Temporal prepositions and intervals in Spanish. Variation in the grammar of *hasta* and *desde*[*]

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Abstract

In some varieties of American Spanish, the temporal preposition *hasta* 'until' is able to modify telic predicates in the absence of negation. Previous analyses argue for either a hidden negation or a special punctual reading of this preposition. We show that these analyses make a number of wrong predictions, and must be abandoned. Our account hinges on the idea that *hasta* licenses a temporal phase previous to the telic predicate, somehow similar to the one that *in* PP adjuncts (*in one hour*) create in English and many other languages in similar structures. We also show that *desde* ('since') is able to behave in a parallel way in some varieties of American Spanish, thus licensing intervals subsequent to temporal points. Several arguments are presented favouring compositional analyses of these (and some other) temporal prepositions subject to Aktionsart restrictions, as opposed to approaches which introduce lexical multiplication of senses.

Keywords: prepositions; aspect; negation; intervals; American Spanish.

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1. The basic facts

There seems to be a general agreement on the fact that temporal connectives are two-place predicates (Heinämäki 1974, Hitzeman 1991, Tovena 1996, García Fernández 2000, Demirdache and Uribe-Etxebarría 2004, Brugè and Suñer 2008, among many others). If we apply this reasonable assumption to the Spanish temporal preposition *hasta* ('until') in (1),

(1)   Juan vivió   en París hasta 1986.
         Juan live.PRET.3.SG in Paris until 1986
         'J. lived in Paris until 1986'

we will reach the natural conclusion that these two places correspond to the event (i.e., the preposition's external argument), and the temporal point which identifies its endpoint (i.e., the preposition's internal argument). In addition to this, Spanish *hasta* ('until') is said to combine only with durative predicates (García Fernández 2000: 106 and references therein), just as its counterparts in many other languages. The combination of these two assumptions naturally accounts for the fact that, as expected, the event in (1) is durative, and its internal argument is punctual.

Let us consider sentence (2) now:

(2)   María llegó   hasta las cinco.
         María arrive.PRET.3.SG until the five
         Lit. Mary arrived until five

The analysis sketched above predicts that (2) is an ungrammatical sentence for strictly selectional reasons, since the preposition's external argument lacks a crucial semantic feature: duration.[1] This prediction is borne out for European Spanish, Rioplatense Spanish, and also Chilean an Andean Spanish (with the

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1   Duration is a property of events and states of affairs, whether or not they are verbal predicates. Consider the contrast in (i):
       (i)   a. *Juan ha llegado hasta hoy.
                   'J. has arrived until today'
                b. La situación ha llegado hasta hoy.
                   'The situation has remained until today'
       As it is obvious, there is no arrival of any particular situation in (ib). In this sentence, some situation holds or extends to present time from an unknown beginning. The compatibility of the subject with the *hasta* temporal PP in (ib) should not be confused with the mass nouns' capacity to provide the multiplication of events (as in *The wind entered the room for hours*), since there is no event multiplication in (ib). We suggest that the pattern in (ib) is related to so-called *fictive movement* (Talmy 1996; Moreno Cabrera 2003: 123-127; Valenzuela and Rojo 2003; Matlock 2004, 2010; Delbecque 2014 and much related work). In any case, we will not deal with this construction in this paper.

possible exception of some Ecuatorian speakers): as expected, (2) is an ungrammatical sentence in all these varieties of Spanish, just as its direct translation in English (and many other languages) is. On the contrary, the prediction dramatically fails for Mexican and Central American Spanish, as well as for many speakers of Antillean and Caribbean Spanish, who find (2) absolutely natural.[2]

A rough estimation gives us the same number of speakers of Spanish on each side of the scale. That is, the number of native speakers of Spanish who accept (2) is almost as large as the number of those who reject it. Although this might be a good starting point for a reflection on what it means for a grammatical phenomenon to be called «dialectal», we will not initiate it here. Being perfectly aware of this paradox, we will refer to the variety spoken by those speakers who reject (2) with the somehow inappropriate term *Standard Spanish* (SS), and we will coin the label *Mexican and Caribbean Spanish* (M&CS) as a broad, although approximate, covering term for the Spanish spoken in the large area that we have roughly described. The use of *hasta* in temporal adjuncts of non-durational events has also been attested in classical Spanish (Carrasco 1991, Dominicy 1982). To sum up, the main grammatical patterns of the geographical distribution of temporal *hasta* in present-day Spanish are the ones exemplified by the sentences in (3) and (4):

(3)   *María llegó hasta las cinco.   (Standard Spanish, SS)
(4)   María llegó hasta las cinco (=2). (Mexican & Caribbean Spanish, M&CS)

In this paper we will deal with the contrast in (3) and (4), and, specifically, the grammatical analysis of the latter. We will first review the existing literature on this phenomenon, and we will argue that these analyses present a number of problems and do not make the right grammatical predictions. We will then offer a new analysis which, we claim, is able to account for the shortcomings of previous proposals and sets the problem in its appropriate theoretical place; namely, the grammar of lexical aspect. We will also argue that the pattern in (2) extends to the preposition *desde* ('since'), both in American Spanish and, more generally, its counterparts in English and other languages.

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[2]   On the geographical distribution of this pattern see specially Cuervo (1955), Lope Blanch (1989, 1990), Carrasco (1991), Dominicy (1982) and Montes (1986). Here are some more examples from books and newspapers:

(i)   a. La obra completa, si se trata del mismo texto, apareció hasta 1879.
            (I. Osorio Romero, *Conquistar el eco,* CREA)
             'The complete works, if we are dealing with the same text, did not appear before 1879'
         b. […] la respuesta parece sencilla; sin embargo, los expertos en física de materiales la encontraron hasta hoy.
            (*El Universal,* 14/08/2006)
             'The answer seems simple. However, experts in material physics have found it in these very days, not before'
         c. […] ese despacioso del Maximino hasta ahorita llegó del rancho con el azúcar que le encargué.
            (A. Vélez Machado, *Sargento Matacho,* GOOGLE BOOKS)
             'That slow Maximino has not arrived from the ranch until right now, with the sugar I asked him to bring'

2. The grammatical distribution of the preposition *hasta* in Mexican and Caribbean Spanish

Any analysis of (4) must be able to account for both its meaning and its grammatical distribution. Standard paraphrases of sentences such as (4) include the ones in (5):

(5)   a. Mary did not arrive until five.
        b. Mary arrived, but not sooner than at five.
        c. Mary arrived at five, at the very earliest.

The natural question is, then, how it is possible for the grammatical structure that corresponds to (4) to give rise to the meanings in (5), considering that the same construction is ungrammatical in SS (recall (3)), apparently for the natural semantic reasons mentioned above.

As regards its distribution, this interpretation of M&CS *hasta* is characteristic of achievements, as in (4), but it extends to accomplishments as well, provided that they can be reinterpreted as achievements. As it is well-known, sentence (6)

(6)   Ayer leí el informe hasta las nueve de la noche.   (SS)
        'Yesterday, I read the report until nine in the evening'

receives in SS the so-called *incomplete event interpretation* characteristic of acomplishments with durative adverbials (Vendler 1967, Dowty 1979:57, Dahl 1981, García Fernández 2000, Rothstein 2004, Csirmaz 2012, among many others). Nevertheless, in M&CS (6) is interpreted as 'Yesterday, I did not begin to read the report before nine in the evening', that is, the accomplishment is coerced into an achievement by focalizing its initial phase, which gives rise to an inchoative reading.

M&CS *hasta* is also attested with states and activities, again provided they can be reinterpreted as punctual eventualities:

(7)   a. Esta tienda está   abierta hasta las diez.   (SS)
           this shop be.PRES.3.SG open   until the ten
           'This shop is open until ten'
        b. Esta tienda está abierta hasta las diez.   (M&CS)
           'They do not open this shop before ten o'clock'

(8)   a. Juan trabajó   en esta fábrica hasta que se casó.   (SS)
           Juan work.PRET.3.SG in this factory until that marry.PRET.3.SING
           'J. worked in this factory until he got married'
        b. Juan trabajó en esta fábrica hasta que se casó.   (M&CS)
           'J. started to work in this factory when he got married, not before'

Prescriptive accounts of this data (for example, Moreno de Alba 1987: 24-26) often assume that sentences such as those in (7) and (8) are ambiguous, and present this ambiguity as an argument to condemn the reading in the "b" variants,

or at least to suggest that this pattern should be avoided. We believe that, strictly speaking, these sentences are not ambiguous. Nevertheless, a communicative problem might arise, since speakers of M&CS speak SS as well, and M&CS *hasta* extends to formal styles of Spanish, including the written register.

With regards to the grammatical properties of the preposition's complement, M&CS *hasta* presents the same distribution as SS *hasta*. Hence, in addition to temporal NPs and adverbs, finite and non finite clauses (see also section 4.2, point 2) are also acceptable. The examples in (9) follow the pattern in (8b):

(9)   a. Fue hasta que estuve viuda que hice la Preparatoria.
            'It was not until I became a widow that I started in Primary school'
            (example from De Mello 1992: 7)
        b. La muchacha se mareó hasta entrar en su departamento.
            'The girl fainted when she entered her apartment, not before'

3. Previous grammatical analyses

3.1. The hidden negation analysis

This theory is proposed —with some differences of clarity, explicitness and emphasis— by Cuervo (1955), Carrasco (1991), De Mello (1992) and NGLE (2009), among other authors. It claims that an empty negative adverb provides the proper semantic interpretation of these sentences:

(10)   María [$_{NEG}$ Ø] llegó hasta las cinco.   (M&CS)
        'M. did not arrive until five'

This analysis might be appealing at first sight. It not only seems to explain why this pattern does not give rise to uninterpretable sentences, but also apparently provides the proper meaning of (4). In this section, we will argue that the hidden negation analysis (HNA) is wrong. The HNA faces five important problems, at least:

Problem 1: the HNA wrongly predicts postverbal negative polarity items (NPIs), as observed by Ross (2010):

(11)   a. *Llegó   nadie   hasta las   cinco. (All dialects)
            arrive.PRET.3.SING nobody until the.FEM.PLU five
            'Nobody arrived until five' (intended)
        b. *María lo sabía   tampoco.   (All dialects)
            María it know.IMP.3.SING either
            'María did not know it either' (intended)

Problem 2: The preposition *desde* ('since') displays effects similar to those of *hasta*, as observed by Kany (1944), Dominicy (1982) and Lope Blanch (1989, 1990), among others, but the HNA cannot be extended to these cases:

(12)   María llegó   a la ciudad desde el lunes.   (M&CS)
        María arrive.PRET.3.SG to the town   since the Monday
        'M. arrived to town, and not any later than last Monday'

Another possible paraphrase of (12) would be 'M. arrived to town last Monday, and it's been a long time ever since'. We will return to this pattern below.

Problem 3: Expletive negation with *hasta* is standard, as well as optional, in colloquial Spanish (see Morera 1986, Sánchez 1996, Miyoshi 2005, among others). It is also found in Italian (Tovena 1996), Hebrew (Eilam & Scheffler 2006), and it extends to *before* in French, German and other languages (Krifka 2010). The HNA predicts that an empty head will license expletive negation in M&CS sentences with *hasta*, but the prediction is not met:

(13)   a. No se casó   hasta que no terminó   sus estudios. (SS)
           not marry.PRET.3.SG until that not finish.PRET.3.SG his/her studies
           'S/he didn't get married until s/he finished his/her studies'
        b. No se casó   hasta que terminó   sus estudios. (All dialects)
           not marry.PRET.3.SG until that   finish.PRET.3.SG his/her studies
           'S/he didn't get married until s/he finished his/her studies'
        c. *Se casó   hasta que no   terminó sus estudios. (All dialects)
           marry.PRET.3.SG until that finish.PRET.3.SG his/her studies
           'S/he didn't get married until s/he finished his/her studies'

One might certainly argue that M&CS *hasta* is lexically marked to reject expletive negation, as opposed to SS *hasta*, but this looks like a simply *ad hoc* stipulation. Notice that the contrasts in (13) are independent on the specific configurational analysis one assumes for expletive negation, a much debated issue.
        On similar grounds, the HNA makes the false prediction that other adverbs requiring negation for aspectual reasons will be licensed in these contexts by a null negative head:

(14)   *María había llegado todavía.   (All dialects)
        María had   arrived yet
        'M. had not arrived yet'

Problem 4: *Until* PPs modifying punctual predicates in negative contexts cannot be questioned in English, Spanish and many other languages (most probably, because they cannot be interpreted outside the scope of negation), as shown in (15a) and (15b). The HNA predicts that, similarly, the corresponding *hasta* PPs would also give rise to ungrammatical sentences in M&CS. The prediction blatantly fails, since these sentences are grammatical for speakers of this variety:

(15)   a. Mary did not arrive until five > *Until what time did Mary not arrive?
           [Echo reading is disregarded]
        b. *¿Hasta qué hora no llegó María?   (SS)
           'Until what time did M. not arrive?'

c. ¿Hasta qué hora llegó María?

[OK in M&CS, even in non-echo contexts]

'At what (late) time did M. finally arrive?'

d. ¿Hasta qué momento llegó la tranquilidad para sentir la medalla olímpica en sus manos? (*El Informador*, 6/08/2014)

'How long did it take you to finally reach relief, so that you were able to feel the Olimpic medal in your hands?'

Problem 5: The adverbs *solo* ('only') and *no* ('not') are competing operators if they have VP scope, as in (16a), so that their combination cannot be interpreted. If an empty negation is present in M&CS, this negative adverb should be equally incompatible with the operator *solo*, and an ungrammatical sentence would obtain. This is another wrong prediction of the HNA, since the corresponding M&CS sentences with *hasta* are fully grammatical, as (16b) and (16c) show (the latter example is from a Mexican newspaper, as in (15d)):

(16)   a. *Solo no terminaremos hasta las nueve.   (SS)
           'We will just not finish until nine'
       b. Solo terminaremos hasta las nueve.   (M&CS)
           'We will finish, but not before nine 'o'clock'
       c. Las batallas campales empiezan alrededor de las cinco de la tarde y sólo terminan hasta que cae la noche. (*El Universal,* 27/02/2014)
           'Pitched battles start at about five o'clock in the evening, and do not finish until the night falls'

From these five problems we conclude that the HNA must be abandoned. One might perhaps attempt to defend the HNA by arguing that M&CS *hasta* is a special variant of *antes* ('before') specifically selected under the scope of an empty negative head. Declerck's (1995) proposal for English *until* under the scope of negation was somehow along these lines, even if negation is overt in English (see section 3.3 below). As M&CS *hasta* is concerned, this analysis is contradicted by the grammaticality of (16c), since the sentential complement of *antes* requires the subjunctive mood (in both SS and M&CS), and *cae* ('it falls') in (16c) is a form in indicative.

As we have shown, the HNA introduces a number of undesirable *ad hoc* stipulations on both hidden negative heads and temporal PPs under their scope. The former are apparently unable to license other phrases, and must also be immune to the effect of other operators; the latter require multiplication of lexical entries without enough grammatical evidence. Finally, the *hasta-desde* symmetry in M&CS is left unexplained if one assumes the HNA.

3.2. The negative alternation analysis

This theory —defended by Kany (1944, 1969), although in a somehow implicit form— starts from the observation that M&CS *hasta* PPs often appear in preverbal position, as preverbal negative indefinites and other NPIs do in SS. If *hasta* belongs to this paradigm, no specific empty negation would be required, but just the standard (so-called) *negative alternation* pattern:

(17)   a. No llamó nadie > Nadie (*no) llamó.   (SS)
           'Nobody called'
        b. No la he visto en mi vida > En mi vida (*no) la he visto.   (SS)
           'I haven't seen her in my life'
        c. No llegó hasta las cuatro > Hasta las cuatro llegó.   (M&CS)
           'S/he did not arrived until four o'clock'

A fairly obvious problem for this theory is the fact that it provides no explanation for postverbal M&CS *hasta* without preverbal negation, as in (4).

3.3. Lexical analyses and the aspectual debate

A number of proposals —directly related but not identical— coincide on the refusal of the hidden negation analysis for M&CS *hasta*. These include Dominicy (1982), Miyoshi (2004-2005, 2011, 2013), Ross (2010), and Lope Blanch (1990). There are some differences among them, but they seem to coincide on the idea that *hasta* is a punctual preposition in M&CS, approximately as Eng. *at* is, or the expression *not before*. The limit reading that *hasta* expresses would then be the result of an adverbial component (approximately, 'at last, finally') obtained from the original meaning of *hasta,* and present in its current use as a scalar adverb ('even') (Miyoshi 2004-2005). It is also present in readings such as 'at the most', 'not less than' and other similar meanings related to the notion of upward limit that *hasta* displays in SS as an adverb (Miyoshi 2013), as in *Recibió hasta un millón de dólares* ('S/he received up to one million dollars').

We will like to emphasize that most critics of the HNA do not provide full paraphrases of M&CS *hasta* phrases. These paraphrases, we believe, are important because they help us understand why sentences such as (2) are not absurd or meaningless. In fact, only indirectly may one deduce that these authors defend the punctual nature of M&CS *hasta*, since they do not consider the need to obtain an interval out of a telic predicate, a necessary step to sustain that *hasta* sets the endpoint of an ongoing situation.

The controversy between proponents and critics of the HNA for M&CS *hasta* reminds of the long-standing debate on whether or not English *until* under the scope of negation (as in *He did not arrived until five*) is a preposition different from *until* in durative contexts (as in *He worked until five*). Here is a brief summary of the two theories:

(18)   The two classical theories on English *until*

   A. The *one until theory*. Only "durative *until*". Temporal *until* modifies activities, states and accomplishments able to be reinterpreted as activities. Negation creates durative predicates scoping below the *until* phrase: Klima (1964), Heinämäki (1974), Mittwoch (1977), Hitzeman (1991).

   B. The *two untils theory*. A "durative *until*" and a "punctual *until*" (a NPI). Negation does not create durative predicates: Karttunen (1974), Declerck (1995), de Swart (1996), Giannakidou (2002), Condoradvi (2008), among others. Some languages (French, German, Greek, etc.) lack punctual *until.*

      The almost standard term "durative *until*" is broadly used in the literature

as an abbreviation for "a temporal preposition *until* with an external argument denoting a durative event". We will accept the short name in this specific interpretation. Although our analysis might ultimately be compatible with the two theories in (18) —easily adaptable to SS *hasta*—, we will support a variant of the analysis in A for SS *hasta*. But first, we will show that M&CS *hasta* is not a punctual preposition.

The implementation of B and its application to (4) imply that *hasta* is a punctual preposition both in (4) and (19):

(19)   María no llegó   hasta las cinco.   (SS)
        M.   not arrived until the five
        'M. did not arrive until five'

We have found four problems in this analysis:

Problem 1: Punctual PPs with the preposition *a* ('at') can be focalized with *exactamente* ('exactly') and other focus adverbs, but *hasta* rejects them with punctual predicates. Then, it seems rather unlikely that *hasta* is a punctual (i.e. non-durative) preposition in these cases:

(20)   a. Llegaré (exactamente) a las cuatro.   (All dialects)
           'I will arrive (exactly) at four'
        b. Llegaré (*exactamente) hasta las cuatro.   (All dialects)
           'I will arrive (exactly) at four'

Problem 2: *Hasta* may introduce complements that are incompatible with the punctual preposition *a* 'at' (Dominicy 1982):

(21)   a. Hasta hoy llegó la noticia.   (M&CS)
           'The news did not arrive until today'
        b. *A hoy llegó la noticia.   (All dialects)
            'The news arrived today'

Problem 3: Adverbial tags suspending the temporal localization provided by *a* and *hasta* PPs do not coincide. With *a*, it is possible to suspend a temporal point locating an event by adding a parenthetical adjunct which moves it either forwards or backwards. On the contrary, M&CS *hasta* is compatible with PPs that delay the temporal point, not with those which anticipate it or move it backwards. In this respect, M&CS *hasta* does not behave as a punctual temporal preposition either:

(22)   a. Llegaré a las cuatro, quizá {antes / después}.   (All dialects)
           'I will arrive at four, maybe {earlier / later}'
        b. Llegaré hasta las cuatro, quizá {*antes / después}.   (M&CS)
           'I will not arrive until four, maybe {earlier / later}'

Problem 4: If option B is accepted for Spanish, M&CS *hasta* would require a third temporal reading. That is, temporal *hasta* would have different interpretations in (1), (4) and (19). For similar reasons, a new lexical entry for

desde ('since') would be necessary in order to account for (12).[3] In principle, analyses that favour multiplication of lexical entries should be avoided on methodological grounds.

From all this we conclude that the analysis of *hasta* as a punctual preposition in (4) must be rejected as well. Our proposal will be introduced in Section 4, and developed in Section 5.

4. A new analysis

4.1. Our basic claims

We will argue that M&CS *hasta* is not a different word from either SS *hasta* — when constructed with durative predicates, as in (1)— or its Eng. counterpart *until*, as in *He slept until five*. We will also claim that the phenomenon that (4) illustrates is not as strange or unknown to SS, English or other languages as it might look like at first sight. In fact, we will suggest that the main characteristics of the standard analysis of Eng. *in* or Spanish *en* ('in') extend to *hasta* in these dialects. It is worth remembering that the PP *in one hour* designates…

A ... the duration of the eventuality identified by a durative predicate, as in (23a).
B ... the duration of the preparatory phase of the eventuality identified by a telic punctual predicate, as in (23b).

On the difference between A and B, see Vendler (1967), Dowty (1979), Hana (1999:20), among many others.[4]

(23)   a. John read the newspaper in one hour.
         b. John reached the top of the mountain in one hour.

As it is obvious, (23b) does not refer to a one hour interval occupied by John's arrival (a punctual event).[5] But, since temporal *in* PPs are predicates of accomplishments, in their absence a phase previous to that event has to be licensed in order for the sentence to be grammatical. The fact that the predicate *reach the top of the mountain* does not denote an interval can be independently motivated. For example, unlike accomplishments, it gives rise to ungrammatical sentences when constructed as the complement of *finish* (habitual readings are disregarded). The classical contrasts in (24) naturally follow. See Vendler (1967),

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[3]   A similar argument can be found in Mittwoch (2001) for Eng. *for* and *since*.
[4]   For simplicity, through the text we will occasionally refer to the interval introduced by the preposition *hasta / until* in its external argument.This abbreviation is similar to Smith's (1991) term *interval preposition*, which she applies to Eng. *in* (*in two hours*). It is also somehow similar to the label "durative *until*" (standard in the literature on this preposition) even if duration is a property of the preposition's external argument, rather than a property of the preposition itself.
[5]   A reviewer reminds us that in Piñón (1997) this modification of an achievement by an *in* PP is glossed with *after*. This interpretation has the advantage of making *in* PPs' property of referring to a preparatory process (in terms of Moens and Steedman 1988) explicit. A more detailed description is offered in section 5.1 below.

Dowty (1979: 59), Marín & McNally (2011: 476, fn. 11), among others:

(24)   a. *John finished reaching the top of the mountain.
         b. John finished reading the newspaper.

The lexical process that provides the appropriate interval in (23b) is somehow more restricted that the one needed for M&CS *hasta* in (2), as we will show in section 5. Even so, we will argue that both processes are similar in their fundamental semantic properties.[6] If we keep apart these differences now, we may say that the basic phenomenon that (4) displays in M&CS is also found in SS, English, and many other languages, but not necessarily with the same prepositions.

4.2. A definition of hasta

Mainly dwelling on Hitzeman (1991), Tovena (1996) and Carlson (2009), we will introduce the following semantic characterization of (durative) standard *hasta*:

1. The temporal preposition *hasta* is a two-place predicate. Its external argument (A) is a right-bounded interval; its internal argument (B) represents its (well-defined) final point B_t.
2. B_t is provided by a temporal expression contained in the *hasta* phrase: *las cinco* ('five o'clock'), *ayer* ('yesterday'), etc. Apparent complement clauses in the place of B (*hasta que…*) may be analysed as hidden free relatives, hence DPs or PPs.
3. The verb contributes an eventuality A_e and *hasta* places it in the interval A terminating at B_t. Activities and states, due to the subinterval property, hold throughout the whole interval.
4. Aspectual restrictions on *hasta* follow from its properties as a topological temporal preposition. If A_e has already a well-defined endpoint (as in achievements and also accomplishment unable to be coerced into activities), B_t cannot be supplied any longer by B, a restriction which resembles Giorgi and Pianesi's (1997)'s punctuality constraint.
5. It then follows that states and activities (eventualities with loosely-defined endpoints) are the only predicates accepted by durative *hasta* (Heinämäki 1974, Hitzeman 1991). Resultant states are included, as in *Juan se fue de la oficina hasta el día siguiente* ('John left the office until the following day').
6. The placement of A_e in the interval bounded by B_t implies that the former does not continue past this limit. This is, however, an implicature which can be cancelled (Heinämäki 1974, Hitzeman 1991, Carlson 2009), as in English: *John worked until half past five. In fact, he worked until six o'clock.*[7]

We ignore the possible orientation of the temporal interval denoted by the external argument with respect to the temporal point denoted by B. Condoravdi (2008) defines both durative and punctual *until* as backward-expanding interval

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[6]   Vlach (1993) constitutes an attempt to provide a general treatment of the different interpretations of tenses in the context of durative prepositions. In a similar spirit, Tovena (1996: 267) defends a unitary analysis for It. *finché* ('until'), which has two meanings: 'until' and 'while, as longs as'. See below, § 4.4.

[7]   On this particular property, see the discussion on the examples in (30) below.

operators. In this case, A would be retrospectively oriented with respect to B_t. In this paper we assume a more standard definition, so that B_t is defined as the endpoint of A, rather than the origin, and the temporal interval introduced by A goes from the left to the right. This is not necessarily the case always. Examples of temporal backward operators in Spanish are *antes* 'before', *atrás* 'ago, earlier' and *acabar de* '*have just* + past participle'. See Brugé & Suñer (2008) and Havu (2011) on this issue.

As we have put forward, we claim that the behaviour of M&CS *hasta* is close to that of Eng. *in* (a case of *additive coercion*, see § 5.1, below). In the absence of an event A_e with a loose endpoint to locate in A, M&CS *hasta* will create the phase previous to this event, as the preposition *in* does in (23b) or in other similar achievements:

(25)   a. The letter arrived in two weeks.
         b. She died in a few days.

The *hasta* PP is then mapped onto the interval added to the eventuality in the A term of the temporal relation, thus signalling its endpoint.

4.3. Consequences and predictions of our proposal

In our theory, M&CS *hasta* and *desde* are licensers of temporal phases (previous for *hasta*; subsequent for *desde*)[8]. These phases are not lexically provided by predicates in the relevant cases. In a similar way, they are not supplied by predicates when *in* PPs (*in two hours*) modify achievements in English and other languages.

We are able to derive nine consequences of our proposal:

1) Previous analysis of the pattern in (4) do not provide a principled explanation of the fact that this sentence implies 'María arrived late'. In Lope Blanch's (1990) terms, M&CS *hasta* refers to "a late action",[9] but the question remains as to why a final temporal limit on a situation should imply delay. In our account, this is a consequence of the durative nature of M&CS *hasta*. We suggest that the interval previous to the event which the preposition *hasta* creates for M&CS speakers is intended to be long, or at least longer than expected. To some extent, this implication also obtains in the so-called "one *until* theory" (18A) for English and other languages. In fact, it would be almost impossible to say *John did not arrive until five* if John was early, or even if he arrived in time. Since we consider that the grounds for the (classical) "one *until* theory" are solid enough (for reasons to be developed below), both the theory in (18A) and our theory for M&CS *hasta* imply that some understood period previous to a given temporal final point in *hasta / until*

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[8]   Interestingly, previous phases cannot be licensed by durational modifiers such as Eng. *for* and Sp. *durante*, possibly because they do not focus event borders. That is, sentences such as **Mary reached the summit for two hours* are ungrammatical, no matter what possible two hour interval previous to Mary's reaching the summit could be conceived.

[9]   Similarly, Karttunen (1974) and Declerck (1995) for Eng. *until*.

phrases is thought of as large, or at least longer than one might expect.[10]

2) The extension of M&CS *hasta* to M&CS *desde*, pointed out in (12), is a problem for all previous analyses of the former, but it fits in our theory straightforwardly. In fact, the only difference between M&CS *hasta* and M&CS *desde* lies in the interval created by the preposition: it is previous to the event with *hasta*, and subsequent to it with *desde*. The other limit of the phase created is open in these cases, although it may be bound by Speech Time or Reference Time. Left bound phases are provided by the temporal expression modified by the *desde* PPs.[11] The interval interpreted in these cases is equally supposed to be large.

The following examples contain *desde* PPs apparently modifying achievement predicates. They have been withdrawn from American newspapers, and have been confirmed to us by native speakers:

(26)   a. Esto sucedió desde el pasado martes en la madrugada y aún no recibían atención de ninguna autoridad. (*Noticiasnet,* 2/10/2010)   (M&CS)
'This happened not later that last Tuesday in the early morning, and they're not getting any attention from authorities yet'
b. Él está a cargo de la panadería ambulante que llegó desde hace días al santuario proveniente de Tlaxcala. (*Zócalo,* 13/12/2010)   (M&CS)
'He is in charge of the itinerant bakery that arrived to the sanctuary from Tlaxcala some time ago, at least a few days'
c. […] el amor de su vida, con el que se casó desde los 18 años y al que nunca más volvió a verle los ojos. (*El siglo de Torreón,* 7/11/2008) (M&CS)
'The love of her life, whom she married when she was not older than 18, and whose eyes she never saw again'

Although this is a paper on M&CS *hasta* and *desde*, it is worth pointing out that the licensing-phase property of these prepositions is shared to some extent by French *depuis* and Italian *da* (both 'since'). The following examples are from Carlson (2009: 178; see also the references therein). Even so, it seems that these phases reduce to resultant states in most cases (see § 5.2 below):

(27)   a. Max a   reparé   la voiture depuis   deux jours.   (French)
Max has repaired the car   from/since two days
'Max fixed the car two days ago'
b. Max s'est reposé depuis   deux jours.   (French)
Max has-rested from/since two days
'Max has rested a while for two days'

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[10]   Notice that, as long as this inference depends on the existence of a previous phase, an analysis defending the punctuality of M&CS *hasta* could not properly account for it. It is true that this problem does not arise in the "two *until* theory", since negation is generally assumed to receive wide scope in negated *until* sentences, as in 'It is not the case that at any point of the interval before a time *t* the perfective event *e* occurs' (see Mittwoch 2001:273-274). But, crucially, M&CS *hasta* involves no hidden negation at all, as shown in § 3.1.
[11]   M&CS *desde* is not different from SS *desde* in this respect (see García Fernández 2000: 99 and references cited therein).

c. Maria ha   dipinto la parete da   due hore.   (Italian)
   Maria has painted the walls   from/since two hours
   'María has painted the wall two hours ago'

3) Another consequence of our analysis is the fact that no lexical ambiguity has to be stipulated for *hasta*. As it is obvious, the differences in the interpretation of Eng. *in one hour* in (23) are not related to different readings of the preposition *in,* but rather to the ways of obtaining the interval that the *in* PP selects for. This implies that the meaning distinction to be drawn in (23) is not lexical; and, similarly, that the one needed for *hasta* is not either.

4) *Hasta* can be freely questioned in SS when it denotes the end of an interval:

(28)   ¿Hasta qué hora dormiste?
           'Until what time did you sleep?'

Since M&CS *hasta* is —we claim— a durative preposition, the grammaticality of (15c) naturally follows, together with that of (28).

5) When SS *hasta* denotes the end of an interval, it can be focused with *solo* ('only'), as in (29):

(29)   Solo dormí hasta las cuatro.
           'I only slept until four'

The grammaticality of (16b) directly follows, since the focus of *solo* in this sentence is *hasta las nueve*. This is another natural consequence of the durative nature of M&CS *hasta*.

6) M&CS *hasta* does not always imply that the event asserted (A) ceases to be true (¬A) at B_t, since the state of affairs asserted by A may continue beyond the endpoint signalled by B_t (Heinämäki 1974, Horn 1972, Mittwoch 1977). Since B_t marks the lower bound for A, not the upper one (see also Carlson 2009), one may use a parenthetical expression to suspend that limit and move it forwards, rather than backwards. As it is obvious, some interval is necessary for this option to be possible. Since M&CS *hasta* is a durative preposition, it provides the necessary phase previous to the event, and it behaves just like SS *hasta* as regards this property:

(30)   a. Juan durmió hasta las nueve y media. De hecho,
             hasta las {diez / *nueve}.   (SS)
              'Juan slept until half past nine. In fact, he slept until {ten / nine}'
          b. Juan llegó hasta las nueve y media. De hecho,
             hasta las {diez/ *nueve}.   (M&CS)
              'Juan didn´t arrive until nine thirty. In fact, he arrived at {ten / nine}'

7) The inceptive interpretation obtained in (7b) and (8b) parallels the inceptive reading of durative predicates modified by *in* PPs. This interpretation is restricted to the future, as pointed out by Hitzeman (1991):

(31)   John will read the newspaper in two hours.   [*Ambiguous*]
        'It will take John two hours to read the newspaper'
        'John will begin to read the newspaper after two hours'

Again, this parallelism follows, as expected, if M&CS *hasta* provides the end for an understood interval. Interestingly, this inceptive reading is also attested with so-called NPI *until/hasta*. This fact does not support the hidden negation analysis, which we have shown to be wrong, but rather the "one *until* theory" in (18A), which provides a way of obtaining an interval out of a temporal point:

(32)   I will not read [= 'start reading'] the newspaper until two o'clock.

8) The fact that (33a) implies (33b) is sometimes (Kartunnen 1974, Declerck 1995, Giannakidou 2002) called *the actualization inference* (AI):

(33)   a. Mary did not arrive until five.
        b. Mary arrived.
        c. *Mary arrived, but not until five.

Since *until five* is under the scope of negation in (33a), the classical problem is why (33b) obtains, but (33c) is ungrammatical. We will not discuss (as opposed to Kartunnen, Declerck and Giannakidou) whether the AI is or is not an argument favouring the "two-*untils* theory" (=18B). On the contrary, we are interested in the fact that the AI holds for (4), and we suggest that this is so because a phase is interpreted before the event. The very fact that the complement of the temporal preposition *hasta* denotes the final point of some interval in all dialects implies that, at least in some of them, that interval must supply the period that the meaning of the predicate does not provide. More generally, the AI holds for (4) because the existence of event phases implies the existence of events. The few known exceptions, such as those provided by the imperfective paradox, are not relevant here.[12]

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[12]   There is, however, an interesting context that cancels the AI, and it may be interpreted as an argument against the hidden negation analysis of M&CS *hasta*. The AI may not be obtained in SS if the internal argument of *hasta* coincides with Speech Time in present perfect sentences. That is, from (i) one may or may not conclude that some problem has been solved:

(i)   El problema no se ha solucionado hasta hoy.   (SS)
         'The problem has not been solved until today'

It might be claimed that the cancelation of the AI in (i) is related to the syntactic position of the PP adjunct, arguably a topic-like frame adverb located in a higher position, outside the scope of negation, in one reading of (i). But, crucially, the M&CS variant of (i) is not ambiguous, as shown in fn. 2, example (ib). If we suppress the adverb *no* in (i), a M&CS pattern obtains. The meaning of the resulting sentence is 'The problem has been solved nowadays, not before'. It should be recalled that this property is absent in other languages such as English and Greek. As has been observed —see, for example, Kamp & Reyle (1993: 633)—, Eng. *until* rejects the present perfect:

(ii)   * Mary has slept until {now / midnight}.

For an explanation in terms of the semantics of both the present perfect and *until*,

9) Finally, M&CS *hasta* has spatial counterparts, although somehow more restricted geographically (Lope Blanch 1990; Miyoshi 2004-2005, 2013):

(34)   a. El   nombre aparecía   hasta el   final del   documento.   (M&CS)
            The name   appeared until the end of-the document
            'The name did not appeared until the end of the document'
        b. La   bandera estaba hasta lo más alto   de la   montaña.   (M&CS)
            The flag   was   until the-highest-part of the mountain
            'The flag was far away, not any closer than at the top of the mountain'
        c. [...] vivían   hasta el   quinto infierno   (M&CS)
            live.IMPERF.3.PLU until the fifth   hell
            'They used to live in the boonies'
                                              (M. L. Puga, *La forma del silencio*, CREA)

Our analysis of M&CS *hasta* as a durative preposition may be naturally extended to these cases. Spatial *hasta* in (34) indicates that the distance from a certain point (which may or may not coincide with the speaker's location) to the place designated by the complement of the preposition is large, or at least larger than expected. We do not want to push further the parallelism between intervals and physical spaces, but the very fact that M&CS temporal *hasta* requires an interval is fully compatible with that extension.

4.4. More evidence against multiplication of meanings
In the previous section, we mentioned that French and Italian left bound prepositions denoting event limits license temporal phases, in the sense of this term introduced above. In other contexts, these prepositions correspond to Engl. *since*, but in these specific environments they reject that equivalence, given that Engl. *since* is not a phase licenser. As it is obvious, the fact that some sentences with Fr. *depuis* may be translated into English with *for,* instead of *since* —as in (27b)— does not mean that Fr. *depuis* correspond to Eng. *for*. In a somehow similar way, Portuguese *até* 'until' and Hebrew *ad* 'until' can be used with eventive predicates in positive sentences with the meaning 'by the time that' (Sp. *para cuando*).[13] (35a) is taken from Eilam & Scheffler (2006) and (35b) is taken from Móia (1996: 346):

(35)   a. dani yagi'a   ad   še-ha-mesiba tatxil.   (Hebrew)
            Danny arrive. FUT.3.SG until that-the-party start.FUT.3.SG
            'Danny will arrive by the time the party starts'
        b. A Ana acabará   o artigo   até ao fim da semana. (Portuguese)
            the Ana finish.FUT.3.SG the article until to-the end of-the week
            'Ana will finish the article by the end of the week'

Although we cannot go into this meaning extension with much detail, we find it quite interesting that Sp. *para* (in *para cuando*), and Eng. *by* (in *by the time*

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[13]   see Giannakidou (2003). In any case, (i) seems to support the well-known analyses of the present perfect as an "extended now".
        We thank Tova Rappaport for bringing to our attention the data from Hebrew, as well as an anonymous reviewer for calling our attention to Portuguese as regards this phenomenon.

that) are amenable to be described as phase prepositions, as long as they introduce a temporal interval in which some unbounded situation obtains. This situation is generally a resultant state. Hence, (35a) could also be translated as 'John will have already arrived by the time the party starts'. Furthermore, the constituent projected into the B internal argument of *para / by* is punctual. Sp. *para* 'by' has been described as a location preposition in contexts such as those in (35a) (Sp. *...para cuando la fiesta comience*), but as a durative preposition in *Juan se fue para tres días* 'John left and he was away for three days' (see García Fernández 2000: 95-99).[14]

As we see, Eng. *in* (or Sp. *en*), Eng. *until* (or Sp. *hasta*) and Fr. *depuis* (or M&CS *desde*) —henceforth IN, UNTIL, SINCE— are not the only prepositions that seem to be punctual in some contexts, but durative in others. Eng. *by* and Sp. *para* fit in that pattern also, but it would not be appropriate to sustain —we suggest— that all these are candidates for lexical multiplication. Hebrew *ad* is particularly interesting in this respect, since it shows that *until* may combine with punctual predicates without an empty negative head or a change in the preposition's meaning from durative to punctual.

Italian *finché* ('until') is another clear case in point, since —contrary to what one might expect— it is able to take internal durative arguments. In this case, it corresponds to Eng. *while* of *for as long as,* as in (36) (from Tovena 1996: 264):

(36)   Leggo   il   libro finché stai   al   telefono. (Italian)
        read.PRES.1.SG the book until be.PRES.2.SG to-the telephone
        'I am reading the book for as long as you are on the phone'

Cuervo (1955: § 448) observed that Ladin Spanish *hasta* might mean 'while' of 'for while' (present-day Spanish *mientras*), as in this imperative sentence:

(37)   Bati   al hierro hasta que esta   caliente. (Ladin Sp.)
        Beat.IMPER.2.SG.IMP to.the iron until that be.PRES.3.SG. hot
        'Beat the iron for while it is hot'

See also De Mello (1992: 22-23). Certainly, one might take polysemy as a way to account for all these extensions of meaning (as Mittwoch 2001: 276-278 does for *until*). We instead favor approaches such as Tovena's (1996), who convincingly argues for a unitary analysis of It. *finché*. In her analysis, there exists only one UNTIL, so that the different interpretations are obtained by means of combining the aspectual properties of its two arguments.[15]

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14   The parallelism between *until* and *by* is also highlighted in Giannakidou (2003: 108-109).

15   Constructions with *hasta* and an expletive negation, introduced above (problem 3 in § 3.1) have also been given the semantics of *mientras* 'while' (see NGLE, § 48.11g). In fact, one century before, Cuervo (1955 [1904]: § 448) censored the use of *hasta* with an expletive negation in the sense of *mientras* 'while'. Independently, both Tovena (1996), for Italian, and Abels (2002, 2005: 57), for Russian, argue that the logical properties of negation show that 'while' is in fact the meaning that corresponds to constructions with *until* in the presence of

One may certainly ask why Spanish or English do not allow for this option, as opposed to Italian. We suggest that whether the endpoint has to be defined or, on the contrary, it can be left unbounded is a parameterized feature. Spanish only allows for the first option, while Italian only admits the second one. Consequently, *finché* will mean 'until' when the internal argument is bounded, and 'for as long as, while' otherwise. Both prepositions take an internal argument that provides the termination point, as shown schematically in *Table 1*:

UNTIL'S ENDPOINT	
Lexically determined	Compositionally determined
hasta 'until' —	*finché* 'until' 'while, as long as'

Table 1. UNTIL's endpoint

5. Licensing temporal phases and other grammatical processes

In section 3 we criticized previous analyses of M&CS *hasta,* and in section 4 we presented and defended ours. In this section we will distinguish our process of phase licensing (before or after events) from another grammatical process that bears some relationship to it, but also implies crucial differences with the phenomenon we discuss. We will also show that the processes of interval licensing in standard *in* PPs and M&CS *hasta* PPs are close, but not identical, since a number of differences exist which follow from the specific meaning of these two prepositions.

5.1. Previous phases and preparatory processes
We have related M&CS *hasta* to Eng. *in* or Sp. e*n,* in the sense that a previous interval is licensed in both cases. Previous phases of events play an important role in the grammar of lexical aspect. This notion is independently needed for the analysis of certain (so-called) aspectual adverbs, such as Eng. *still*, and its counterparts in other languages (Löbner 1989; Barker 1991; Garrido 1992; Herburger 2003, and many others). For Condoravdi (2008), punctual *until* presupposes "a phase transition within a contextually given interval *I*", just as the aspectual adverbs *already* and *still*.

There is some agreement on the idea the previous phase involved in the grammar of these adverbs is related to the notion of counterexpectation. One may wonder whether or not this very notion is the one relevant for the analysis of

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expletive negation. Example (i) is from Abels (2005: 57); example (ii) is cited in Tovena (1996: 266):

(i)   Ja podoždu   poka ty ne   prideš.   (Russian)
       I wait.FUT.1.SG until you NEG arrive
       'I will wait for you while you have not arrived'

(ii)   Sono   contenta finché non se alza   il   vento. (Italian)
       be.PRES.1.SG. happy   until   NEG rise.PRES.3.SG the wind
       'I am happy until the wind rises'
       'I am happy for as long as the wind does not rise'

hasta,[16] more specifically whether or not the previous temporal phase that we propose for M&CS *hasta* could not be reduced to some sort of counterexpectation, explained in terms of a transition from one contextually given interval to another. We find two problems with this analysis:

a) It amounts to treating *hasta* as a punctual preposition. As long as counterexpectation does not follow from the interval introduced by the preposition, but it is contextually driven, there would be no need to analyze *hasta* as a durative preposition any longer. This characterization faces the problems that we raised in section 3.3, and is not fully compatible with the numerous consequences of treating M&CS *hasta* as a durative prepositions (section 4.3).

b) It seems to us that counterexpectation is better defined as a secondary feature, derived from the condition of *hasta* as a time-span preposition. This feature is present in *desde* but also in *en,* since *Juan llegó en dos horas* 'John arrived in two hours' normally entails that arriving to a certain point took Juan less time than expected, according to the normal course of events in similar situations.

Notice that, once we have an interval with a fixed endpoint (*hasta*, *en*) or a point of departure (*desde*), we may derive a scalar meaning out of it; otherwise, it has to be postulated *ad hoc*. This second problem does not arise in Condoravdi's analysis because *not until* is defined as a lexical unit carrying the focus of the assertion, and hence introducing some alternatives from which counterexpectation is obtained. This is not possible with MC&S *hasta*, not being a negative polarity item.

Phases preceding achievements display other grammatical properties, when applied to different prepositions.[17] Since we cannot deal with all these cases, we will concentrate on some interesting differences between *en* ('in') and M&CS *hasta* as regards the process of phase licensing. As we have shown, an interval preceding an event is obtained both with IN PP adjuncts (*en dos horas* ~ *in two hours*) and M&CS *hasta.* However, the former is a more restrictive phenomenon. We will argue that a previous phase is present in both cases, but the one that characterizes *in* involves a more restrictive subtype, for which we will use the term *preparatory process*.

Preparatory processes are not necessarily subject to intentional

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[16] We thank an anonymous reviewer for pointing out this possibility to us.

[17] For example, the Spanish preposition *por* ('by') expresses the path of some movement in (ia), even if *llegar* ('arrive') denotes no movement:
  (i)   a. La mercancía llegó por carretera.
          'The goods arrived by road'
          b. La mercancía llegó de París.
          'The goods arrived from Paris'
  Similarly, the very fact that the preposition *de* ('from') introduces the point of departure of some displacement in (ib) calls for an explanation, since —again— the verb *llegar* ('arrive') is telic and denotes no displacement. These are just some of the tasks that a general treatment of previous and subsequent phases in a theory of lexical aspect should explain. Our aim, much more modest, is to suggest that the proper analysis of (2), (26) and similar patterns fits in there.

requirements (cf. *She died in a week*),[18] but the implication obtains that some normal chain of events is expected in these cases (see also Moens and Steedman 1988). There is a clear contrast between (38) and (39), even if all these examples contain achievements:

(38)   a. Encontré las llaves en cinco minutos.   (SS)
            'I found the keys in five minutes'
        b. Alcanzó la cima de la montaña en dos horas.   (SS)
            'S/he reached the top of the mountain in two hours'

(39)   a. ??María se dio contra el suelo en media hora.   (SS)
            'M. hit against the floor in half an hour'
        b. ??El rayo cayó en dos horas.   (SS)
            'A bolt of lightning fell in two hours'

Paraphrases with *take* (as in *It took me five minutes to find the keys*) are appropriate in (38), but not quite so in (39). They suggest that the term *preparatory process* (sometimes called *preliminary*) is meant to imply a causal link between events. This link is completely absent in M&CS *hasta* uses, which license previous intervals regardless of any causal or intentional associations:

(40)   a. Juan alcanzó la cima de la montaña hasta el mediodía.   (M&CS)
            'Juan didn´t reach the top of the mountain until noon'
        b. Cayó un rayo hasta dos años después.   (M&CS)
            'No bolt of lightning came down in two more years'
        c. María se golpeó contra el suelo hasta que bajó la escalera.   (M&CS)
            'M. did not hit against the floor until she came down the stairs'

How can we account for this difference? It is now appropriate to recall that temporal PPs headed by the preposition *in* (ex. Eng. *in two hours*) raise the following two problems:

    i) How many meanings does *in* have in these structures?
    ii) How is the interval denoted by *in* licensed?

Take question (i) first. We will support a simple answer to (i): "just one". Question (i) arises if we contrast the meaning of "*in* + temporal DP" in sentences such as (41):

(41)   a. John read the newspaper in one hour. (=23a)
        b. John reached the top of the mountain in one hour. (=23b)
        c. John will read the newspaper in two hours. (=31)
        d. He died in one week.

Apparently, *in* in (41a) and (41c) is interpreted as a durative preposition (*durative* IN), while in (41b) the IN PP locates a situation within the interval

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[18]   But see Carlson (2009: 86-87) for a different opinion.

denoted by it (*locating* or *inclusive* IN, depending on whether the eventuality —in Bach (1986) terms— holds throughout the whole interval (durative) or not (location, inclusive). See Vlach (1993: 250-251, 256-257), and, for Spanish, García Fernández (2000: 81-87).

In our analysis, the preparatory phase reading would correspond, in descriptive terms, to *inclusive* IN*,* which has also been described as *ingressive, inchoative* or *inceptive*. To these two meanings some authors (Hitzeman 1991, García Fernández 2000 and, perhaps Smith 1991: 69-71 in a less straightforward manner) add a third reading, strictly temporal and close to that of 'at', which corresponds to (41c) and (41d).[19] That is, sentence (41d) roughly means 'John died at *t* (*t* = a temporal point located one week after some reference point contextually determined)'.

As in the cases analyzed in section 4.4, unificational analyses contrast with those which split readings by multiplying lexical entries. Moia (2006: 237) provides a unitary semantics for *in:* it is an interval preposition that identifies a time interval or an amount of time. The apparent three readings in (41) result from the interaction of the preposition *in* with the aspectual properties of the predicate it modifies. But, before we clarify this interaction, something has to be said on question (ii).

At least two analyses have been put forward in the literature to answer this question: the *lexicalist analysis* and the *coercion process analysis*. According to the former, the *in* PP is *lexically licensed* by the aspectual properties of the predicate. This analysis presupposes that there is an aspectual class of predicates able to license preparatory phases of punctual events. This property allows them to take *in* PPs (Bertinetto 1986: 273-279; Moens and Steedman 1988: 21; Smith 1991: 66,[20] Carlson 2009: 86, and others). These predicates, which include *reach, arrive*, *find*, *touch*, *recognize, win* and others, contrast with those which do not

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[19]   The relevant temporal point may or may not coincide wich Speech Time. The Spanish prescriptive tradition claims that «*en* + temporal noun» adjuncts are incorrect if predicates refer to future situations, as in (ia), but correct if they refer to the past, as in (ib):

(i)   a. El tren llegará en dos horas.
          'The train will arrive in two hours'
       b. El tren llegó en dos horas.
          'The train arrived in two hours'

The preposition *in* is supposed to be substituted by *dentro de* in (ia) (see DPD, p. 213). Since the two options in (i) are widely attested, we will not accept any difference in grammaticality here. In any case, English has no equivalent for *dentro de,* a temporal preposition introducing a period that necessary holds from Speech Time.

[20]   We want to emphasize that for Smith (1991: 60, 62) this preparatory phase is not part of the semantics of achievements, but rather the very property of denoting a punctual change of state. As a consequence, not all achievements provide a preparatory phase, and variation within the same predicate is expected. Regardless of whether or not this preparatory phase is part of the aspectual meaning of achievements, Smith (1991) argues that *in*-PPs are licensed because of the coincidence of the temporal interval denoted by *in* and the interval occupied by this associated process previous to the culmination, not because of the achievement's beeing coerced into another type of predicate (Smith 1991: 66).

license preparatory phases, such as *cough, blink, hiccup* and other (mostly semelfactive) verbs. Consequently, *in* PPs tend to be rejected with verbs of this second paradigm, as in **He coughed in a few seconds*.

According to the *coercion analysis*, which we will argue to be preferable, *in* PP licensing results of a process of coercion of the predicate, which consists in the addition of a previous stage. As a consequence, an achievement is changed into an accomplishment (de Swart 1998, Dölling 2003: 516-517, 2014, Csirmaz 2004, Hamm and van Lambalgen 2005: 180, a.o).[21]

Even accepting that there exists a group of verbs which lexically introduce the interval required by *in*,[22] a process of coercion is still needed in order to account for the following two facts:

A) First, not only achievements, but also predicates from other aspectual classes, allow for the preparatory phase interpretation (Moens and Steedman 1988: 21). This is unexpected under the lexicalist analysis:

(42)   John will paint his house in two days.

Both (42) and its Spanish translation (*Juan pintará su casa en dos días*) may refer to either the previous phase of the eventuality of painting the house, which lasts two days from now onwards, or to the interval occupied by it (recall fn. 20.).

B) Second, achievements in the future allow for the so-called *temporal locating* —as in (41d) or (43a)—, and the canonical preparatory phase reading in (41b) or (43c), that is, the *inclusive reading:*

(43)   a. Juan llegará a la cima en dos horas.
              'Juan will reach the top of the mountain in two hours'
          b. Juan llegará a la cima dentro de dos horas.
              'Juan will reach the top of the mountain within two hours'.
          c. A Juan le llevará dos horas alcanzar la cima de la montaña.
              'It will take Juan two hours to reach the top of the mountain'

Crucially, the relationship between these two interpretations is not one of ambiguity, but of vagueness, since, applying standard tests (Zwicky and Sadock 1975), neither interpretation implies the rejection of the other. Given that they are not mutually exclusive, the preparatory phase cannot be a lexically conveyed feature; otherwise, it could not be overridden.

More arguments favour the coercion analysis. It can be argued that

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[21]   It has also been proposed that this preparatory stage is contextually given (see, for example, Piñón 1997: 278). In any case, all these analyses assume that some coercion process takes place.

[22]   Notice that, if the compatibility with *in*-PPs is the only argument that can be offered in order to prove the existence of a different class of punctual predicates, the analysis might be regarded as circular. The feature that would keep these two types of achievements apart is the interpretation of a subsequent state after a culmination process, not just acceptation or refusal of *in* PPs. See, on these issues, Moens & Steedman (1988: 16-17) and Smith (1991: 66, 70-71).

Smith's (1991: 71) description of the ingressive meaning, as in (43c), is undistinguishable from the temporal location reading, the one in (43b): in both cases the event denoted by the predicate is intended to reach the temporal point introduced by the *in* PPs. In any case, this is as expected and confirms the alleged vagueness of *in* PPs in the sentences in (43).

Finally, let us consider achievements that are not culminations, that is, semelfactives. These predicates accept modification by *in* PPs (see also Rothstein 2008: 8-10), although, according to Smith (1991: 67), the only reading available is that of location, as in *Mary coughed in five minutes*. This would amount to either defending that there are two *in-en* PPs, as García-Fernández (2000: 81) does, or that *in* itself is coerced (Smith 1991: 67). With respect to the former hypothesis, we have just shown that is far from obvious. With respect to the second, Smith (1991: 67) argues that the preposition *in* is coerced ("reinterpreted" in her terms) into a temporal location preposition due to the absence of preliminary stages in the aspectual properties of semelfactives.

There are two observations to be made as regards Smith's analysis. The first one is that the ingressive interpretation, at least for Smith (1991), is not different from that of pure temporal location (recall the argumentation above). The second observation is the fact that the meaning of *in* is not simply 'at'. This would, certainly, be the expected meaning after a process of coercion, as a result of which *in* is turned into 'at' (temporal location).[23] But that would be a very strange process. In fact, if it were possible at all, a contrast such as (44) could not be obtained:

(44)   a. The train will arrive in two hours. During that time I will prepare lunch.
         b. #The train will arrive at four o'clock. During that time I will prepare lunch.

In other words, the oddness of (44b) is expected, since it provides no open interval.

As we have argued, we support the claim that that there is just one temporal IN (Engl. *in*; Sp. *en*, etc.), so that the different meanings follow from the interaction of the aspectual properties of the predicate and those of the preposition itself. The relationship that this conclusion bears to M&CS *hasta* is important for our analysis. In fact, the lexical approach, which we consider to be inadequate, would convey that the interval licensed by *in* and by M&CS *hasta* are different, since the latter is not lexically dependent on the predicate it modifies, as we showed at the beginning of this section.

In our theory, which supports the coercion analysis for temporal IN, both prepositions share the property of *adding* a previous phase to the eventuality they modify.[24] The one licensed by *in* is a preparatory phase, since it is pragmatically

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[23]   According to Smith (1991: 67), given that *in* PPs are incompatible with semelfactives "the only grammatical result involves reinterpretation" and, as a consequence, "the adverbial in [phrases such as] *Mary coughed in 5 minutes* [has] only a temporal location information".

[24]   It is worth noting that Salvá (1839: 264) disapproves the use of *hasta* with the same meaning of inclusive or location IN, as in the following example:
         (i) Y lleva el desconsuelo / de que hasta pocos años / se hablará jerigonza.
              'He is suffering because he is fearing that in a few years some gibberish language is going to be spoken'

conditioned (recall the discussion concerning examples (38) and (39)) and syntactically licensed, while M&CS *hasta*'s previous phase is strictly temporal and free from lexical conditions, but made visible by syntax.

5.2. Subsequent phases vs. resultative interpretations

One might be tempted to argue that M&CS *desde* illustrates a standard *resultative reading* (Bertinetto 1986, Smith 1991: 52-53, Piñón 1999, García Fernández 2000: 90-91, Carlson 2009:86, Dölling 2003, 2014, among others), that is, the well-known fact that events are often interpreted as their immediate state results, as in *John left* (='was out of') *the city for a few days.* We will argue that these two phenomena are different. *Subsequent phase licensing* (SPL) is provided by M&CS *desde*, as in the examples in (26). On the contrary, the *resultative interpretation* (RI) is lexically induced by some movement and change of state verbs in English, Spanish and many other languages:

(45) a. I'll go out of for a couple of hours.   [RI]
      b. Put it in the oven until it gets browned.   [RI]
      c. She changed her mind for a few days.   [RI]

(46) a. María se encerró en su cuarto durante toda la tarde.   [RI]   (SS)
         'M. locked herself in her room for the whole evening'
      b. Me voy de la ciudad hasta el lunes.   [RI]   (SS)
          'I am leaving the town until next Monday'

SPL is temporally bound, whereas RI is conditioned by some lexical factors. In fact, RI has access to sublexical structure: "stay" is the result of *putting* in (45b); "estar fuera" ('be away') is the result of *irse* ('get out') in (46b), etc. A crucial difference between SPL and RI is the fact that achievements which do not denote change of states reject the latter, but allow for the former:

(47) a. *Encontré las llaves durante dos horas.   [RI excluded in all dialects]
          'I found the keys for two hours'
      b. Encontré   las llaves desde hace   dos horas.   [SPL] (M&CS)
         find.PRET.1.SG the keys   since it-makes two hours
         'I found the keys not less than two hours ago'

As we see, RI is excluded with *encontrar* ('find'), which cannot be used to denote some non-existent 'state of having found'. On the contrary, SPL is freely obtained with this verb in M&CS. This implies that SPL does not have access to the internal structure of events, and, more generally, that temporal phases (in the sense of the term applied above) are not subevents, since they are not lexically conditioned.

According to Dominicy (1982: 48-53), this use exists since the 13th century.

6. Conclusions and further implications

In this paper, we have argued that the meaning of M&CS *hasta* and *desde,* a classical topic in American Spanish syntax, is obtained through a process of phase licensing, which is either previous or subsequent to a given telic event. After rejecting all previous analyses, we have claimed that prepositions favouring phase licensing may vary across languages, or even within one single language. The phases we have postulated denote intervals not provided by the lexical structure of predicates, but semantically interpreted, as well as sensitive to grammatical relations and constraints.

Are we then postulating different lexical entries for SS and M&CS's *hasta* and *desde*? Notice that different lexical entries suggest different semantic interpretations, and we have denied that these exist. Postulating different lexical entries is also hard to reconcile with developing a compositional analysis, which is the approach adopted here. Since speakers of SS reject M&CS uses of *hasta* and *desde,* it is obvious that lexical differences exist. Nevertheless, we have shown that differences reduce to the ways in which temporal phases (necessary for conceptual reasons) are grammatically licensed. The licensing process is shared by other prepositions and is subject to considerable crosslinguistic variation.

Although our analysis of M&CS *hasta* and *desde* is orthogonal to the long standing debate sketched in (18), we find some coincidences between our theory and hypothesis (18A), since both theories avoid multiple lexical entries (a grammatical option to which we have opposed in relation to various prepositions) and give rise to an interval out of a predicate which lexically provides none. As we have argued, these coincidences are compatible with the idea that the hidden negation analysis for M&CS *hasta* is misguided and can be proved to be wrong.

The controversy sketched in (18) has lasted for decades. Even so, we would like to suggest that, on theoretical grounds, there is something strange in the very question "How many *until* prepositions does English have?". Notice that this question should naturally be followed by others such "How many *hasta* does Spanish have?"; "How many *jusque* are needed in French?", "How many *bis* are to be distinguished in German?", and so on. The discussions in the preceding sections naturally lead to other, perhaps more natural, questions which, we suggest, should replace these, namely: "How do natural languages provide the interval that a temporal preposition requires in order to express the end of an event or a state of affairs?"; "In which specific ways are these resources (whether lexical or syntactic) to be related, ranked or associated?".

We have shown that similar polemics have arisen in the literature as regards temporal *in*. On similar grounds, the classic controversy on Engl. *until* could perfectly be extended to *since*. As Schaden (2005) shows, a number of arguments suggest that a parallel debate on prepositions of origin could take place (see also Móia 2001 on similar ideas). For example, a temporal point in the future is accepted as the complement of SINCE denoting the beginning of the required interval in some languages, but not in others. The former include Spanish, as in (48):

(48)   Desde mañana será obligatorio un nuevo permiso.
         'From tomorrow on a new license will be obligatory'

They also include French, but not English or German:

(49)   a. Desde mañana.   (Spanish)
        b. Depuis demain.   (French)
        c. *Since tomorrow.   (English)
        d. *Seit morgen.   (German)

Schaden (2005) does not mention the special use of M&CS *desde*, as in (12) or (26), but he points out that quantitative phrases are appropriate as complements of *since* in French and German —or for that matter, Italian; recall (27c) above—, but not in Spanish or English:

(50)   a. *Desde dos horas.   (Spanish)
        b. Depuis deux heures.   (French)
        c. *Since two hours.   (English)
        d. Seit zwei Stunden.   (German)

Finally, SINCE-UNTIL correlations are natural in Spanish, but are rejected in English (again, as observed by Schaden):

(51)   a. Juan estuvo en París desde el viernes hasta el martes.
        b. *John was in Paris since Friday until Monday.

Leaning on arguments such as those, one might raise a question parallel to the one behind the controversy in (18), namely "How many *desde* (or *since, depuis, seit,* etc.) should one distinguish?". We do not mean that this question is illegitimate, but, as in the case of *until*, it seems to us that it would be more appropriate to reframe it in compositional terms, namely by asking how can intervals subsequent to initial points be grammatically licensed across languages, and in which specific ways these lexical and syntactic resources could be derived from other properties of these very languages. Needless to say, these are not easy matters, but they point —it seems to us— towards interesting, as well as promising, theoretical directions.

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