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Abstract

This paper offers a compositional interpretation of Spanish simple conditional morphology (cantaría ‘would sing’) in independent sentences set within the semantic situations framework. It proposes that Spanish simple conditional morphology is composed of (a) a past component that encodes a topic situation, (b) a universal future operator with either an epistemic flavor or a temporal (i.e. historical) flavor /accessibility, and (c) a universal imperfective operator with a variety of flavors. Based on the interactions of these three components, the paper develops derivations for (1) past-oriented inferential readings that distinguish Spanish from French and Italian, (2) future-oriented conditionals involving past plans, which are apparently shared with French and Italian, and (3) future-in-the-past conditionals, where Spanish appears to resemble French and differs from Italian.

Keywords: Spanish, conditional morphology, situations semantics
1. **Introduction**

In this paper, we develop a proposal for the analysis of Spanish simple conditional verbs in main clauses, stressing their ‘factual’ / ‘unconditional’ readings, which may be oriented towards the past or the future. These bear interest from the perspective of semantic variation within the Romance family.

Spanish simple conditional verbs (illustrated in bold from now on and glossed Cond) may display ‘factual’/ ‘unconditional’ interpretations with an epistemic modal flavor and a past temporal orientation traditionally known as conjectural / inferential, as in (1b).

(1) a. *La niña tenía muy mala cara ayer.*

The little.girl had.Impf very bad face yesterday

‘Our little girl did not look good yesterday.’

b. *Tendría fiebre. No se me ocurrió ponerle el termómetro.*

Have.Cond fever. Neg Refl me occurred put.her the thermometer.

‘She **may/might/could have had** a temperature. It did not occur to me to check it.’

(Rivero 2014)

Cond may also display readings that have traditionally been classified as 'concessive', as in (2), which share some features with conjectural/inferential cases.

(2) *Juan ganaría la carrera ayer, pero nos decepcionó porque su tiempo no fue lo que esperábamos.*

John win.Cond the race yesterday, but us disappointed because his time

Neg was what hoped.1Pl for
‘John might have won the race yesterday, but he disappointed us because his time was not what we hoped for.’

Our focus in this paper will be on inferential readings like (1b), and examples like (2) will mostly be set aside. However, it is worth noting that parallel present-oriented inferential/conjectural and concessive epistemic readings are observed with (simple/synthetic) future constructions, as illustrated in (3a-b) (for a proposal for concessive readings in futures and conditionals see Rivero 2014).

(3) a. *La niña tendrá fiebre. Está muy agitada.*

The little girl have.FUT fever. Is very restless.

‘The little girl must have a temperature. She is very restless.’

b. *Juan estará contento, pero no ganó.*

John be.FUT happy, but Neg won

‘John might be happy, but he did not win.’

From a cross-linguistic perspective, we find the interpretations in (1b) and (2) shared by simple conditionals in Portuguese, as illustrated in (4a-b). We borrow these examples from Cunha (2017), who offers a recent overview of conditional readings in this language, but we add morpheme-by-morpheme glosses and English translations.

(4) a. *O terrorista estaría no hotel quando a bomba explodiu.*

The terrorist be.Cond in.the hotel when the bomb exploded

‘The terrorist must have been in the hotel when the bomb exploded.’

b. *O João teria pouco dinheiro, mas comprou um BMW.*

The John have.Cond little money, but he.bought a BMW
‘John might have had little money, but he bought a BMW.’

French and Italian simple conditionals, as is well known, contrast with Spanish and Portuguese in failing to participate in the inferential and concessive readings depicted in (1b), (2), and (4a-b) (a. o. Squartini 2001). The difference may be partially illustrated by the Italian dialogue in (5a-b), adapted from Martinez-Atienza (2012), adding our morpheme-by-morpheme glosses and English translations (see also Muñiz 1984 on detailed differences between Spanish and Italian and references therein, and Squartini 2004).

(5)  

a.    *Sai perché ieri non venne Pietro a lezione?*

Know.2Sg why yesterday Neg come Peter to lesson?

‘Do you know why Peter did not come to school yesterday?’

b.    *Non so, sarebbe ammalato.*

Neg know.1sg, be.Cond sick

‘*I do not know, he may have been sick.’

Sentence (5b) is deviant (*) in Italian, and in a similar context the parallel reply is also deviant in French: *Je ne sais pas. Il serait malade* (and see (Dendale 2010) for recent discussion and references on French conditionals, and (Fouilloux 2006, Azzopardi 2011) for comparisons of French and Spanish). However, in contrast with Italian and French, the equivalent Spanish reply is felicitous: *No sé. Estaría enfermo ‘I do not know. He must/may/might have been sick.’*

In the theoretical literature, the label ‘Romance Conditionals’ is at times used as a general cover term for the semantics of such verb forms across the family. However,
the above contrasts between Spanish and Portuguese on the one hand and Italian and French on the other illustrate that this morpho-syntactic category may considerably vary in meaning depending on the Romance language.

In spite of the above differences, similarities exist. French and Italian share with Spanish and Portuguese other interpretative flavors, most notably the so-called polite interpretation involving requests and suggestions to the hearer illustrated in Spanish (6a)\(^1\) and French (6b).

\begin{enumerate}
\item[(6)]
\begin{enumerate}
\item a. **Querría** un vaso de agua.
\textbf{Want.Cond} a glass of water
\item b. **Je voudrais** un verre d’eau.
\textbf{I want.Cond} a glass of water
\end{enumerate}
\end{enumerate}

‘I would like a glass of water.’

The English gloss in (6b) also brings to mind differences between Spanish conditional verbs and English *would* (where *would* is commonly analyzed as a combination of Past with an abstract modal *woll*, with *will* its present counterpart, e.g. Abusch 1997, 1998, Condoravdi 2002, 2003 Kaufmann 2005, a.o.). Spanish *querría* in (6a) closely corresponds to English *would like*. English *would*, however, does not display

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\(^1\) Inspired by Searle (1969) and Grice (1975), (Rivero 1978) is an early study of polite readings in Spanish conditionals, identifying pragmatic effects at the speech-act/ illocutionary level. A more recent study of such readings also involving a speech-act level is (Vatrican 2014).
the past inferential and concessive readings observed with conditional verbs in Spanish (1b) and (2), which makes it partially reminiscent of Italian and French simple conditionals.

Particularly interested in exploring the nature of the inferential interpretation at the core of considerable cross-linguistic variation, the guiding hypothesis in this paper is that the morphological and syntactic resources that Spanish makes available for the construction of such perspectival meanings play a crucial role in defining and delimiting their properties, and that a compositional approach provides important insights into the meaning contribution of conditional morphology in Spanish. That is, we take the noted cross-linguistic variation affecting simple conditional verbs as indicative of constraints formally encoded / ‘grammaticalized’ in the morphology, syntax, and semantics of Spanish. In our view, if variation in readings was considered strictly pragmatic, there would be no reason why similar readings should not be available to French and Italian (or English) across the board, in parallel to the situation observed with polite readings in (6a-b).

Within the above philosophy, we propose to dissect Spanish conditional verbs into three functional categories that as semantic components are organized hierarchically as in (7).

(7)  PAST  >  FUT  >  IMPF  >  VP

Three core hypotheses underlie our analysis of Spanish. First, FUT is a modal without inherent temporal orientation shared by futures. Second, conditionals are inherently imperfective, with an IMPF component with aspectual and modal
characteristics. Third, PAST is a referential expression that syntactically encodes the topic situation. It is usually associated with IMPF in Romance, and projects above FUT in Spanish conditionals. The VP encodes a property of eventualities.²

For a preliminary illustration of our philosophy, we advance ideas on past inferentials such as (1b) absent in French and Italian. In our view, what makes such inferential readings an interpretative option in Spanish is the compositional interaction in (7) of IMPF, the semantically active inherently aspectual component with modal properties, and PAST. Arregui, Rivero, and Salanova (2014) propose that IMPF is a quantificational operator with a fixed semantic core shared by Romance verbs inflected for the imperfect tense and Slavic verbs with imperfective morphology, and they associate this operator with several accessibility relations / (informally) Modal Bases (MBs). MBs common to both families capture readings shared by Romance and Slavic, including the familiar ongoing and habitual types. MBs that are not shared capture differences, including the availability of ‘narrative’ imperfects specific to Romance and ‘factual’ past imperfectives specific to some Slavic languages.

² A generative precedent of (7) without mention of Aspect is in (Arregi 2000, Oltra Massuet and Arregi 2005: §2.2). Within distributed morphology, Oltra Massuet and Arregi derive stress patterns in Spanish futures and conditionals from a syntactic structure where the feature FUT (identified with the morpheme -r-) heads an independent projection under the c-command domain of a similarly independent T(ense)-projection, which is past in conditionals, and present in futures.
In this paper, we apply a similar philosophy to the formal characteristics behind Spanish conditionals, speculating as to how they may contribute to variation when viewed from a comparative perspective. We join traditional voices to the effect that Spanish conditional verbs bear a strong similarity to imperfect verbs, and derive some of the interpretative parallelisms between the two from an IMPF component as an inherent and active semantic ingredient in both.

Since Spanish simple conditionals consist of the semantic components in (7) with precise denotations that make meaning contributions in a compositional way, each one of them may be at the source of cross-linguistic variation within Romance. IMPF seems to play a particularly important role in this respect. Concerning Italian, for instance, etymology and diachrony (see Squartini 1999 and references therein) suggest that IMPF does not participate in the composition of conditionals, which seem to be based on Perfective Aspect. Therefore, under the assumption that the combination of FUT with Perfective Aspect (PF) is incompatible with a past orientation (and see Section 2 for a formal implementation of this idea), we do not expect simple conditionals in Italian to allow for past inferential interpretations.

The aim of this paper is to set conditional inflections in Spanish against the background of formal syntax and semantics to develop a compositional analysis that we believe is in (intuitive) harmony with views in the grammar tradition and the historical
origin of conditional forms. A traditional debate concerning Romance conditionals is whether such verb inflections should be viewed as an independent ‘mood’, sometimes called ‘potential’, akin to subjonctives, or as ‘tenses’ of the Indicative paradigm. We shall see that the situations semantics adopted in this paper blurs distinctions between tense, modality, and aspect. Intuitively speaking, however, we side with the nowadays generally accepted position that conditionals belong in the Indicative mood, an idea that in the Spanish tradition can be traced back to Andrés Bello (1847). Regarding temporal relations, however, we do not find ourselves in agreement with Bello, as our previous remarks on past inferentials such as (1b) already suggest. Bello labels a simple conditional form a “post-pretérito”, and Alarcos Llorach (1973) agrees that such a morphology corresponds to “un futuro medido desde el pasado” (a future measured from the past). These are views that fail to accommodate the temporal characteristics of examples like (1b), which Bello considers metaphorical, and Alarcos Llorach special cases. By contrast, we aim to incorporate examples like (1b) into the formal grammar of

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3 The diachrony of simple conditionals (and futures) is well known, and has gathered a vast literature, which in Spanish can be traced back to at least (Gessner 1893). Conditionals have their source in periphrastic constructions with modal aver inflected for the imperfect tense (-ía), and a preposed infinitive (cantar). In earlier Spanish, preposed infinitive and (contracted) inflected modal are visible in certain syntactic positions when interrupted by a weak pronoun: cantar-lo-(av)ía.
Spanish with a modal analysis where PAST, FUT, and IMPF in (7) interact compositionally.

To conclude this introduction, we briefly sketch core characteristics in the three independent layers in (7) (to be discussed in formal detail in Section 2). We round-up the presentation of the readings of conditionals to be examined in this paper with examples that receive a future orientation.

We view FUT as a modal shared by both conditionals and futures that is not intrinsically future oriented. The temporal orientation of the eventuality depicted in the VP derives in conditionals from the interaction of Tense and Aspect. In the recent literature, a modal without temporal characteristics / forward-shifting semantics has been proposed for futures in a large variety of languages (e.g. Broekhuis and Verkuyl 2014 on Dutch, Giannakidou & Mari 2018 and their earlier work on Greek and Italian, Kush 2015 on Hindi, Matthewson 2012, 2013 on Gitksan, Mucha 2016 on English and Medumba, Rivero and Arregui 2017 adding Turkish and Azeri, Slovenian and Bulgarian). To our knowledge, however, a parallel ‘atemporal’ analysis has not been proposed for conditionals. Nevertheless, Spanish simple conditionals prove particularly interesting when viewed from the perspective of the inherent ‘lexical’ properties of modal categories. Spanish conditionals add support to the hypothesis that forward-shifting need not be an essential part of the lexical semantics of FUT. 4

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4 A property of FUT in Spanish (7) we do not address in this paper is gradability (Rivero 2014). In conditionals, FUT sometimes corresponds to a necessity modal such as must
In this paper, we adopt a referential theory of tense (Partee 1973 and later work), which we combine with the theory of situations developed in (Kratzer 1989, 2011, etc.). On this view, PAST in conditionals is treated as a situation pronoun that syntactically identifies the topic situation the modal claim is about (similar to topic/reference time, and see Kratzer 2011, Arregui 2009, Arregui, Rivero and Salanova 2014 for details). More precisely, tense features introduce presuppositions that restrict felicitous interpretations of situation pronouns.

Concluding now with IMPF in (7), we already identified this item as the operator that blends modality with viewpoint aspect proposed by Arregui, Rivero, and Salanova (2014). IMPF is active in simple conditionals, interacts with PAST, and contributes to define the temporal location of the described eventuality encoded in the VP - a core idea we develop in later sections.

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(have), or resembles a possibility modal such as may (have) or might (have) (and see Rullmann et al. 2008, Deal 2011, Kratzer 2012, Portner 2009 a.o. for different approaches to gradable modality, Rivero and Simeonova 2016 for Bulgarian futures, and Rivero and Sheppard 2016 for Slovenian futures). Traditionally, concessives, which we do not consider in this paper, are grouped with inferentials (but see Rosique 2015b on concessive futures). A detailed examination of the gradable characteristics of FUT, left here to future research, could provide a path to determine analytical differences between inferential and concessive readings both in conditionals and futures.
As we saw, in Spanish root conditionals the VP-eventuality may be past in relation to speech time. However, in tune with French and Italian, Spanish conditionals allow for VP-eventualities that are future-oriented, as in examples of the type in (8). In this case, conditionals report an inference about something happening in the future:

(8)  \textit{Juan cantaría mañana, no hoy.}

John \textit{sing.\text{Cond} tomorrow, not today}

‘John would sing tomorrow, not today.’

A core hypothesis in this paper is that in Spanish, the compositional interaction of the three components in (7) may the source both of the past temporal orientation observed in inferentials such as (1b), and in conditionals with the future orientation in (8), which we dub ‘intentional’. Advancing ideas, we propose in section 3 that the forward-shifted reading of Spanish (8) results from IMPF with a so-called Inertia Modal Base that speaks of plans (Arregui, Rivero, and Salanova 2014). Thus, we formally relate the semantic derivation of (8) and the one behind \textit{Juan cantaba mañana, no hoy} ‘John was singing tomorrow, not today’. By assumption, Italian simple conditionals do not rely on IMPF; the proposal we just sketched thus suggests that readings parallel to (8) that also express hypothetical plans in Italian (i.e. \textit{Io comprerei la birra e tu prepareresti i panini} ‘I would buy the beer and you would prepare the sandwiches’), should be based on a semantic derivation that differs from the one we propose for Spanish, as we briefly speculate in Section 3.

To sum up, Spanish simple conditionals in root / independent clauses can display past temporal interpretations, which distinguish Spanish from Italian and French, and
future temporal orientations, which make Spanish bear a resemblance to those Romance languages. However, a third difference should be noted. It is well known that Spanish simple conditionals display ‘future-in-the-past’ readings such as (9), where temporal orientation follows a time in the past but precedes speech time.

(9) Context: Statement in April 2018.

*En 1939 al finalizar la guerra civil, Juan se casaría por fin.*

In 1939 to the finalize the civil war, John would finally get married.

‘In 1939 once the civil war ended, John would finally get married.’

Regarding the reading in (9), Spanish bears a similarity to French and differs from Italian whose simple conditionals lack the ‘future-in-the-past’ interpretation. This case will be amongst those discussed in Section 3.

The paper is organized as follows. Section 2 spells out the semantic analysis of the three components in (7), which will be the basis of the compositional derivations proposed in Section 3. Section 3.1 develops analyses for past inferentials, which distinguishes Spanish from both Italian and French, and we divide into two subgroups. It addresses examples like (1b), where conditional reports an epistemic stance towards something happening in the past. Section 3.2 examines examples like (8), where conditional reports an epistemic stance towards something happening in the future. Section 3.3 addresses classic ‘future-in-the-past’ conditional examples like (9).
2. The ingredients of simple conditional morphology in Spanish

In our proposal, Spanish simple conditionals are the morphological spell out of a future operator (FUT) scoping over an imperfective operator (IMPF) associated with PAST in the inflectional spine of the clause, as in (10b) and (11b).

(10) a. *Elena estaría contenta.*
    Elena be.Cond happy
    
    b. [PAST [FUT [IMPF [Elena V\_estar contenta]]]]

(11) a. *Elena llegaría tarde.*
    Elena arrive.Cond late
    
    b. [PAST [FUT [IMPF [Elena V\_llegar tarde]]]]

We will examine these three ingredients in the following sections, beginning with Tense.

2.1 PAST

We adopt a referential theory of tense (e.g. Partee 1973, Heim 1994, Kratzer 1998), where tenses are referential expressions that pick-out individuals in a temporal domain. We adapt this view to a situations-based semantics and claim that tense refers to a topic situation that the utterance is about (see e.g. Kratzer 2011 on topic situations in semantics). Past and present tenses are thus situation pronouns, with features interpreted as presupposition triggers, similar to proposals for personal pronouns. For example, 

\[ [[[\text{pres}]]]^{c: \Phi} = g(i) = s_i \text{ is defined only if } s_i \text{ has a temporal location that overlaps the speech event in the context } c, \text{ as in the simple illustration with the English sentence in (12).} \]
(12) a. *She is happy.*

b. \[ \text{[[ [ pres}_i \text{ [she}_j \text{ V}_\text{be happy } ] ]]}_{c \cdot g} = 1 \text{ iff}

she\textsubscript{j} is happy in \textit{i}_4, defined only if she\textsubscript{j} is female and \textit{s}_i temporally

overlaps the speech situation in c.

The present tense sentence in (12a) is interpreted as claiming that the salient female
individual \textit{g}(j) (\textit{she}) is happy in the salient present topic situation \textit{g}(i) (\textit{s}_i). If the
presuppositions of either the person pronoun or the topic situation pronoun are not met
given the variable assignment, the utterance is infelicitous. A similar analysis can be
made of past tense, as in (13).

(13) a. *She was happy.*

b. \[ \text{[[ [ past}_k \text{ [she}_j \text{ V}_\text{be happy } ] ]]}_{c \cdot g} = 1 \text{ iff}

she\textsubscript{j} is happy in \textit{s}_k, defined only if she\textsubscript{j} is female and \textit{s}_k temporally

precedes the speech situation in c.

In simple sentences (those that are not modal), topic situations provide the location for
the non-modal properties corresponding to their sister. In modal contexts, topic situations
provide an anchor for a modal claim, affecting modal domains of quantification (see e.g.
Arregui 2009, Arregui, Rivero and Salanova 2014), as will be shown in our discussion of
conditional examples in Section 3.
2.2 FUT

It is well known that the interpretation of future operators is a matter of longstanding controversy, with numerous debates regarding the integration of possible temporal and epistemic readings of future morphology that are available in many languages, including Hindi-Urdu, Modern Greek, Turkish, and Slovenian, to name a few. Spanish futures have also been at the source of debates with similar preoccupations (a.o. Aaron 2014, Bravo 2002, Escandell Vidal 2010, 2014, Falaus and Laca 2014, Gennari 2000, Laca 2016, Matte Bon 2006 for a survey of traditional Spanish grammars, Rivero 2014, Rodríguez Rosique 2015a-b), while conditionals have usually not figured in such debates.

Spanish future morphology is subject to a well-known cross-dialectal variation, which has attracted considerable attention in the sociolinguistics literature (and see Aaron 2010 and Blas Arrollo 2008, among many others, for discussion and references). Oversimplifying, some colloquial variants (and formal styles) allow simple future morphology to display both present oriented epistemic readings, and (plain) future-oriented readings. By contrast, some (mainly colloquial) variants restrict simple future morphology to present oriented epistemic readings, and encode future-oriented readings in mainly periphrastic formations of the type of Elena va a cantar ‘Elena is going to/will sing’. Along with many languages in and outside Romance, Spanish present tenses also allow for future-oriented readings as in Elena canta (mañana) ‘Elena is singing (tomorrow)’. In view of internal variation within Spanish, we would like to note that in this paper we develop an analysis of FUT that addresses variants where simple future
morphology participates in both present-oriented epistemic readings and future temporal-like readings.

Let us begin by considering (14a-b).

(14)  

a.  
\textit{Elena estará contenta.}

Elena \textbf{Be.Fut} happy

‘Elena must be happy.’

b.  
\textit{Elena llegará tarde.}

Elena \textbf{arrive.Fut} late

‘Elena will arrive late’

In the general case, Spanish (14a) is easily interpreted with a speech-time oriented temporal reading: the sentence signals that the speaker has come to the conclusion that the relevant woman (Elena) is happy at the speech time. Readings of this type are subject to many of the constraints on epistemic \textit{must} noted for English (a.o. Kartunnen 1972), and can be found also for epistemic \textit{will} (Jespersen 1932, Palmer 1987, Lyons 1977, Hornstein 1990, Enc 1996, Salkie 2010, Winans 2016, etc.). We would typically consider (14a) to report an inference made by the speaker on the basis of indirect evidence, so (14a) would be deviant in a context in which we have direct evidence that the person is happy, for instance watching Elena laugh and smile in a spontaneous and genuine fashion. The utterance of (14a) is also perceived as relatively ‘weaker’ than the utterance of the corresponding present tense sentence (\textit{Elena está contenta}).

In the variants relevant here, future morphology can also receive what has been characterized as a straightforward temporal-future reading. This interpretation is salient
in the case of (14b), which can be most easily interpreted as reporting that Elena will arrive late at some future time. In such variants, a reading temporally-shifted towards the future is also available to (14a) with the appropriate contextual support, as in a context in which some future time has been made salient and can anchor the temporal location of the VP-eventuality.

Here we adopt a view of FUT in (15) that builds on the analysis by Condoravdi (2002, 2003), though couched in a situations semantics framework (see also Kaufmann 2005). In this proposal, FUT is a universal quantifier over possible situations, with a domain of quantification that is sensitive to the evaluation situation. If the domain of quantification corresponds to the set of situations compatible with what is known at the speech situation, the interpretation of FUT will be 'epistemic' (we will not distinguish here between knowledge and beliefs). If the domain of quantification corresponds to the set of situations like the actual world up to the time of the speech situation, the interpretation of FUT will be 'temporal'.

We propose that the denotation in (15) underlies both epistemic and temporal readings for futures. According to this denotation the domain of quantification for FUT is established by an accessibility relation, represented here with MB (Modal Base) (to evoke the parallelism with a Kratzer-style Modal Base).

(15) \[[\text{FUT}]^c = \lambda s. \lambda p. \forall s': \text{MB}(s)(s') = 1, \exists s^\prime: s \leq_m s^\prime & s^\prime \leq s & p(s^\prime) = 1.\]

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\(^5\) Our proposal is preliminary, and a full discussion of the quantificational strength of FUT remains for future research.
According to (15), FUT combines with a situation s (corresponding to the topic situation). The result will be a property of propositions true of a proposition p iff in all situations s’ MB-accessible to the topic situation s, there exists a part s” that is a (modal) extension of the topic situation s and the proposition p is true in s”. In other words, in all situations MB-accessible to the topic situation there exists an extension of the topic situation in which p is true (for the regular ‘part-of’ relation between situations (≤) see Kratzer (2011), for the ‘modal-part-of’ relation see Arregui (2009)).

In (15), the evaluation of FUT is established in relation to the situations made accessible by the relevant accessibility relation notated here MB. The choices for MB inspired by Condoravdi (2003, 2003) are spelled out in (16).

(16)   a. **Epistemic accessibility:**

For any two possible situations s and s’, MB_{EP} (s)(s’) = 1 iff s’ is compatible with what is known in c (we will abbreviate with *iff s’ is an epistemic alternative to s*).

b. **Historical accessibility:**

For any two possible situations s and s’, MB_{HIS} (s)(s’) = 1 iff s’ is like the world of s up to and including the time of s and moreover obeys the laws of the world of s (we will abbreviate with *iff s’ is a historical alternative to s*).

When the domain of FUT is interpreted on the basis of epistemic accessibility as in (16a), this operator acts as an epistemic modal, quantifying over situations compatible with what is known in the context of utterance (see e.g. von Fintel and Gillies 2010 on whose
knowledge/beliefs matter, etc.). The situations quantified over must be ‘large enough’ to make true all the propositions known in the context of utterance, so accessibility is determined on the basis of contextual knowledge, not by the situation argument of FUT.

When FUT is interpreted on the basis of historical accessibility as in (16b), FUT acts as a circumstantial modal. It quantifies over situations that match the world of the topic situation s up to and including the time of this topic situation. Moreover, in this case FUT respects the laws of the world of the topic situation. This amounts to a reconstruction of a traditional historical accessibility relation (e.g. Thomason 1984, Condoravdi 2002) within the situations framework.

Let us now provide examples of the derivation of the two modal flavors of FUT in (16a-b), starting with the epistemic reading of example (14a) partially repeated as (17a).

(17)  
  a.  \(Elena \text{\ estar\'{\`a} contenta}.\)
  b.  \[
                 [\pres_i \ FUT \ [VP \ Elena \ V_{\text{estar contenta}}]]
          
        \]
  c.  \[
                  [[(17b)]^\circ \cdot g = 1 \text{ iff }
                        \forall s': \text{ s'} is an epistemic alternative to s}_i,
                        \exists s'': s'_i \leq s'' \text{ & } s'' \leq s' \text{ & Elena is happy in s''},
                        \text{defined only if s}_i \text{ temporally overlaps the speech situation in c.}
        \]

According to (17c), (17a) will be true iff in all situations s' compatible with what is known at c, there exists a (modal) 'extension' (\(\leq_m\)) of the present topic situation in which Elena is happy.

A crucial characteristic of the proposal in (15) is that it does not assign a temporal role to FUT (as stated in the introduction, it treats FUT as an ‘atemporal’
element). FUT does not shift the evaluation time of the embedded clause encoded in the VP; indeed, in (17a) the VP-eventuality will be interpreted as overlapping the speech time. All that FUT requires is that the epistemically accessible situations quantified over include a situation that modally extends the topic situation in which the embedded proposition is true. Given the reflexive nature of the (modal) part of relation, this could be a situation with the same temporal location as the topic situation that overlaps the speech time. The result is a characterization of FUT as a modal without an inherent temporal future orientation.

Let us now turn to the temporal interpretation of FUT in cases like (14b) (as noted, available only in some variants). We argue that the crucial factor to explain why such examples may be interpreted as temporally shifted towards the future is the presence of the type of Viewpoint Aspect labelled Perfective (PF). In such cases, FUT composes with a phonologically null aspectual category PF, as in (18) to be compared with the simple conditional structure in (7).

(18) PRESENT > FUTURE > PERFECTIVE > VP.

We follow standard accounts that characterize perfective aspect as locating an eventuality within a point of reference (e.g. Klein 1994, Kratzer 1998). In the situations framework adopted in this paper, PF could receive the denotation in (19) adapted from Kratzer (1998), where the VP-situation/eventuality quantified over is properly contained (<) within the reference/topic situation typically encoded in Tense.

(19) \[[[PF]] = \lambda p. \lambda s. \exists s'. p(s') = 1 \& s' < s.\]
According to (19), PF combines with a property of situations p. The result is a function that combines with a situation s to output truth iff there is a p-situation s’ that is properly included in the reference/topic situation s.

The proper inclusion constraint imposed by PF in (19) has consequences regarding the size of the reference/topic situation. The topic situation s needs to be large enough to properly include a situation s' with the property p. The size restriction inherited from the inclusion relation characteristic of PF thus puts constraints on the topic situation, which has consequences for the temporal anchoring of p, as we will see below in the derivation of (20a).

With the above background in mind, we illustrate the derivation of a sentence with simple future morphology and a temporal interpretation for FUT. Consider (14b) repeated as (20a), which receives the logical form in (20b) and the interpretation in (20c).

(20)  a.  *Elena llegará tarde.*  
    b.  [pres, [ FUT [VP Elena Vllegar tarde]]]]  
    c.  [[ (20b)]] = 1 iff

\[ \forall s': s' \text{ is a historical alternative to } s, \]
\[ \exists s'': s_i \leq s'' \land s'' \leq s' \land \exists s'''': s''' < s'' \land \text{Elena arrives late in } s'''', \]

defined only if s_i temporally overlaps the speech situation in c.

According to the above proposal, (20a) will be true with a historical accessibility relation for FUT iff in all situations s' that are like the world of the present topic situation s_i up to and including the time of the topic situation, there exists a situation s'''' of Elena arriving late properly included within a (modal) extension of the present topic situation. The shift
towards the future of the speech-time is guaranteed as a side effect of the aspectual PF. Given PF in (19), the VP-eventuality corresponding to the embedded clause must be properly included within s". As we saw, s" has the present topic situation s_i as a modal part. Nothing in the definition of modal part prevents s" from having the same temporal location as the speech event in c. However, if that were the case, a situation of Elena arriving late would not 'fit' in s" since the speech situation is too 'short' to include such an event. The upshot is that s" must overlap the speech situation but also be larger than the speech situation, with the eventuality of Elena arriving late shifted to the future of the speech situation.

When FUT is interpreted with a historical MB, as in (20c), the claim is that what has happened up to and including the topic situation, together with the laws, guarantees the truth of the embedded proposition. If we take what has happened and let the laws run their course, the inevitable result is a situation in which the embedded proposition is true. In this case, the modal flavor associated with FUT results in a type of circumstantial modality that Condoravdi (2002) dubs ‘metaphysical’. The diagram in (21) illustrates the type of situations that FUT quantifies over when it is interpreted with a historical MB.
To explain, suppose that $s_i$ in (21) is the present situation in the actual world ($w@$) that corresponds to the interpretation of tense ($\text{pres}_i$), which is the topic situation. The situation $s'$ will be in the domain of FUT in (20c): it is a situation just like the actual world $w@$ up to and including (a counterpart of) $s_i$, which is indicated by (......). (20a) will be true iff all situations that satisfy this constraint are like $s'$: there exists a situation $s''$ that extends (the counterpart of) $s_i$ in which Elena arrives late.

The modal extension relation does not require that the embedded VP-clause be true to the future of $s_i$. The truth-conditions do not rule out a case in which $s''$ has a past part of $s_i$ in which Elena arrives late. However, if that were the case, given the historical match constraint imposed by historical accessibility, Elena would have to have arrived late in the actual world. This would make modality ‘superfluous’, which we assume is independently ruled out.

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6 For a discussion of historical-match constraints, see Condoravdi’s (2002) Diversity Condition on modal domains of quantification. Here we set aside the correlation between
In sum, our proposal for ‘temporal’ readings in futures has two main ingredients. One ingredient is a FUT operator without inherent temporal properties characterized as a universal modal with variable domains of quantification, which depend on the choice of accessibility: epistemic accessibility vs. historical accessibility. The other ingredients are aspectual categories embedded under FUT, with our focus here being exclusively on Perfective Aspect (PF). Inspired by Bennett and Partee’s (1978) discussion of aspectual constraints on the present tense in English, we have argued that Perfective Aspect may determine the temporal location of the VP-eventuality, with a forward-shifting effect when combined with FUT.

2.3 IMPF

As noted in the introduction, we build on the proposal for the interpretation of imperfective morphology in Arregui, Rivero and Salanova (2014) (ARS from now on). In that view, imperfective morphology corresponds to an IMPF operator, which in Romance combines with a PAST that in our approach provides a topic situation. On this view, the LF for a Romance imperfect tense sentence is illustrated in (22b):

(22) a. *Elena cantaba.*

Elena sing.Impf

‘Elena was singing/ sang.’

---

the temporal orientation of the embedded VP-clause and type of modal flavor (accessibility) allowed.
b. \[ \text{past}, \text{IMPF} \left[ \text{VP Elena Vcanar} \right] \]

As in the case of future morphology, imperfective morphology can give rise to numerous flavors. Following Cipria and Roberts (2000), ARS treat IMPF as a universal modal, as in (23), with flavors determined by the domain of quantification characterized via an accessibility relation notated MB. Different languages make different accessibility relations available to IMPF.

(23) \[ \text{[[IMPF]] = } \lambda p. \lambda s. \forall s': \text{MB}(s)(s') = 1, p(s') = 1. \]

According to (23), IMPF combines with a property of situations p and a topic situation s, resulting in truth iff all situations s’ that are MB-accessible to s are also situations in which p is true.

As in the case of FUT, the effects of IMPF will depend on the modal domain of quantification identified by MB. As before, the proposal is that the different flavors can be derived from variation in the characterization of MB, as illustrated in (24) analyzed in (27a-c), (28) analyzed as in (30), and (33) analyzed as in (34). We refer the reader to ARS for a more extensive discussion.

First, imperfective morphology can give rise to interpretations according to which eventualities are located in the past as repetitions (24), or one-time deals (25):

(24) \text{Cuando entré a la habitación, Susana hablaba con Pedro.}

When enter.Pret to the room, Susana speak.Impf with Pedro

‘When I entered the room, Susan was speaking with Pedro.’

(25) \text{Al año siguiente, Susana construía una casa.}

The year next, Susan build.Impf a house
The following year, Susana was building a house.’

We understand (24) to report that when I entered the room, Susana was in the process of talking to Pedro. Talking was going on throughout my entering of the room. Following ARS, we capture this interpretation with the accessibility relation dubbed 'Ongoing' in (26) that delivers as domain of quantification the subsituations of the topic situation.

(26) **Ongoing accessibility**

For any two situations s and s’, $[[\text{MB}_{\text{ongoing}}]](s)(s') = 1$

iff s’ is a part of s (s’< s)

On this view, (24) is analyzed as in (27a-c).

(27) a. *Susana hablaba con Pedro.*

b. $[\text{past}_{\text{i}}[\text{IMPF} \ [\text{Susana Vhablar con Pedro}]]]

c. $[[\text{27b}]]^c = 1$ iff

\[ \forall s': s'< s_i ( & s_i < s_{\text{entered-the-room}}) , \]

Susana talked to Pedro in s’,

defined only if $s_i$ precedes the speech situation in c.

According to (27c), (27a) will be true iff all situations that are subpart of the salient past topic situation of me entering the room are situations in which Susana was talking to Pedro, under the assumption that the granularity of the domain of quantification is constrained by the event predicate in the nuclear scope. This guarantees that talking was happening throughout my coming into the room, no matter how long that took. When the past topic situation is small, only eventualities with very fine granularity will be possible in the scope of IMPF, and these will naturally ‘spill-over’ the topic situation, giving rise
to the intuition that imperfectives situate a point of reference ‘within’ a VP-eventuality, in the tradition of Smith (1991), and Klein (1994).

Ongoing accessibility can also account for examples like (25), in which an imperfective reports that in the following year Susana built a house, a telic reading that is non-repetitive. This interpretation is the result of a topic situation included within the time-span of the following year that is only large enough to accommodate one event of Susana building a house. In this ‘limit case’, in spite of universal quantification over subsituations, only one house-building will be located within the past topic situation.

ARS discuss additional readings for IMPF, but in this paper we highlight only two others, which involve the notion of ‘inertia’. A first kind of inertia reading classically associated with IMPF corresponds to events that have started, and gives rise to flavors related to the ‘imperfective paradox’ (Dowty 1977, 1979), as illustrated in (28).

(28) \textit{El perro cruzaba la calle (cuando lo atropelló un camión).} \newline
The dog cross.Impf the street (when it run.over a truck) \newline‘The dog was crossing the street (when it was run over by a truck).’

The interpretation of IMPF in (28) can be captured by an accessibility relation that characterizes as domain of quantification situations that are ‘inertia situations’ for the past topic situation: those in which the events already in progress in the topic situation continue without interruption (possibly invoking counterparts), as in (29).

(29) \underline{Event-inertia accessibility} \newlineFor any two situations \(s\) and \(s'\), \(\text{MBe-inertia}(s) (s') = 1\)
iff s' is an E-inertia situation for s (where s' is an E-inertia situation for s iff all the events in progress in s continue in s').

With the accessibility relation in (29), (28) will be interpreted as in (30b-c):

(30) a. *El perro cruzaba la calle.*
    b. [ past\_t [IMPF [VP el perro V\_cruzar la calle]]]
    c. \[ [ (30b)]^c = 1 \text{ iff} \]

∀s': s' is an E-inertia situation for s,

the dog crossed the road in s',

defined only if s\_t precedes the speech situation in c.

In the ‘imperfective paradox’ reading, (30a) will be true iff all situations that are inertia situations for the past topic situations are situations in which the dog crossed the road.

In addition to Event-inertia in (29), ARS propose ‘Preparatory-inertia’ to capture imperfectives used in relation to past plans for VP-eventualities, as in (31). In the Preparatory-inertia accessibility relation in (31) the domain of quantification is identified with situations in which the plans made in the topic situation are carried out (setting aside the problem of distinguishing between events and plans given a predicate of events).

What is ongoing in the past in (31) is the plan, not the eventuality itself.\(^7\)

(31) **Preparatory-inertia accessibility**

For any two situations s and s', MB\_P-inertia (s)(s') = 1

---

\(^7\) There are well-known problems with inertia-type accessibility relations, which following ARS, we set aside here (see e.g. Landman 1992, Portner 1998).
iff s' is a P-inertia situation for s (where s' is a P-inertia situation for s iff all plans/preparations in progress in s continue in s').

The Preparatory-inertia accessibility relation in (31) provides an account of the ‘plan in the past’ readings familiar from many Romance languages now illustrated in Spanish (32):

(32)  *Ibamos a París la semana que viene.*

Going.Impf to Paris the week that comes.

‘We were going to Paris next week.’

The example in (32) can report that we used to have a plan, which we have possibly given up on by now, to go to Paris next week. In this case, the VP-eventuality corresponding to the embedded clause has not technically been set in motion so no travelling has taken place, but preparations for the event are already in place along the lines of (33) (Cipria and Roberts (2000) consider this case as an example of event-inertia, but ARS argue against this view and in favor of the preparatory type in (31)).

(33)  a.  *Ibamos a París la semana que viene.*

b.  

\[
\text{[ past; [IMPF [proj \text{ V} \text{ir a París la semana que viene}]]]}
\]

c.  

\[
[[ (33b)]] = 1 \text{ iff }
\]

\(\forall s': s' \text{ is a P-inertia situation for } s,\)

we go to Paris next week in s',

defined only if s, precedes the speech situation in c.
According to (33c), the sentence in (33a) will be true iff in all situations s’ in which the plans set in motion in the past topic situation sᵢ continue without interruptions, we go to Paris next week.

In sum, IMPF is a universal modal quantifier that coupled to a series of accessibility relations/Modal Bases captures familiar readings that verbs in the imperfect tense display across the Romance family. Such accessibility relations include an ongoing type, an ‘imperfective paradox’ type, and a type associated with intentional / futurate readings involving past plans. A core assumption in this paper is that Spanish simple conditional morphology obligatorily encodes the IMPF operator found in imperfects, located under the scope of a modal ‘atemporal’ FUT as in (7). In the next section we will see how IMPF and its various accessibility relations are at work in the case of simple conditionals.

3. **Deriving readings in Simple Conditionals in Spanish**

The guiding idea in this section is that readings for simple conditionals, which the Introduction dubs ‘inferential’ with a past temporal orientation , (1b), or conditionals with a future orientation for plans, (8), or ‘future-in-the-past’ conditionals with a prospective orientation with respect to some past time , (9), all result in Spanish from the interaction of one of the two flavors of FUT and one of the flavors available to IMPF already discussed in Section 2. Recall that these readings of conditional verbs do not evoke a homogeneous picture from the perspective of semantic variation within Romance. First, Spanish differs from French and Italian regarding inferential readings,
which simple conditionals in the last two languages do not display. Second, Spanish resembles both French and Italian as to conditional readings for future plans. Third, Spanish resembles French as to ‘future-in-the-past’ readings and contrasts with Italian, where simple conditionals lack such interpretations. We offer some speculative remarks on how such differences would fit within our analysis.

3.1 Inferentials

We begin with inferentials. We propose that inferential readings in simple conditionals with a past temporal orientation may result from the interaction of PAST as referential pronoun, the epistemic interpretation of FUT combining the denotation in (15) and the epistemic accessibility relation in (16a), and two different flavors available to IMPF: (a) the ongoing type tied to the accessibility relation in (26), and (b) the ‘imperfective paradox’ type tied to the inertia accessibility relation in (29).

Let us examine the derivation of an inferential with an ongoing flavor with the toy example in (34a).

(34) a. Elena estaría contenta (ayer).

b. [past, [ FUT_{EP} [IMPF_{ongoing} [Elena V_estar contenta]]]]

c. [[ (34b)]]^{c-g} = 1 iff
\forall s': s' is an epistemic alternative to s,
\exists s'': s'' \leq s' & \forall s'': s'' < s'', Elena is happy in s'', defined only if s_i temporally precedes the speech situation in c.
According to (34c), the sentence in (34a) will be true iff in all situations s' compatible with what is known in c there exists a situation s" that (modally) extends the past topic situation s, such that in all subsituations of s", Elena is happy. In this way, by combining PAST, FUT, and an ongoing IMPF, we obtain the reading according to which, given what we know, Elena was happy in the past.

We also find inferential conditionals with a different flavor that respond to the event-inertia accessibility for IMPF in (29). We can see this with examples that set up typical ‘imperfective paradox’ scenarios parallel to the canonical imperfect sentences discussed in Section 2. To this effect, consider (35b).

\[
\begin{align*}
(35) & \quad \text{a. A: } & \text{¿Cómo es posible que atropellaran al perro?} \\
& & \text{How is possible that (they).run.over to.the dog?} \\
& & \text{‘How could it be that the dog was run over?’} \\
& \quad \text{b. B: } & \text{No sé. Cruzaría la avenida.} \\
& & \text{Not know. Cross.Cond the avenue} \\
& & \text{‘I do not know. It must have been crossing the avenue.’}
\end{align*}
\]

B’s response in (35b) is a speculation as to why the dog was run over: given what the speaker knows, the dog must have been crossing the avenue. In this scenario, something going on in the actual world (the topic situation) anchors an epistemic claim about events set in motion, as shown in (36a-c).

\[
\begin{align*}
(36) & \quad \text{a. El perro cruzaría la avenida.} \\
& \quad \text{b. } & \text{[past, [FUT_Ep [IMPF_E-inertia [el perro V_cruzar la avenida]]]]} \\
& \quad \text{c. } & \text{[[ (36b) ]]^c = 1 iff}
\end{align*}
\]
∀s': s' is an epistemic alternative to s,

∃s": s_i ≤ s" & s" ≤ s' & ∀s'": s"" is an E-inertia situation for s",

the dog crosses the avenue in s"", defined only if s_i temporally precedes the speech situation in c.

Examples like (35a-36b) provide further illustration of how the variability in the interpretation of simple conditional morphology can be related to variability in the interpretation of its IMPF component when under the scope of an epistemic FUT.

As stated, French and Italian simple conditionals contrast with Spanish, and lack inferential readings with a past temporal orientation with ‘ongoing’ or ‘imperfective paradox’ flavors. Analyses for French and Italian are beyond our scope, but we briefly speculate on possible sources for this variation within our approach. Italian simple conditionals do not contain IMPF. The temporal effects of Spanish inferentials derive from IMPF interacting with PAST encoding a topic situation, and this results in VP-eventualities that are not world-mates of the topic situation but, intuitively speaking, coincide temporally with the topic situation when accessibility for IMPF is ongoing, or modally extend the topic situation in the ‘imperfective paradox’ flavor. Thus, if IMPF interacting with PAST is the clue to past inferential conditionals in Spanish, we do not expect Italian simple conditional morphology to give rise to such readings.

Regarding French, there is no reason to assume that simple conditionals do not contain IMPF. However, it has been noted in the literature that French futures do not standardly allow for an epistemic reading (but see e.g. (Dendale 2001), (de Saussure and Morency 2011) and (Mari 2016) for discussion). Given that inferential readings of
conditionals combine a FUT with an epistemic accessibility relation and IMPF, such readings are expected to be absent in French, where epistemic accessibility is not standardly available to FUT.

3.2. **Future-oriented conditionals (intentionals)**

Simple conditionals can be future-oriented in Spanish, as in (8), in apparent similarity with French, and Italian. We propose that in Spanish this type of reading is representative of still another option that relies on some flavor of IMPF in interaction with an epistemic FUT. To this effect, consider the contrast between the toy examples in (37a) and (37b).

(37)  

a. _Elena llegaba mañana._  

Elena arrive.Impf tomorrow  

‘Elena was arriving tomorrow.’  

b. _Elena llegaría mañana._  

Elena arrive.Cond tomorrow  

‘Elena must have been arriving tomorrow.’  

As we saw in Section 2.3, imperfect examples like (37a) point to plans in progress in the past for someone to arrive tomorrow, a reading arising from the Preparatory-Inertia accessibility relation in (31). The example with conditional morphology in (37b) introduces some epistemic distance from the claim in the imperfect. In choosing (37b) the speaker indicates that as far as s/he knows, this was what was supposed to happen. As is standard in the case of canonical epistemic modals, epistemic FUT gives rise to a
weakening effect: the speaker has no direct evidence of this plan, it is something that has been inferred.

We propose that in Spanish, the derivation of the conditional flavor in (37b) takes place through the interaction of FUT in (15) with the epistemic accessibility relation in (16a), and IMPF in (23) with the Preparatory-inertia accessibility relation in (31), as shown in (38a-c).

(38) a. *Elena llegaría mañana.*

b. \[[\text{past}_i [\text{FUT}_{\text{Ep}} [\text{IMPF}_{\text{P-inertia}} [\text{Elena V llegar mañana}]]]]\]

c. \[[[ (38b)]]_c = 1 \text{ iff } \\
\forall s^\prime: s^\prime \text{ is an epistemic alternative to } s_i, \\
\exists s^\prime\prime: s_i \leq s^\prime\prime \land s_i \leq s^\prime \land \forall s^\prime\prime\prime: s^\prime\prime\prime \text{ is a P-inertia situation for } s^\prime\prime\prime,

Elena arrives in s''', defined only if s_i temporally precedes the speech situation in c.

According to (38c), the sentence in (38a) is true iff in all situations compatible with what is known at c, there is a situation s'' that (modally) extends the past topic situation s_i such that in all the continuations s'''' in which plans progress uninterrupted, Elena arrives tomorrow. In this way, the analysis cashes-out the intuition that the sentence claims that, given what is known, plans have been made that make it expected that Elena arrive tomorrow. The past tense associated with IMPF anchors the temporal location of what, given what is known, are the plans/preparations that have been set in motion for Elena’s arrival tomorrow.
Let us now briefly speculate on what the parallelism between Spanish, French and Italian could possibly hide in this case. The compositional derivation of this apparently shared reading cannot be the same since simple conditionals are not composed of identical semantic ingredients in these three languages. On the one hand, if French conditionals are built on the basis of some form of prospective temporal-like operator, as we suggested in passing earlier, we expect them to display future-oriented readings without further ado. On the other hand, if Italian simple conditionals are based on a perfective-like morphology (i.e. PF), not on IMPF, as their etymology suggests, we would expect them to display future-oriented readings under the assumption that they combine an atemporal FUT very roughly along the lines proposed in (15) and (18), and compose this operator with a PF aspectual operator along the lines of (19) in parallel to our proposals on Spanish futures such as (20) in Section 2.2, where PF is the forward-shifting category. On this view, simple conditionals in Italian seem reminiscent of perfective presents in languages like Russian, which are limited to future-oriented readings, or to perfective futures in South Slavic languages like Slovenian, whose reading is ‘temporal’ not epistemic (see Rivero and Sheppard 2016 for discussion).

4.2 Future in the past conditionals

In this section we address Future-in-the-past readings. Recall that in this case, Spanish is apparently similar to French, and both languages differ from Italian, where simple conditionals lack the reading. The similarity is illustrated in (39a-b) adapted from (Fouilloux 2006), with morpheme-by-morpheme glosses and translations.
       
       In 1950 after the disaster, J. return to his village
       
       ‘In 1950, after the disaster, Julio would return to his village.’

       For Spanish, we propose that future-in-the past readings build on the historical accessibility relation for FUT in (16b). This is the accessibility responsible for anchoring the so-called temporal readings of FUT to the evaluation world, in contrast with the epistemic accessibility relation in (16a) at the basis of inferential conditionals in Section 3.1 and future-oriented conditionals in Section 3.2. Thus, we view future-in-the past conditionals as invoking circumstantial modality and giving rise to ‘temporal’ readings.

       Future-in-the-past readings have long been associated with embedding contexts in which conditional morphology appears in the scope of a past attitude verb. Given the parallelisms noted between conditional and imperfect morphology, we begin our proposal with a detour into imperfects embedded under propositional verbs. This will provide a background for parallel embedded conditionals, which will be shown to be relevantly similar to future-in-the-past conditionals in independent clauses such as (39b).

       To this effect first consider (40a-b).

(40)  a.  *Francisco pensaba que estaba cansado.*
       
       ‘Francisco thought that he was tired.’

       b.  *[pastj [Francisco pensaba [que i Ø, [IMPF [ proFrancisco Vestar cansado]]]]]]
On independent grounds, we know from the literature that when past forms are under the scope of a past tense in the matrix clause as in (40a), the embedded past form can lose its temporal past-shifting interpretation, giving rise to so-called ‘sequence of tense’ phenomena.

In (40a-b), a past imperfective is embedded under a matrix past tense, and the embedded clause can be interpreted as having as temporal anchor the past eventuality reported by the matrix clause. In this reading, the embedded past tense does not seem to make a contribution towards the semantic interpretation, as there is no semantic past in the embedded clause.

Following Kratzer (1998), we characterize the embedded tense in (40a-b) as a ‘zero’ tense with no semantic tense features: it denotes a situation but does not restrict its temporal location. In other words, the embedded past feature is considered a reflex of the matrix past tense, displaying morphological agreement without true past semantics (for discussion within formal semantics, see a.o. Abusch 1997, Ogihara 1989, Kratzer 1998, Heim 1994, von Stechow 2009).

The formula in (41) sketches a simplified proposal for the interpretation of (40a-b), focusing only on temporal relations, coupled to the assumption that the embedded IMPF is interpreted with an ongoing accessibility relation.

(41) \[ [[(40b)]]^c = 1 \text{ iff} \]

\[ \forall w: \text{w is compatible with what Francisco thought in } s_j, \]

\[ \exists s: s < w \& s \text{ overlaps (a counterpart of) } s_j \& \forall s': s' < s, \text{Franciso is tired at } s'. \]
According to (41), the sentence in (40a) will be true iff in all worlds w compatible with what Francisco thought in sj, there is a situation s overlapping a counterpart of sj such that all situations s' that are subparts of s are also situations in which Francisco is tired.

With the above simplified perspective on imperfective aspect in the scope of a past tense, we can now turn to the future-in-the-past interpretation available to simple conditionals also in embedding contexts. To this effect, let us consider (42), where the crucial dimension is the conditional embedded under the past propositional verb (IMPF aspect in the matrix clause may be ignored, as it will not be relevant for our proposals).

(42) a. *Francisco pensaba que vendría ayer /hoy /mañana.*

Francisco think.Impf that come.Cond yesterday/ today/tomorrow.

‘Francisco thought that he would arrive yesterday/ today/ tomorrow.’

b. *[pastj [Francisco pensaba [que i [Ø] FUT [IMPF [proFrancisco Vvenir ayer /hoy/ mañana]]]]]]]

The interpretation of (42a) is that in the past Francisco thought that he would come yesterday/today/tomorrow. As the variability in the choice of adverbs indicates, the temporal location of the embedded clause in the conditional is free with respect to the speech time, and need only be future with respect to the time of Francisco’s thinking. In the analysis in (42b), Tense in the embedded clause is bound by a binding index (i), and the result is that in spite of the presence of a topic situation in the embedded clause, the clause denotes a property of situations able to serve as argument for the matrix verb (as usual, we treat tense features as presupposition triggers).
Following our proposal on embedded imperfect tenses in (41), we would like to suggest that what we find in (42a) is as expected: embedded past morphology is also bleached of semantic content as indicated by (Æ). The difference between conditional (42) and the imperfect example in (41a) is that, in addition to an embedded imperfective (i.e. IMPF), (42) also contains an embedded FUT.

The proposal in (43) sketches how FUT in (42) could be incorporated into the interpretation based on a historical accessibility relation such as (16b), within the assumption that IMPF is here interpreted with an ongoing MB (an inertia accessibility relation also seems possible).

$[(42b)]^{c,s} = 1$ iff

$\forall w$: w is compatible with what Francisco thought in $s_j$, 

$\exists s$: s $\prec$ w & s overlaps (a counterpart of) $s_j$ & 

$\forall s'$: $s'$ is a historical alternative to s, 

$\exists s'': s \preceq_m s'$$ \land$$ s'' \preceq s' \land \forall s'''$: $s'$$ \preceq s''$, Francisco arrives in $s'''$, 

defined only if $s_j$ precedes the speech situation in c.

The proposal in (43) blends together the contribution of (I) the embedding verb think, which quantifies over possible worlds compatible with what Francisco thought in $s_j$, (II) the embedded operator FUT, which quantifies over possible situations like the ‘thinking’-worlds up to the time of $s_j$, and (III) the embedded operator IMPF, which quantifies over subparts of the situation introduced via existential quantification by FUT. The result is that (42) will be true iff in all the worlds w corresponding to what Francisco thought in $s_j$, there exists a situation s overlapping $s_j$ such that all situations s’ that match the ‘thinking’
worlds up to s contain a situation s”" with subparts in which Francisco arrives today/yesterday/tomorrow.\textsuperscript{8} If the situation s is relatively small, only one arrival will be possible -in spite of the universal quantifier introduced by IMPF-, giving rise to the observed ‘single’ episodic reading. No order is imposed between s and the speech event (c), and thus different types of indexical adverbials are possible, as illustrated in (42a) .

The proposal presented here, according to which tense information in conditionals is bleached of its interpretation in the scope of past tense could potentially prove of interest for other cases in which past does not appear to play a role, as in conditional verbs in the consequent of present oriented counterfactual conditional constructions like (44).

(44) \textit{Si fuera verano, haría calor (ahora).} \textbf{[if be.Past.Subj summer, make.Cond hot (now)]}

‘If it were summer, it would be hot (now).’

The counterfactual conditional construction in (44) is understood as claiming that if it were summer now, it would also be hot now. In spite of past morphology in both antecedent and consequent clauses (subjunctive and simple conditional respectively), past does not appear to make a contribution to its semantics. The puzzle raised by the role of past morphology in counterfactual conditionals has been subject of much recent debate.

\textsuperscript{8} There is a potentially interesting comparison to be made with the case in which IMPF is interpreted with an inertia accessibility relation quantifying over situations in which events reach completion or plans reach fruition. We leave this for future work.
One of the views put forward is that in counterfactuals, a past tense c-commands the entire conditional structure, affecting the domain of interpretation. While it is not our objective to say anything substantial about the interpretation of counterfactuals or the role of FUT morphology in them, it is of interest that in configurations like (45) we would actually expect past in the simple conditional verb to be bleached of its interpretation, just as we saw in (42).

(45)  
\[
\begin{align*}
\text{a.} & \quad \text{past } [\text{si fuera verano} ] \ [\text{haría calor}] \\
\text{b.} & \quad \text{past } [\text{if } \ldots \varnothing_{\text{past}} \ldots \ldots] \ [\ldots \varnothing_{\text{past}} \ldots \ldots]
\end{align*}
\]

A view that allows past in simple conditionals to be bleached of its interpretation when c-commanded by a past matrix verb thus could potentially provide interesting insights into the interpretation of (45a).

Finally, our analysis of future-in-the-past sentences provides insights into cases where simple conditionals are not embedded, including (39b) partially repeated in (46).

(46)  \textit{En 1950, tras el desastre, Julio volvería a su pueblo.}

In 1950, after the disaster, J. \textsc{return}.\textsc{Cond}.to his village

‘In 1950, after the disaster, Julio would return to his village.’

In examples like (46), the adverbial situates the topic situation of the conditional in the past (similarly to the effect obtained by the matrix-clause eventuality in examples like (42)). The interpretation of past anchors the claim made by FUT on the basis of historical accessibility, as illustrated in (47):

(47)  
\[
\begin{align*}
\text{a.} & \quad \text{En 1950, Julio volvería a su pueblo.} \\
\text{b.} & \quad [\text{past}, [\text{FUT}_{\text{HIS}} [\text{IMPF}_{\text{ongoing}} [\text{Julio V volver a su pueblo}]])]
\end{align*}
\]
c. \[[(47b)]]^{c-g} = 1 \text{ iff}
\begin{align*}
\forall s': s' \text{ is a historical alternative to } s_i, \\
\exists s'': s_i \leq_m s'' & \land s'' \leq s' & \forall s''': s'' < s'', \text{ Julio returns to his village in } s''', \\
\text{defined only if } s_i \text{ temporally precedes the speech situation in } c & \land s_i \leq 1950.
\end{align*}

As indicated earlier, (47a) will be true even if Julio only returns to his village once in the situations quantified over, as this simply means that \( s'' \) will only be 'big' enough to accommodate one such eventuality. The past topic situation can be anaphorically linked to 1950, as is standard for past associated with IMPF.

Speculating on differences with French and Italian, a Spanish ‘historical/temporal future’ combined with IMPF may give similar results to a prospective operator for French conditionals, so we do not expect French to differ from Spanish. However, the absence of IMPF in Italian should (again) eliminate future-in-the-past readings in this language.

4. **Summary and conclusions**

Our focus on this paper has been on the compositional interpretation of Spanish simple conditional morphology in independent sentences. We have argued that such morphology consists of a past component encoding the topic situation, a future operator FUT with two types of accessibility/flavor, and an imperfective operator IMPF with several types of accessibility/flavor.

Couched in the framework of situations semantics while in intuitive harmony with the grammatical tradition, we have provided a detailed discussion of a range of
interpretative flavors associated with this conditional morphology, and a proposal to derive such interpretations from the interaction between FUT and IMPF as operators with universal force. First, conditionals interpreted as inferences with a past temporal orientation result in our analysis from FUT as an epistemic modal when it combines with an IMPF operator that displays either an ongoing flavor or an imperfective-paradox flavor. Second, Spanish conditionals with a future temporal orientation also result from FUT as an epistemic modal, but this time the modal composes with an IMPF with an accessibility relation involving past plans. Third, we propose a ‘temporal’ account for future-in-the-past readings, which consists in associating FUT with a historical as opposed to an epistemic accessibility and coupling this ‘temporal’ modal both to a semantically (possibly) ‘zero’ past component, and to an IMPF compatible with an ongoing flavor (other flavors also seem possible).

Our situations semantic analysis offers as an advantage a unified view on modal, aspectual, and temporal displacement and thus a solution to the long-standing challenge posed by categories that operate across these three domains. The proposal offers the additional advantage of accounting for variations in the interpretation of conditional in Spanish on the basis of independently motivated properties of FUT and IMPF in this language. It also offers interesting insights into cross-linguistic variation within the Romance family. While the literature often groups together conditionals across Romance, it has been observed that this is a source of cross-linguistic variation. We have speculated that such variation can be traced to two sources: (i) variation associated with FUT or
IMPF across the language family, or (ii) variation in the morphosyntactic composition of conditional forms.

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