrit    quatre pàgines des d’aquest matí.  
           have.3sg    written four pages from this morning  
           ‘He has written four pages since this morning.’

d. \*Ha arribat des de les set del matí.  
 have.3sg arrived from the sevenof.themorning

Achievements do not express duration and are not compatible with *des de*. García-Fernández (2000a:104) notes the same for the case of Spanish:

(105) \*María se ha ido desde las dos.  
 María cl.3sg have.3sg left since the two

Like in (105), the predicate in example (104d) is an achievement, a punctual predicate which changes from  $\neg\varphi$  to  $\varphi$ . The event of *arriving* in (104d) denotes a minimal transition, i.e., an instantaneous change of the subject moving from the state of *not being in Barcelona* to the state of *being in Barcelona*. However, *des de*-adverbials, which require the presence of durative eventualities, are ruled out with achievements, which do not take time and cannot stretch through a temporal path. The only way to achieve a durative interpretation with an achievement is via a resultative reading,<sup>18</sup> which is obtained with change of state verbs (i.e., *perdre* ‘to lose’, *obrir* ‘to open’), see (106).

(106) S’ ha perdut aquest costum des de fa temps.  
 cl. have.1sg lost this tradition from make.3sg time  
 ‘It has been a long time since this tradition was lost.’

*Des de fa dies* ‘from of makes days’ in example (106) assigns a particular temporal length to the result state of situation of *having lost an object*, which is the result state of the achievement predicate.

As was discussed in the previous chapter, the universal interpretation of a PrP sentence requires homogeneity in Catalan. The main aspectual property of the predicate that allows for a universal interpretation is the subinterval property of the predicate. States and activities are homogeneous predicates that have the subinterval property (Bennet & Partee 1972), i.e., if the eventuality is true for an interval I, it is also true for

<sup>18</sup> As illustrated in §5.2, *desde*-adverbials in Mexican and Caribbean Spanish varieties, by contrast, may also co-occur with achievements that do not denote a change of state (i.e., *Desde el lunes llegó* ‘From Monday he arrived’). In these varieties, the *desde*-adverbial licenses a time interval subsequent subsequent to the event time (Bosque & Bravo 2015).

every subinterval of I. The default reading that durative predicates get in sentences (104a-b) is the universal one. The state of *being sick* in (104a) and the activity predicate of *working* in (104b) hold throughout the time interval specified by *des de*.

As for accomplishment predicates, they denote events that take time, but do not allow for the subinterval property. Accomplishment predicates denote complex BECOME events, which are over when the change has taken place. A complex BECOME event occurs over an extended period of time. (104c) consists of a complex BECOME event, i.e., the event of *writing four pages* involves a change from a state in which there is no page to a state in which four pages have “become written”. Unlike homogeneous predicates (i.e., states and activities), accomplishments are not cumulative: two accomplishments of the same kind (i.e., *writing one page*) cannot be summed into a singular accomplishment of that kind. The lack of such a property explains why from an existential interpretation of a PrP sentence we cannot derive a universal reading.

In this section, I have examined the aspectual restrictions imposed by *des de* on the predicates it combines with. States and activities are homogeneous predicates that have the subinterval property and give rise to universal readings. However, accomplishments denote a change of state and do not have the subinterval property, so they give rise to an existential reading.

## 5.6 Summary of chapter 5

Chapter 5 has described the main grammatical properties of *since*-type of adverbials in a variety of Germanic and Romance languages. In particular, I have focused on Catalan and English. In contrast to *des de*, *since* includes the right boundary in the meaning of the preposition and it is set up by the present tense of the auxiliary verb in PrP sentences. One of the main empirical differences between *since* and *des de* is related to the nature of the right boundary, which it is left unspecified with *des de* PPs. In Catalan, *des de* PPs can combine with different tenses, see (18), and allow for an explicit right-side delimiter, see (21). Catalan requires additional elements such as the durational phrase *fa XP* ‘makes XP’, see (22), the adverb *ençà* ‘up to here’, see (24), or the spatiotemporal marker *que* ‘that’, see (27), to anchor the PP to the utterance time.

There are relevant analogies between spatial and temporal uses of *des de*. In particular, *des de* encodes an egressive-type path in the temporal domain that delimits

the left boundary of a time interval, see (56b). The temporal path locates the figure (i.e., the described eventuality) at the first point where the ground is (i.e., delimited temporal interval). In English, *since* PPs also encode the starting point of a temporal path, i.e., its left boundary is a delimited temporal interval and its right boundary is encoded in the path asserted by the preposition *since*.

I have further investigated the source of the universal and existential interpretations of PrP sentences modified by *since* and *des de* PPs by looking at the contribution of the type of temporal path they encode. I have shown that, unlike *from*-paths, *des de*-paths lack the locative relation of containment, i.e., the figure is not within the ground at the starting point of the path, and, hence allow for existential quantification over times, which is contributed by quantified phrases, see (87).

As for *since*-paths, they always occur with the perfect and have been defined as perfect-level adverbials (Iatridou *et al.* 2001). I have shown that they are modifiers of the PTS, in/throughout which there is an eventuality, see (89). Predicates that have the subinterval property can hold throughout the specified PTS, i.e., they can hold at every subinterval of the PTS, or can be contained within the PTS, i.e., the stative predicate can hold for a subinterval in the PTS.

The path encoded by *des de* requires predicates that have duration, see (104a-c). The universal reading requires homogeneity, i.e., states and activities have the subinterval property and can hold at every subinterval of a given time interval. However, accomplishments denote a change of state and do not have the subinterval property, i.e., they give rise to existential readings.





## Conclusion

The preceding five chapters have explored some readings of the PrP in depth, where I have mainly focused on the hodiernal and universal interpretations. I have provided an analytical view and shown that these readings do not arise from the semantics of the perfect. Rather, other linguistic components such as the meaning of the present tense and adverbial support give rise to different readings. To conclude the present study, I will summarise the main findings and present some remaining questions and issues for future research.

Chapter 2 and 3 were devoted to the study of this reading of the PrP in Catalan in comparison to English and another typologically unrelated language, namely, Gĩkũyũ. The hodiernal reading in Catalan arises via contextual or adverbial support, whereas in Gĩkũyũ, the hodiernal reading is obtained by a specific prefix that denotes that the eventuality takes place within the day of the utterance time. Even though English does not rule out hodiernal interpretations of the PrP, it exhibits the *Present Perfect Puzzle* (Klein 1992). English disallows modification of the PrP by locating time adverbials that can fix the asserted time interval on a specific position on the timeline.

To provide a theoretical account of the hodiernal PrP, I adopted a PTS theory (Dowty 1979; McCoard 1978; Iatridou *et al.*'s 2001) and assumed a split between the PTS and the reference time (Pancheva & von Stechow 2004; Rathert 2004). Pancheva & von Stechow (2004) show that in English the PrP competes with the past tense, and, as a result, the relation of precedence between the PTS encoded by the perfect and the reference time is out in English (Pancheva & von Stechow 2004). Examples shown in (1) (=5), from §1.1; from Klein 1992:525-546) require the use of the past.

- (1) a. \* Chris has left at six.  
b. \* Chris has left New York yesterday.

According to Pancheva & von Stechow (2004), when the PrP competes with the past, the meaning of the former is strengthened and the temporal relation between the PTS and the reference time is restricted to that of coextension, i.e., the PTS always includes the reference time, which is cotermporal with the utterance time. This is not the case in

German, where the past does not compete with the PrP, and, hence, it is possible to find PrP sentences modified by past time adverbials.

As for Catalan, the periphrastic past and the PrP are in complementary distribution. The past is specialised to prehodiernal readings, while the PrP is used to convey a hodiernal interpretation, cf. (2a) and (2b) (=1), from §2.1).

- (2) a. Hem anat al mercat a les deu.  
have.1pl gone to.the market in the ten  
'We went to the market at ten.'
- b. \* Vam anar al mercat avui a les deu.  
aux.1pl go to.the market today in the ten

It has been claimed in the literature (Giorgi & Pianesi 1997; Brugger 2001; among others) that a hodiernal reading requires a 24-hour Rule that restricts the location of the eventuality on the day of speaking. However, such constraint would be too strong. As shown in examples like (3), in unmodified contexts, we cannot get an unequivocal hodiernal reading. There is no external rule that can enforce the described eventuality in (5) to be located on the day of speaking.

- (3) Hem anat al mercat.  
have.1pl gone to.the market  
'We have gone to the market.'

In Catalan, there are certain locating time adverbials that are allowed, such as punctual time adverbials and time adverbials headed by a proximate demonstrative and a calendar expression, see (4) (=21b-d), from §2.3.3).

- (4) a. Hem anat al mercat a les deu.  
have.1pl gone to.the market in the ten  
'We went to the market at ten.'
- b. Ha arribat fa una hora.  
have.3sg arrived makes an hour  
'He arrived one hour ago.'

- c. He treballat aquest matí.  
 have.1sg worked this morning  
 ‘I {have worked/worked} this morning.’

These examples show that Catalan, in contrast to English, does not exhibit the *Present Perfect Puzzle* (Klein 1992). There have been many attempts in the literature to solve the *Present Perfect Puzzle*, but none can fully account for cross-linguistic variation.

For instance, Pancheva & von Stechow (2004) claim that what matters is that the compatibility of future time adverbials with the present tense is linked to the future meaning of the present tense. However, Swedish, like English, shows the *Present Perfect Puzzle*, cf. (1a) and (5) (=24), from §2.3.4; from Giorgi & Pianesi 1997:87), but in contrast to English, the present tense is compatible with future time adverbials, cf. (6a) and (6b) (=25), from §2.3.4).

- (5) \* Johan har slutat klockan fyra.  
 Johan have.3sg finished o'clock four  
 ‘Johan finished at four.’

(Swedish)

- (6) a. \* John drives to Paris next year.  
 b. Johan åker till Paris nästa år.  
 Johan drives to Paris next year  
 ‘Johan will drive to Paris next year.’

(Swedish)

As for Catalan, where the PrP allows for punctual time adverbials, future time adverbials are compatible with the present tense with eventualities that are planned, as in (7) (=26a), from §2.3.4).

- (7) El meu germà es casa demà.  
 the my brother cl. marry.3sg tomorrow  
 ‘My brother is going to get married tomorrow.’

In chapter 2, I empirically motivated the claim that the variation in the meaning of the present tense across languages is directly linked to the ability of the PrP to locate

an eventuality on a fixed position on the timeline. One of the meanings of the present tense in Catalan, like in German and Swedish, is the progressive, see (8a) (=27), from §2.3.4), whereas, in English, progressive morphology is required to convey an ongoing interpretation, see (8b)

- (8) a. Ara treballa. ¡No el molestis!  
 now work.1sg no obj.3sg annoy  
 ‘He is working now. Don’t annoy him!’  
 b. He is working now.

The hypothesis that I defended is that in Catalan, the present tense denotes a time that involves a larger interval than a moment. The described event time in the present tense can intersect with the utterance time and give rise to a progressive meaning, as in (8a). In contrast to Catalan, the English present tense is identified with a temporal point (i.e., *now*), and only stative predicates, which are evaluated at temporal moments (Taylor 1977; Dowty 1979), can hold at the utterance time in present tense sentences.

The grammatical properties of the present tense are inherited in PrP constructions, and this has empirical consequences for the compatibility of temporal adverbials with the PrP. First, the PrP in English encodes an extended now that is compatible with temporal constructions that include the present moment. For instance, the PrP is compatible with *since* PPs, which, according to Smith (1990:154), ‘state a bound on an interval including the present’. However, as shown in (9a), in English *since* cannot combine with the present tense. The present tense in English is a delimited time span that can only be identified with the moment *now*, and it cannot combine with time intervals encoded by the preposition *since* as they assert a time span larger than a moment. By contrast, the Catalan and Swedish present tense, which involve an extended time interval and allow the E to intersect with S, is compatible with *des de* and *sedan*, respectively, cf. (9a-c) (=30)-(32), from §2.3.4; example (32) from Elsness 1997:13).

- (9) a. John {\*is/has been} in Amherst since January.  
 b. En Joan viu / ha viscut a Barcelona des del 2000.  
 the Joan live.3sg have.3sg lived in Barcelona from.the.2000.  
 ‘Joan has lived in Barcelona since 2000.’

c. Han bor/ har bott i Sverige sedan 1987  
 he live.3sg have.3sg lived in Sweden since 1987.  
 ‘He has lived in Sweden since 1987.’

(Swedish)

Second, in English, the E cannot intersect but has to coincide with S in the present tense, and this condition of the present tense is inherited in the PrP. As was shown above, punctual time adverbials cannot be used to locate a described eventuality on a fixed position on the time axis in English, cf. (1a) and (4a-b). However, in Catalan, where the present tense allows for the E to intersect with S, it is possible to find sentences such as (4a-b). In languages like Swedish, the present tense can also describe an E that intersects with S. Swedish also exhibits the *Present Perfect Puzzle*, although it is marginally possible to find PrP that locate an event time on a fixed position on the timeline when they appear modified by deictic time adverbials, which always require the PrP such as *idag* ‘today’. Consider example (10) (=35), from §2.3.4, from Rothstein 2008:71).<sup>1</sup>

(10) ?? Idag har jag stigit upp klockan 12.  
 today have.1sg I gone up clock.the 12  
 ‘Today I got up at 12.’

(Swedish)

In Catalan, the PTS can be equal to or overlap with the reference time. This temporal relation between the PTS and the reference time allows us to analyse the hodiernal as a subcase of the existential reading of the PrP, where the PTS is restricted to a specific temporal interval that overlaps the reference time and is determined by temporal modification, i.e., punctual time adverbials, as in (4a-b), or time adverbials headed by a proximate demonstrative, as in (4c).

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<sup>1</sup> In the present study, I did not deal with Norwegian and Danish, two Scandinavian languages that I should consider to fully support the claim that the progressive meaning of the present tense matters for the compatibility of the PrP with punctual time adverbials.

Further support in favour of this view is given in (11) (example (11b) = (4), from §2.1), where the location of the described events extend the limits of the current day of the utterance time:

- (11) a. El projecte ha acabat a la primavera.  
the project have.3sg finished in the spring  
‘The project finished in the spring.’
- b. Aquest Nadal he estat a Mèxic.  
this Christmas have.1sg been to Mexico  
‘I have been/was in Mexico this Christmas.’  
[may not be Christmas currently]

Examples illustrated in (11) have an existential reading that, like the hodiernal in (4), allows for the location of the time interval asserted by the temporal modifier on a specific position on the timeline. In (11a), the eventuality may be located within the spring of the current time unit (i.e., *a la primavera d’enguany* ‘in the spring of this year’), which intersects with the reference time. As for (11b), the described eventuality takes place within the time interval denoted by *aquest Nadal* ‘this Christmas’, which modifies the PTS and may intersect with the reference time and refer to the most closely Christmas before the utterance time.

Although there is variation among speakers, I noted that PrP sentences modified by punctual time adverbials such as *fa XP* ‘makes XP’ can be licensed in contexts in which these adverbials locate the eventuality on a fixed position that precedes the day of the utterance time. Let us consider (12), for example.

- (12) Des de fa 33 anys concedim un premi per la pau i  
from make.3sg 33 years give a prize for the peace and  
aquest any l’hem concedit fa pocs dies.  
this year obj.3sg have.2pl given make.3sg few days  
Intended: ‘Since 33 years ago we give a peace prize and this year we have given it few days ago.’

(Google search, w110.bcn.cat)

The locating time adverbial *aquest any* ‘this year’ restricts the PTS and the event time (i.e., *give a prize*) is fixed two days backwards from the utterance time.

The following table outlines the main results of chapter 2, which mainly show the characteristics of the Catalan PrP in comparison with the English PrP, see (13).

(13) Characteristics of the PrP in English and in Catalan

	English	Catalan
Relation PrP-past	Compete with each other	Complementary distribution
Prog. meaning present tense	No	Yes
Relation PTS-R	Identity	Identity or overlap

In chapter 2, I defined the hodiernal reading as a case of an existential reading of the PrP in Catalan. Prototypical hodiernal readings arise with the PrP rather than past because both verbal forms stand in complementary distribution and the past is specialised to pre-hodiernal interpretations. The periphrastic past cannot appear with deictic time adverbials such as *avui* ‘today’, see (2b). By contrast, in English the past and PrP compete and the latter is restricted to the temporal relation of identity between the PTS and the reference time (R). However, an analysis based on the competition between tenses does not suffice to explain why the event time cannot be fixed on the timeline in English PrP sentences. I suggested that the progressive meaning of the present tense is directly linked to the ability of the PrP to locate an event on a specific position. In English, the event time has to coincide with S in present tense sentences. The semantics of the present tense is inherited in the PrP, which encodes an extended now. This extended now interval is coextensive with the reference time, which is cotermporal with the utterance time, and combines with temporal constructions that always include the utterance time in its denotation. In contrast to English, in Catalan, the E can intersect with S in present tense sentences. In the PrP, this meaning of the present tense is inherited, and the PTS is equal to or overlaps with R. The temporal relation of overlap is made explicit via time adverbials, see (4), (11) and (12).

In other typologically unrelated languages such as Gīkūyū, the expression of hodiernality is contributed by a specific prefix, i.e., the hodiernal TRM (Temporal Remoteness Morpheme) *kū*. The hodiernal TRM is used when the speaker strongly





(16) Characteristics of the hodiernal reading in Catalan and Gikūyū perfect sentences

	Gikūyū	Catalan
Hodiernal reading	Hodiernal TRM and/or Temporal modification	Temporal modification

After considering the properties of the hodiernal reading across different languages, in chapter 4, I turned to a comparison of the universal reading of the PrP in English and Catalan. I suggested that the two factors that the literature has traditionally used to characterise the universal reading, (i) the eventuality holds throughout a time interval and (ii) the event time overlaps with the utterance time, do not belong to the semantics of the perfect. Rather, these factors depend on the properties of the predicate. I claimed that the universal reading in Catalan requires homogeneity as shown in (17) (=54b), from §4.6.2).

- (17) Hem treballat junts i ens queden molts projectes per fer.  
 have.1pl lived together and cl.1pl leave lots projects for do  
 ‘We have worked together and we still have lots of projects left to do.’

Without the presence of any temporal modifier, the PrP sentence shows a universal/existential dichotomy. Both readings are possible since the described eventuality of *working together* in (17) can hold at some time interval or throughout the interval encoded by the PTS.

Universal interpretations are unequivocally obtained via adverbial modification. Universal adverbs of quantification like *sempre* ‘always’ or temporal adverbials such as *des de XP (que)* ‘from XP that’ or *tot XP (que)* ‘all XP (that)’ guarantee a universal interpretation of the PrP in Catalan, see (19) (=58), from §4.6.3).

- (19) a. He viscut sempre a Barcelona.  
 have.1sg lived always in Barcelona.  
 ‘I have always lived in Barcelona’.
- b. He estudia francès durant aquests últims tres anys.  
 have.3sg studied French during these last three years  
 ‘He has studied French during these last three years.’

- c. Plou/ ha plogut des de diumenge.  
rain.3sg/have.3sg rained from Sunday  
‘It has been raining since Sunday.’

The main empirical contrast between Catalan and English has to do with the ability to state a right boundary on the interval denoted by the PTS that overlaps with the reference time. In Catalan, the temporal relationship of overlap between the PTS and the reference time can account for the presence of the specification of the right boundary of the PTS, see (20) (=59b), from §4.6.3).

- (20) Hem viscut en aquest poble fins ara fa poc.  
have.2pl lived in this town until now makes little  
‘We lived here until some time ago.’

The right boundary specified by *fins ara fa poc* ‘until now makes little’ counts a short time interval backwards from the utterance time and fixes the right boundary of the PTS that contains the described eventuality of *living in this town*. In English, it is possible to state a right boundary on the PTS only if the right boundary is specified by a time adverbial that includes the utterance time in its denotation such as *until now*.

It has been claimed in the literature that activity predicates in PrP sentences such as (21) cannot get a universal reading in English (see Mittwoch 1988; Iatridou *et al.* 2001).

- (21) I have worked since seven.

In chapter 4, it was shown that this is not a crosslinguistic constraint, rather, I suggested that it is connected to the type of interval that modifies the PrP, the semantics of the present tense and the subinterval property of activity predicates. In English, the present tense asserts a time interval that identifies with a temporal point (i.e., *now*). The semantics of the present is inherited in the PrP, whose meaning in English has been defined as an Extended Now. It follows that the interpretation where the described eventuality holds at the utterance time in PrP sentences modified by *since* or *until now* adverbials is only possible with stative predicates, which are true at moments. Activity predicates assert an interval that takes a larger time unit than just a moment and *since*

and *until now* adverbials cannot be identified with the moment now denoted by the utterance time. In examples such as (21), the reading of the PrP sentence is existential and the universal is only available with derived states such as (22), which denote a characteristic property of the eventuality (i.e., be a worker).

(22) I have worked here since I was 18.

The table shown in (23) summarises the main characteristics that I used to define the universal reading of the PrP in Catalan and English in chapter 4.

(23) Characteristics of the universal reading in Catalan and English

	English	Catalan
Functional properties predicate	Stativity	Homogeneity
Adverbial support	required	required
Relation PTS-R	Identity	Identity or overlap

Table (23) shows that an unambiguous universal reading of a PrP sentence in Catalan requires homogeneity and adverbial support, such as universal adverbs of quantification or time adverbials that have a fixed position on the timeline. The temporal relation between the PTS and R is that of equal or overlap in Catalan, and, hence, in contrast to English, it is possible to find PrP sentences that have an explicit right boundary and get a universal interpretation.

Finally, in chapter 5, I analysed in detail the contribution of a type of adverbial that is typically found in PrP sentences, namely, *since* adverbials. I focused on the grammatical properties of *since*-type of intervals in Catalan and English. One of the main empirical differences between *since* and *des de* is related to the nature of the right boundary, which it is left unspecified with *des de* PPs and can be explicitly expressed by a temporal adverbial. The preposition *since* includes the reference time in its meaning (Hitzeman 1997b), and, as Schaden (2007) points out, its right boundary is encoded in the meaning of the preposition and is set up by the present tense of the auxiliary verb, see (23) (=4), from §5.1).

- (23) a. Sam has lived in Boston since 1990 (\*until now).  
 b. He viscut a Boston des de 2000 fins ara/ fa poc.  
 have.1sg lived in Boston from 2000 until now/ make.3sg little  
 ‘Intended: I have lived in Boston since 2000 until now/recently.’

Catalan requires additional elements such as the durational phrase *fa XP* ‘makes XP’, see (24a), the adverb *ençà* ‘up to here’, see (24b), or the spatiotemporal marker *que* ‘that’, see (24c), to anchor the PP to the utterance time (= (23a), (25) and (26), respectively, from §5.2.2).

- (24) a. Treballa/ ha treballat aquí des de fa dos anys.  
 work.3sg have3sg worked here from makes two years  
 ‘I have worked here since two years ago.’  
 b. D’ aleshores ençà és/ ha estat professora.  
 of then up.to.here be.3sg/ have.3sg been teacher  
 ‘Since then she has been a teacher.’  
 c. Des de diumenge que plou / ha plogut.  
 from Sunday that rain.3sg / have.3sg rained  
 ‘It has been raining since Sunday’

Another relevant fact that I developed in chapter 5 has to do with the parallelisms between spatial and temporal uses of *des de*. I assumed Pantcheva’s (2011) types of paths to show the differences between *de* and *des de*, which encode a coinital and an egressive path, respectively. *De* PPs establish a locative relation of containment between the figure and the ground and cannot set the onset of a spatial trajectory. By contrast, *desde* PPs are egressive paths that delimit the starting point of the spatial trajectory, see (25).

- (25) Camina { \*de/ des de } l’ escola.  
 walk.3sg of from the school  
 ‘I walk from the school.’

In chapter 5, I provided empirical evidence to show that *de* and *des de* behave in a similar way in the temporal domain, see (26) (=78), from §5.5.2).

- (26) a. Hem caminat de les tres \*(a les cinc/ fins a les cinc).  
 have.2pl walked of the three to the five/ until to the five  
 Intended: ‘We have walked of three \*(to five).’
- b. Hem caminat des de les tres (a les cinc/fins a les cinc).  
 have.2pl walked from the three to the five until to the five  
 Intended: ‘We have walked from three (until five).’

Like its spatial counterpart in (25), *de les tres* ‘of the three’ in (26a) also requires an explicit temporal bound such as *a les cinc* ‘to the five’ or *fins les cinc* ‘until the five’ to express a temporal trajectory since *de* merely expresses origin. By contrast, sentence (26b) shows that *des de* delimits the starting point of the temporal path that starts at three and the expression of the temporal right boundary can be left unspecified.

Sentences such as the one in (26b) give rise to a universal interpretation. An existential reading is also available, because *des de*-paths lack the locative relation of containment between the figure and the ground, and allow for existential quantification over times, which is contributed by quantified phrases, see (27) (=87), from §5.5.3).

- (27) a. He escrit una pàgina des de les tres.  
 have.1sg written one page from the three  
 ‘I have written one page since three.’
- b. He viscut a Boston dos cops des de 2000.  
 have.1sg lived in Boston two times from 2000  
 ‘I have lived in Boston twice since 2000.’

In English, *from*-paths can also be used to express a temporal trajectory like *since*, as in (28) (=81), from §5.5.2; (28a) from Declerck *et al.* 2006:230).

- (28) a. From childhood, she has had a timid character.  
 b. Since childhood, she has had a timid character.

The difference between *from* and *since* relies on the type of path they encode. *From* encodes a coinitial path that imposes a locative relation of containment between the figure (i.e., *having a timid character*) and the ground (i.e., *childhood*). The eventuality of *having a timid character* is within the ground at the starting point of the path, where the figure starts moving, and holds throughout the subject's childhood up to now. As for *since*, it patterns with the egressive-type path and delimits the starting point of the figure in the period of the subject's childhood. These temporal relations allow us to explain the following minimal pair, cf. (29a) (=84a), from §5.5.3; from Declerck *et al.* 2006:600) and (29b).

- (29) a. \* I've seen a dragonfly from childhood.  
 b. I've seen a dragonfly since childhood.

Example (29a) shows that quantified phrases such as *a dragonfly* cannot combine with a *from*-path in English. The locative relation of containment between the figure and the ground asserts that the eventuality is wholly contained within the ground at the starting point of the path and, hence, the existential interpretation given in (29a) is blocked. The only interpretation that the *from*-path allows is the universal as shown in (28a). By contrast, quantified phrases are allowed with *since* PPs as in (29b). This PP allows for a universal as well as an existential reading, see (28b) and (29b), respectively.

This last table summarises the main grammatical properties of the paths encoded by *des de*, *from* and *since*, which allow us to derive universal and existential interpretations of PrP sentences:

(30) Grammatical properties of *since*-type of paths

	<i>des de</i>	<i>from</i>	<i>since</i>
Right boundary	-	-	lexically encoded
QPs	ok	*	ok
Type of path	Egressive	Coinitial	two-sided path
Readings PrP	universal/existential	universal	universal/existential

The characteristics of the different paths encoded by *des de*, *from* and *since* outlined above allowed us to derive universal and/or existential readings in PrP sentences. *Des*

*de* encodes an egressive path (i.e., *starting from* path) that delimits the starting point of the spatial or temporal trajectory. Universal and existential readings are allowed, but existential interpretations are obtained via the presence of explicit quantified phrases. *From* paths in English are cointial paths that establish a containment relation between the figure and the ground and PrP sentences modified by *from* PPs can only get a universal interpretation. *Since* PPs differ with respect to *des de* and *from* in that the former can only combine with temporal paths and it encodes a two-sided trajectory. The preposition combines with PrP sentences in English and modifies the PTS encoded by the PrP. Both universal and existential readings are possible with *since*-paths. In chapter 5, I also included a brief description of the grammatical properties of *seit* in German and *depuis* in French. However, it remains to be investigated whether the classification into different type of paths is helpful to derive the different readings in PrP sentences modified by *seit* or *depuis*.





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