

# If you want a future, darling, why don't you get a past?

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## Abstract

In this paper, we argue that (i) the distribution of futurates can be richer than is observed for English and (ii) that present tense futurates come along with a Certainty Condition (CC) that the speaker appears confident that the relevant event will hold, but (iii) past futurates lack this CC, and can actually only be felicitously uttered if the speaker is not certain about the future status of this event.

We take the cross-linguistic distribution and behaviour of present and past tense futurates to follow from the interplay of three factors: (i) that every grammatical tense introduces an epistemic necessity modal that takes scope below grammatical tense; that the modal base of this modal is based on settledness; and (iii) that pragmatic competition takes place between present and past tense, after Altshuler and Schwarzschild (2013).

This analysis combines insights voiced in Condoravdi (2002), Kaufmann (2005) and Copley (2008, et seq.), but does not face the particular problems that these other accounts are challenged by.

## 1 Futurates: future reference without future morphology

Futurates are utterances about the future that are constructed without employing future morphology. In contrast to future utterances that include *will* in English or some sort of forward looking modal, as in (1), futurates are morphologically peculiar as they are in fact present or past tense utterances that talk about the future and allow future adverbials (2).

- (1) a. We will have lunch together (tomorrow).  
b. We shall/ must/ may/ might/ have lunch together ( tomorrow).
- (2) a. We are having lunch together (tomorrow).  
b. We were having lunch together (tomorrow).

Future reference of *will* vis a vis other forward looking modals has received ample attention in the literature (see, e.g. Dowty 1977, Comrie 1985, Steedmann 2002, Condoravdi 2002, Kaufmann 2005, Giannakidou and Mari 2018, del Prete 2017). A primary matter of debate has been whether *will* is purely modal, or a hybrid of both tense and modality (see recent work by Cariani 2021), but irrespective of the verdict in that domain, there are currently hardly any accounts that treat it as a purely temporal morpheme (pace Kissine 2008).

In this paper, we zoom in on futurates, which, as mentioned, make future reference without overt future (modal) morphology. Futurates have received some amount of attention in the literature (see, e.g. Garey 1957, Vendler 1957, 1967, Zandvoort 1965, Goodman 1973, Vetter 1973, Wekker 1976, Lyons 1977, Dowty 1979, Moens 1987, and more recently in Kaufmann 2005 and Copley 2008, 2014, 2018). Nevertheless, the semantic behaviour and distribution of futurates has not been properly understood in every respect yet.

First, the truth of a sentence with a present or past interpretation usually unveils itself in correspondence to reality (see (3)).

- (3) a. We had lunch together at 2 o'clock yesterday.
- b. We are having lunch together at the moment.

But as the future is open, the truth of a future or futurate utterance depends on a reality that is yet to unveil itself. What is the contribution then of a present past tense morpheme to future meaning? What makes past and present morphemes useful as means for future expression? And what allows past and present morphemes to express a future meaning in the first place?

Second, uttering a futurate, at least in the present tense, brings about a so-called Certainty Condition (CC, after Kaufmann 2005), that conveys that the speaker, already at the time of utterance, seems certain that the denoted event (or the negation thereof) will happen indeed (4):

- (4) a. The Red Sox are playing the Yankees tomorrow, (#but they won't / might not / I don't think they will).
- b. The Red Sox aren't playing the Yankees tomorrow, (#but they will / might / I think they will).

At the same time, past futurates appear to lack this CC. As shown in (5), the continuations in (4) are perfectly fine. In fact, uttering a past futurate completely out of the blue sounds even unnatural without such a continuation.

- (5) a. The Red Sox were playing the Yankees tomorrow, (but they won't/ might not/ I don't think they will/ I'm not sure anymore that they will).
- b. The Red Sox weren't playing the Yankees tomorrow, (but now they will/ might / I think they will).

Finally, futurates in English convey that a future-oriented eventuality is planned, scheduled, or otherwise determined (cf. Copley 2008),

as shown in (6) (taken from Copley 2008, based on similar examples by Lakoff 1971 who actually favoured the Yankees). Choosing a predicate whose outcome cannot be determined at the time of utterance renders the futurate bad, as shown in (7) (unless the match is fixed).

- (6) a. The Red Sox *play* the Yankees tomorrow.  
b. The Red Sox *are playing* the Yankees tomorrow. (Copley 2008)
- (7) a. #The Red Sox *defeat* the Yankees tomorrow.  
b. #The Red Sox *are defeating* the Yankees tomorrow. (Copley 2008)

However, in other languages, such a restriction appears to be absent. For instance, in Dutch, such examples are completely natural, even though Dutch, like English, also has a future auxiliary at its disposal (see (8)-(9)):

- (8) Morgen speelt Nederland tegen Duitsland.  
Tomorrow plays Holland against Germany  
'Tomorrow Holland will play against Germany'.
- (9) Morgen verslaat Nederland Duitsland.  
Tomorrow beats Holland Germany  
'Tomorrow Holland will beat Germany'.

In this article we address the following questions: (i) Why is (past and present) tense morphology able to make reference to events that happen at a later time? (ii) Why do present tense futurates come about with a CC, but past futurates do not? And (iii) why is it that there is cross-linguistic variation with respect to the kind of predicates that can be used in a futurate.

In order to do so, in Section 2, we first discuss and assess a recent, prominent proposal that treats futurates in terms of causality (Copley 2018). While this proposal is able to handle the facts concerning the CC and the differences between present and past futurates, it is unable to account for the attested cross-linguistic differences, and appears too restrictive with respect to the types of predicates that may appear even in English futurates. In Section 3, we present an alternative proposal (Kaufmann 2005) for the semantics of futurates that can deal with the observed cross-linguistic variation, as well as with the CC, but can only do so for present futurates and not for past futurates. To remedy this, in Section 4, we will modify Kaufmann's (2005) proposal, who argues that every instance of tense is inherently modal, albeit that for us this modal is not directly embedded under the speech index, but rather under grammatical tense itself. In addition, we will assume that this modal operates on a modal base that is determined by settledness (and not by causality), which opens up the space for cross-linguistic variation. We will show that with these two ingredients, in accordance with standard pragmatic competition between the usage of present and past tense morphology, the above-mentioned questions can be straightforwardly addressed. Section 5 concludes.

## 2 Futurates as causatives

### 2.1 Copley (2018)

According to Copley (2008), futurates are not just arbitrary utterances where a future reading is yielded without future morphology. At least in English, futurates come about with particular semantic/pragmatic restrictions. Generally speaking, futurates refer to planned or settled eventualities (though these are not the only available readings). For this reason, Copley (2008) assumes that futurates presuppose the presence of some director who has the ability to ensure that a particular event (a so-called p-eventuality) will happen, and assert that this director is committed to the p-eventuality getting realized. As baseball games can be planned, but not their outcomes, this accounts for the contrast in (6):

- (10) a. The Red Sox are playing the Yankees tomorrow.  
b. #The Red Sox are defeating the Yankees tomorrow.

For Copley (2008), the restriction to planned activities is not the only constraint that (present) tense futurates are subject to. For her, (present) tense futurates also presuppose speaker's confidence in the director's ability to realize the plan. This, in turn, accounts for the unavailability of the continuations in (11).

- (11) a. The Red Sox are playing the Yankees tomorrow (#but they won't/ might not/ I don't think they will).  
b. The Red Sox aren't playing the Yankees tomorrow (#but they will/ might / I think they will).

However, planned events readings are not the only type of readings that futurates can give rise to. Another type of reading involves natural dispositions, as exemplified in (12).

- (12) The sun rises tomorrow at 6.

Clearly, there is no director involved in the sun's rising. For this reason, Copley (2018) generalizes her account and takes futurates to take a double eventuality structure, where there is a cause and an effect, and the p-eventuality is true of the effect.

Concretely, Copley (2018) argues that a proper representation of futurates should involve two, syntactically encoded eventualities, of which the higher one is a stative denoting the plan or intention. It is the stative cause that occurs in the present/past while the effect occurs at a future time. That this higher eventuality is indeed stative can be seen in (6), where with the simple present the plan seems somehow permanent, while the corresponding progressive futurate suggests that the plan is rather temporary. Also the fact that (13) is ungrammatical suggests this, as such natural dispositions are permanent and not temporary. A futurate, for Copley, thus makes reference both to (present/past) tense and to a future with respect to that tense. The truth of a futurate is evaluated by assessing the truth of that higher, stative predicate, not of the p-eventuality.

(13) \*The sun is rising tomorrow at 6.

To account for planned event readings of futurates, Copley (2018) now takes the existence of a director to be only implicit and not encoded in the syntax. The director's presence is inferred, since apart from natural dispositions the cause must be an intention and intentions must be held by animate entities. Since intentions presuppose the ability of the agent to control the outcome of their own action (Farkas 1988), the CC that emerges in the usage of such futurates, follows straightforwardly for Copley.

To account for futurates expressing natural dispositions, Copley argues, following ideas from Heim (1992), that the same causative structure underlies them – the only difference being that the nature of the intentional relation is not a preferential relation where the state is some kind of preference for the p-eventuality to happen, but rather a dispositional relation where the intentional state is defined as some kind of disposition to cause an eventuality that meets the eventuality description.

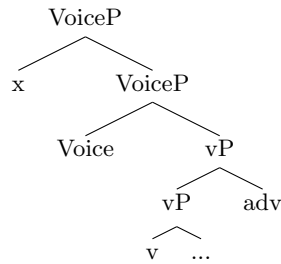
Thus, in both cases, the usage of a futurate conveys that p- eventualities are treated as if they are settled to happen (i.e. the CC) where for Copley this certainty (or high probability or likelihood) is not about the outcome eventuality itself, but is crucially about the plan or the physical disposition (Copley 2018: 17).

## 2.2 Challenges

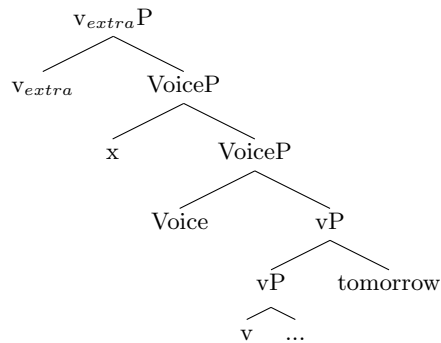
Copley (2018) is a major improvement over Copley (2008) in the sense that it provides a unified account for both futurates denoting planned events and futurates denoting natural dispositions, and it no longer has to postulate the presence of directors in the syntax. Also, the CC for the present tense follows straightforwardly, as it should be clear (i.e., planned or intended) at grammatical tense whether the p-eventuality should hold later on or not. The fact that past futurates lack this CC can then be taken to be the result of the fact that the plan/intention seemed certain at a time prior to the time of utterance, but not necessarily anymore at the time of utterance. Pragmatic competition, would render a past futurate only licit if the present futurate (with the CC) would no longer be accurate.

Nevertheless, Copley's approach still faces certain problems. In this subsection, we discuss three of these. First, the syntax of present futurates in Copley's approach is richer than that of corresponding non-futurate present tense examples – it includes a second extra *v* head in the syntax as shown in the trees below.

(14) Plain tense



(15) Futurate



While for Copley (2018) a regular present tense (all other things being equal) contains a single vP (14), a futurate, for her, contains two vPs: one introducing the cause, and one introducing the effect (15). The presence of these two heads is motivated by the fact that futurates, unlike regular tensed utterances, allow double temporal adverbial modification, as shown for a regular past and a past futurate in (16) below:

- (16) \*Yesterday, the Red Sox were humiliating the Yankees tomorrow.  
 Yesterday, the Red Sox were playing the Yankees tomorrow.

However, while these examples provide *semantic* evidence for two temporal anchors (next to the time of utterance), and therefore for two eventualities, there is no *syntactic* evidence for the postulation of two different structures for the two different readings of such examples. The existence of different readings does not form evidence for structural ambiguity. One should therefore entertain as a null hypothesis an alternative perspective, where a sentence like (17) below is taken to be polysemous between a regular past and a past futurate interpretation rather than being homophonous. In what follows, we will show that such an alternative is to be preferred on various grounds and that in the absence of any evidence for it, a double v-layer for futurates cannot straightforwardly be postulated.

- (17) The Red Sox were playing the Yankees (when I came in/ but they changed their plans).

Second, given that natural dispositions like (12) are fine, the question is why this does not hold for examples like (18):

- (18) # It is raining tomorrow at 6.

If the fact that it is already determined that the sun will rise at a later stage licenses the futurate in (12), one would expect that the fact that it will be raining at later stage is also something that can be determined beforehand, and thus it would be predicted under this approach that (18) should be fine, contrary to fact.

Third, it is the case that other languages also allow futurates, but, unlike English, they allow more liberal interpretations. As illustrated in (19)-(20), in Dutch, like English, a present futurate can refer to planned or natural events, but unlike English also to (meta)-physical events that are outside the scope of an agent's capacities, are possible, as in (21). Dutch futurates are thus semantically more liberal than their English counterparts.

(19) We eten vanavond om 7 uur  
 We eat tonight at 7 o'clock  
 'We are having diner tonight at 7.'

(20) De zon komt morgen om 6:30 op.  
 The sun comes tomorrow at 6:30 up  
 'The sun rises tomorrow at 6:30'.

(21) Morgen regent het.  
 Tomorrow rains it  
 'Tomorrow it'll rain.'

Dutch also allows conjectural readings of present futurates (which express speakers' conjectures that some future event will happen), as in (22). As can be seen by the necessary inclusion of *will* in the translation, this reading is absent in English present futurates.

(22) Morgen verslaat Nederland Duitsland.  
 Tomorrow beats Holland Germany  
 'Tomorrow Holland will beat Germany'.

In addition, Dutch allows other volitional futurates that are absent in English, such as promises (23), threats (24) and offers (25):

(23) Morgen geeft Marie je een cadeau.  
 Tomorrow gives Mary you a present  
 'Tomorrow, Mary will give you a present.'

(24) Morgen krijg je geen eten.  
 Tomorrow get you no feed  
 'Tomorrow, you won't get any food.'

(25) Morgen hoef je niet te werken.  
 Tomorrow need you not to work  
 'Tomorrow, you won't have to work.'

A special feature of Dutch in this regard is that it even allows for promises that are also not in the speaker's control, as in (26). Again, as the translations show, such sentences require the overt future auxiliary *will*, and are not available as futurates, in English.

- (26) Hij komt terug. Dat beloof ik je.  
 He comes back, that promise I you  
 ‘He will be back. I promise you.’

Dutch present futurates thus allow for a variety of readings, unlike their English counterparts.

The fact that Dutch futurates differ from the English ones suggests that causality along the lines of Copley (2018) is not a necessity for futurates cross-linguistically. The hypothesized causality restriction observed for English is absent in Dutch. That means that an analysis in terms of causality can at best be a language-specific one, triggering the question as to whether a unified analysis for futurates that captures both the more rigid English and more flexible Dutch interpretations instead can be formulated as well.

It is such an analysis that we will present in this article. However, at this stage one possible option to maintain Copley’s account needs to be discussed first. How can we be certain that Dutch present tense morphology is indeed underlyingly a present tense, and not a non-past?

### 2.3 A Tense Parameter or a Flexible Approach?

One potential way to account for the difference between English and Dutch would be by alluding to Pancheva and von Stechow’s (2003) proposal that languages are split into *present as present* and *present as non-past* languages. While in the former, present tense can only refer to the time of utterance, in the latter it may refer to any time that does not lie before the time of utterance.

- (27) (Pancheva and von Stechow’s 2003)
- a. English [[ PRESENT<sub>1</sub> ]] =  $\lambda p. \lambda t_1 [t_1 = t_c \ \& \ p(t_1)]$
  - b. German/Dutch [[ PRESENT<sub>1</sub> ]] =  $\lambda p. \lambda t_1 [t_1 \geq t_c \ \& \ p(t_1)]$
- where  $t' \geq t$  iff there is no  $t'' \subset t'$ , such that  $t'' < t$

By assuming that English is a *present as present* and Dutch a *present as non-past* language, the examples presented in the previous subsection would receive a natural explanation (see Copley 2008: 262).

There are, however, at least three reasons to cast doubt on that proposal, rendering it questionable that such a parameter can underlie the difference between Dutch and English.

First, since in both languages past and present tense stand in morpho-semantic competition, the two should belong to the same morpho-semantic category. For *present as present* languages like English, that would be straightforwardly the case. But under the fairly standard assumption that the future is a modal and not a tense, for *present as non-past* languages like Dutch, this would amount to past tense being categorically different from present tense. The past would be a pure tense, but the present, being a non-past, would be a conflation of tense and modality, rendering morpho-semantic competition between the two impossible. Thus, either the present cannot be a non-past, or the standard view would no longer hold and *both* past and present would be conflations of tense and modality



(see Kaufmann 2005, Karawani, Kauf & Zeijlstra 2019, and Section 4 where we pursue this in more detail). Additionally, while there have been attempts to defend binary (past/non-past tense) systems (Comrie 1985, Broekhuis & Verkuyl 2014), Cable (2017) argues that, empirically, the "only true 'tenses' that can be attested across languages are (at most) PAST, PRESENT, FUTURE, and NON-FUTURE" (see also Cable 2013). If that is correct, cross-linguistically, there would be no grammatical space for a non-past either.

Another reason that casts doubt on the *present as present* vs. *present as non-past* parameter is that in particular contexts where the two types of languages would be expected to act differently, they actually behave on a par. One example of such a context concerns present-under-future configurations. Another one concerns so-called double access readings.

Take (28). (28a) shows that if in English a present tense is embedded in a future main clause, it gives rise to a simultaneous reading. In order to yield a double future reading, a second *will* (in the embedded clause) is required (28b).

- (28) a. John will say that Mary is famous.  
 b. John will say that Mary will be famous.

However, the same effects can be observed for Dutch. Also here, (29) can only yield a simultaneous reading, and a double future reading requires a different, future-oriented predicate (30). This would, however, be unexpected if the Dutch present tense were a non-past. In that case, (29) would be predicted to also yield a double future reading, next to the simultaneous reading, contrary to fact.

- (29) Jan zal zeggen dat Marie beroemd is.  
 Jan will say that Marie famous is  
 'Jan will say that Marie famous is.'
- (30) Jan zal zeggen dat Marie beroemd wordt.  
 Jan will say that Marie famous gets  
 'John will say that Mary will be famous.'

Similar observations can be made for so-called *double access* readings. Take (31)-(32). In both examples, the time of Mary's pregnancy should overlap with the time of saying *and* the time of utterance. For English, the simultaneity of the pregnancy with the time of John's saying can be well understood if the embedded tense is a (relative) present. But then, it is hard to understand why in (32) the present would not be a relative non-past and allow a reading where the pregnancy starts later than the time of saying, maybe not even before the time of utterance. Again, the examples suggest that Dutch and English present tense behave on a par and that Dutch present tense is not just a non-past.

- (31) John said that Marie is pregnant.
- (32) Jan zei dat Marie zwanger is.  
 Jan said that Marie famous is  
 'Jan said that Marie is pregnant.'

Finally, a parameter like the one discussed above only allows two types of languages with respect to future interpretations of past tense morphology. *Present as present* languages, where futurate readings are heavily restricted, and *present as non-past* languages where futurates readings should always be available. However, the cross-linguistic pattern is not that black and white. For example, Arabic present tense is more liberal than English with respect to futurate interpretations (allowing for natural events like rain and future predictions), suggesting it cannot be *present as present* – as illustrated in (33). But at the same time, it cannot be a *present as non-past* language either, given that futurate readings are not as freely available as in Dutch – as shown by (34) where a present futurate is not available for promises that are outside the speaker’s control and instead a modal element is used.

- (33) a. hayha mSatye bukra.  
 see.this rain.PTC.SG.F tomorrow  
 ‘It will rain tomorrow.’  
 b. bukra barselona 3’aalbiin  
 Tomorrow Barcelona win.PTC.PL  
 ‘Barcelona will win tomorrow.’
- (34) a. #(b-aw3id-ek inno) raaji3 bukra.  
 (MOD-promise.1.SG.IMPFV-you.F that) PTC.SG.M-come.back tomorrow  
 Intended: ‘(I assure you that) he will be back tomorrow.’  
 b. (b-aw3id-ek inno) b-yirja3  
 (MOD-promise.1.SG.IMPFV-you.F that) MOD-come.back.1.SG.IMPFV  
 bukra  
 tomorrow  
 ‘(I assure you that) he will be back tomorrow.’

All the facts above indicate that the difference between Dutch, Arabic and English futurates is not categorical but rather gradual and that therefore their tense systems should underlyingly be the same. But that means that a Copley-system in terms of causatives cannot underlie futurates in general, calling for a more flexible approach to fututates that allows languages to differ with respect to the availability of futurates while at the same time providing a uniform account for present tense. In this article, we will provide such an approach.

### 3 Futurates as modals

#### 3.1 Kaufmann (2005)

What we have seen, so far, is that languages may vary with respect to the kind of event that is involved in futurates. English restricts futurates to planned events and particular kinds of natural dispositions, whereas Dutch allows them for virtually every event type. Other languages, like Arabic, are somewhat in-between.

What these languages have in common is that futurates in the present (though not in the past) tense, irrespective of their usage restrictions,

bring in a CC. We already saw that for English in (11), repeated below. The same applies to the Dutch counterpart in (36).

- (35) a. The Red Sox are playing the Yankees tomorrow, #but they won't/ might not/ I don't think they will.  
 b. The Red Sox aren't playing the Yankees tomorrow, #but they will/ might / I think they will.
- (36) a. Ajax speelt morgen tegen Feyenoord, #maar ik denk van niet / ik denk dat ze dat niet zullen doen.  
 b. Ajax speelt morgen niet tegen Feyenoord, #maar ik denk van niet / ik denk dat ze dat niet zullen doen.

Kaufmann (2005) argues that not only futurates, but every present tense clause is subject to this CC. The assumption that every tensed sentence is subject to an assertability condition according to which a sentence is assertable iff it is compatible with the speaker's epistemic state at UT is prominent in other accounts, (see Ippolito 2004). That claim is not uncontroversial, as the CC does not appear to accompany such constructions when they are the antecedent of a conditional (see Veltman 1986):

- (37) a. If he submits his paper to a journal, we won't include it in our book.  
 b. He submits his paper to a journal.

Whereas the sentence in (37b) is indeed subject to the CC (the sentence means that the speaker is certain about the future paper submission), that does not hold for the antecedent of the conditional in ((37a)). Nevertheless, Kaufmann (2005) argues that even the antecedent in (37a) is still subject to this CC, but its embedding under *if* suppresses its effect.

Kaufmann (2005) accounts for this CC by assuming that in fact all clauses in bare tenses (i.e. past and present) contain a covert epistemic necessity operator, which evaluates their prejacent against an epistemic modal base that is introduced by the speech act. In turn, it is this covert epistemic necessity modal that is responsible for triggering the CC in futurates. For a sentence like (38), this means that for every accessible world it has been settled already at the time of utterance that the p-event will take place, which is exactly what the (38) amounts to in English.

- (38) He arrives tomorrow.

Kaufmann (2005) derives this reading by assigning the following semantics to (38):

- (39)  $\lambda s. \Box (\lambda j. s \approx j)(\lambda j. \exists k [j \leq k \wedge \text{TOM}_s(k) \wedge V(\text{he arrive})(k)])$   
 (where  $k, j$  and  $s^*$  are world-time pairs, where  $\approx$  is an objective accessibility relation and where  $\leq$  is a temporal non-past relation).

When (39) is applied to a particular speech index  $s^*$ , the result is TRUE:

- (40) iff  $\forall j$  such that  $s^* \approx j$ , there is a  $k$  such that  $j < k$  &  $\text{TOM}_{s^*}(k) = 1$  &  $V(\text{he arrive})(k) = 1$

(40) amounts to (39) applied to  $s^*$  being TRUE iff it is settled at  $s^*$  that he arrives on the next day, which is indeed the meaning (38) has, including the CC.

Since the covert epistemic necessity modal is always included in the meaning of the tense, regardless of whether it concerns the present speech time, the future, or the past – in principle, every tensed sentence comes along with a CC according to Kaufmann. However, it is only with future reference that this certainty makes itself felt as a semantic ingredient over and above mere truth, since at all times up to the speech time, truth and certainty coincide.

### 3.2 Challenges

Kaufmann’s system has two major advantages: first, it can deal with the fact that languages like Dutch and Arabic are less restrictive with respect to the usage of futurates than English. For Kaufmann, a futurate can be felicitously uttered if it is already settled at the time of utterance that the p-eventuality will apply. Of course, this still requires an explanation as to why such more liberal usages are absent in English. However, particular language-specific restrictions are less problematic for any linguistic theory in comparison to a cross-linguistic undergeneration problem a theory may be subject to (as happens in Copley’s theory), because with overgeneration one can still allude to additional language-specific constraints.

Also, the fact that Kaufmann derives the CC in a natural way speaks in favour of attributing a necessity modal to futurates. Since, for Kaufmann this modal is present in every sentence, unlike Copley, he does not have to make any specific claims for the syntax of futurates either.

At the same time, Kaufmann’s account faces several problems, especially when the past tense is considered instead of the present tense.

For Kaufmann, the modal necessity operator is always evaluated with respect to the speech index. That means that for every tensed expression the speaker must be certain about the p-eventuality at the time of utterance. For past tenses, this means that the speaker must be certain that the relevant event indeed happened in the past. Indeed, we note that both examples in (41) are distinctly odd.

- (41) a. # The cat is asleep, but I don’t think it is.  
b. # The cat was asleep, but I don’t think it was.

Kaufmann has a detailed analysis of present futurates but does not discuss past tense futurates. However, as shown in (5) already and repeated in a slightly changed form below, the continuations in (42) are perfectly fine. In fact, uttering a past futurate completely out of the blue sounds almost unnatural without such a continuation.

- (42) a. The Red Sox were playing the Yankees, #(but they won’t/might not/ I don’t think they will/ I’m not sure anymore that they will).  
b. The Red Sox weren’t playing the Yankees, #(but now they will/ might / I think they will).

What (42) conveys is that the speaker used to be certain about the (not) taking place of the p-eventuality, but now isn't anymore. Under Kaufmann's analysis, however, the reading these examples have is that in every accessible world it has been settled already at the time of utterance that the p-eventuality would (not) take place. Hence, the CC is still encoded in the meaning assigned to past sentences, even though they crucially lack it.

In fact, given the way Kaufmann treats deictic elements like *tomorrow*, his theory predicts any futurate with such a future temporal frame adverbial modifying a past tensed verb leads to contradiction (as pointed out to us by Roger Schwarzschild, p.c.).

A sentence like (43), for Kaufmann must have the semantics as in (44):

(43) He arrived tomorrow.

(44)  $\lambda s.\Box(\lambda j.s \approx j)(\lambda j.\exists k [j > k \wedge \text{TOM}_s(k) \wedge V(\text{he arrive})(k)])$

Given that tomorrow lies after the time of utterance and the index  $k$  must precede it, when (44) is applied to a particular speech index  $s^*$ , the result is a contradiction.

Hence, whereas Kaufmann's analysis for present futurates seems more powerful than Copley's, it faces severe problems when it is applied to past tense futurates. In what follows, we will present an account of futurates that takes the best of both accounts. It will inherit from Kaufmann that every tensed clause, both present and past tense clauses, comes with a covert epistemic necessity modal, but will inherit from Copley that the likelihood for futurates must be evaluated with respect to grammatical tense and not with respect to the time of utterance.

## 4 Proposal

Our analysis embarks on three assumptions.

As a starting point we argue that every tense indeed introduces an epistemic necessity modal, but that this modal, unlike in Kaufmann's account, takes scope below grammatical tense. This generalizes the idea already present in Copley (2008: 35) that "the time over which the plan is asserted to hold is constrained by tense," albeit that this does not only hold for plans but for every event that is settled.

Our second assumption is that the modal base that this necessity modal operates on is one determined by settledness. This captures the more liberal usage of futurates that is attested in languages like Dutch, but this also allows for the possibility that the usage of futurates in other languages, such as English, is more constrained or restricted.

Finally, past and present futurates thus convey that the fact that the p-eventually takes place is already settled either at the time of utterance (for present futurates), or at some time in the past (for past futurates). In the latter case the speaker used to be certain that the p-eventually would happen, but is not necessarily certain about it anymore. Pragmatic competition between present and past futurates then results in the CC

only emerging with present futurates and explains why past futurates generally convey uncertainty on the side of the speaker.

Below we discuss these assumptions in more detail.

#### 4.1 The temporal anchoring of the epistemic necessity operator

In order to circumvent the problems that Kaufmann (2005) faces, we argue that the modal necessity operator introduced by present and past tense is actually outscoped by grammatical tense. That is, tensed clauses refer to events that are settled, and are bound to happen, either at the time denoted by grammatical tense, or after. Take (45):

(45) The red sox are playing (now/tomorrow).

(45) means that the playing event either takes place at the time of evaluation or afterwards, as long as it is settled at the time of evaluation that it is bound to happen.

Concretely, this forces us to change two aspects in the semantics of Kaufmann. First, the certainty modal is not evaluated directly against the speech index, but rather against a  $s'$  that is either equal to the speech index (in the case of present tense) or that lies before it (in the case of past tense). Second, even though it must be settled at the time at which the modal is evaluated that the event will happen, the event itself may actually take place later. Kaufmann in his analysis takes this to be the contribution of the present tense, as he takes present tense to denote the temporal accessibility relation that is embedded under the necessity operator. By contrast, we argue that this temporal accessibility relation is always part of the modal itself. I.e., this modal has a temporal relative non-past meaning component. The meaning contribution of the present tense is something different in that it temporally anchors the modal. Another advantage of our approach being that we are now able to explain the forward shift of modals by having an anti-backward shift constraint.

To see this, take Kaufmann's original semantics (47) for (38) (repeated as (46)). What is highlighted in (47) is Kaufmann's present tense contribution.

(46) He arrives tomorrow.

(47)  $\lambda s. \Box(\lambda j. s \approx j)(\lambda j. \exists k \boxed{j \leq k} \wedge \text{TOM}_s(k) \wedge V(\text{he arrive})(k))$

For us, the meaning of (46) is (48), with a our present tense contribution highlighted.

(48)  $\lambda s. \boxed{\exists s'. s = s'} \wedge \Box(\lambda j. s' \approx j)(\lambda j. \exists k [j \leq k \wedge \text{TOM}_s(k) \wedge V(\text{he arrive})(k)])$

As the reader can see, (47) and (48) are truth-conditionally equivalent. However, in the past, the two different analyses make clear differences. Take (43), repeated below again:

(49) He arrived tomorrow.

Note that being a past futurate, under our analysis  $s'$  and  $s^*$  are temporally ordered with respect to each other (where  $s'$  must precede  $s^*$ ). This way, the past tense anchors the modal to an earlier index than  $s$ , as in (50):

$$(50) \lambda s. \boxed{\exists s'. s < s'} \wedge \Box(\lambda j. s' \approx j)(\lambda j. \exists k [j \leq k \wedge \text{TOM}_s(k) \wedge V(\text{he arrive})(k)])$$

When (50) is applied to a particular speech index  $s^*$ , the result is TRUE iff it is settled at some index  $s'$ , earlier than  $s^*$ , that he arrives on the day after  $s^*$ . This is indeed the meaning (49) has and not the meaning that Kaufmann predicts. The original contradiction Kaufmann was facing with respect to past tense futurates now no longer arises.

The question whether modals occur in the scope of tense is about how modals get their temporal perspective fixed for the evaluation of their pre-jacent. It is often observed that modal auxiliaries in unembedded clauses can only be interpreted as having the perspective of the time of utterance (Groenendijk and Stokhof 1975:70), or that they directly pick up the local evaluation time as a perspective (Abusch 1997:23), implying that there is no syntactic tense taking scope over a modal in the logical representation of sentences with modals. But, Condoravdi defends the view that there is actually an (outer) tense operator (for her, the present tense) that sets the temporal perspective of the modal to time of utterance (Condoravdi 2002, see also Crouch 1993 and Enc 1996). According to Condoravdi, modals express "that it is possible or necessary as far as the knowledge of an agent (e.g. the speaker) at the present moment is concerned, that a certain state of affairs obtains at the moment or will obtain in the future" (Condoravdi 2002: 60). This accounts for the observation that modals without a perfect embedding are compatible with frame adverbials referring to the present or the future (51a-c), while modals with a perfect embedding are incompatible with frame adverbials referring to the future (51d,e).

- (51) a. He will/ must/ may/ might get sick tomorrow/ ??now/ \*yesterday.  
 b. He will/ must/ may/ might be getting sick tomorrow/ now/ \*yesterday.  
 c. He will/ must/ may/ might be sick tomorrow/ now/ \*yesterday.  
 d. He will/ must/ may/ might have gotten sick /\*tomorrow/ now/ yesterday.  
 e. He will/ must/ may/ might have been sick /\*tomorrow/ now/ yesterday. (Condoravdi2002:60)

These modals are thus all present tense modals and therefore temporally anchored to the time of utterance. Concerning the modal that accompanies grammatical tense, a past's contribution differs from the present's contribution by shifting the perspective of the modal to the past such that it is possible or necessary as far as the knowledge of an agent (e.g. the speaker) at a past moment is concerned, that a certain state of affairs

obtains in the future. The necessity modal that accompanies grammatical tense is thus anchored to the time of utterance or any time prior to that.

In addition, the p-eventuality itself must (be settled to) occur not before the time at which the modal is evaluated. This way, the (future) temporal reference of the prejacent depends on the type of eventuality denotes. Since the temporal relation for locating eventualities relative to the reference time depends on the type of eventuality, it follows that the Aktionsart of the verb will play a role for whether a prospective reading of the prejacent emerges or not. Stative/atelic predicates allow both a present and a future perspective, since stative/atelic ones describe situations that are realized/actualized as soon as they begin (Ryle 1949, Garey 1957, Vendler 1957, Kenny 1963, Taylor 1977, Dowty 1979, Filip 2012, a.o), whereas telic/eventive predicates obligatorily bring about a future perspective. The underlying syntactic representations are as in (52).

- (52) Present Futurates:  
 $TENSE_{present} (MOD_{universal} (ASPECT_{prospective} \phi))$   
 Past Futurates:  
 $TENSE_{past} (MOD_{universal} (ASPECT_{prospective} \phi))$

Note that this explains why eventive/telic verbs more readily allow a futurate reading even without additional prospective morphology (53a). In contrast, since state verbs entail no change, and hence no inherent limit or starting point,<sup>1</sup> stative/atelic predicates require additional prospective morphology to bring future reference (53b-e).

- (53) a. I play/ am playing/ am going to/ will play against John after lunch.  
 b. #I know the answer in 5 minutes.  
 c. #I am knowing the answer in 5 minutes.  
 d. I am going to know the answer in 5 minutes/ after lunch.  
 e. I will know the answer in 5 minutes/ after lunch.

## 4.2 Settling the modal base

If grammatical tense embeds a necessity modal, naturally the question arises what its modal base is. Kaufmann (2005) argues that the relevant modal base is either an objective or a subjective one, corresponding to what Condoravdi (2002) refers to as the metaphysical vs. epistemic/doxastic distinction in the treatment of modals in time. If the necessity modal is evaluated against a metaphysical or epistemic/doxastic modal bases, their truth conditions must involve either metaphysical settledness or settledness based on the speaker's knowledge/beliefs. As a proposition p is settled with respect to an equivalence class of worlds when that class is homogeneous with respect to p – either p or not-p is true on all the worlds in the class – beliefs can entail settledness, too,

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<sup>1</sup>There is a natural affinity between stativity and atelicity (see, e.g. Kamp, H. 1979, Filip 2012)



given that a sentence cannot be true throughout an agent’s belief state without also being settled throughout that belief state.

Under the proposal outlined above, every tensed clause presupposes settledness. Since truth entails settledness, in plain (i.e. non-futurate) present and past tenses, settledness is trivially guaranteed at the time of evaluation (i.e., the time of utterance or the evaluation time prior to that). As for futurates, this amounts to having every eventuality described by a futurate be presupposed to be settled given the relevant modal base. As we have seen before, this straightforwardly derives the CC attested with (present) futurates.

Copley (2018) has argued that even though every futurate indeed implies settledness, settledness itself is not what underlies futurates (as, for her, futurates are not inherently modal). She provides two reasons to cast doubt on the assumption that a settledness modal underlies every tensed clause.

For one, she argues that her causation account provides a stronger explanation for why futurates need to be settled, given that this account, unlike a settledness account, can account for the stativity of futurates. Second, she argues that by alluding to settledness, the treatment of non-futurate tensed clauses becomes unnecessarily complex, as truth already entails settledness – why add a semantically redundant modal?

As for the former argument, we have seen before that a causation account is indeed more restrictive than a settledness account, but this restrictiveness is also problematic. Cross-linguistically, futurates can be used more liberally than in English, something that does not follow under a causation account. And even in English, it is not clear how causation can group together planned events with the natural dispositions. For instance, it is far from trivial how utterances like *the sun rising* are to be included to the exclusion of other dispositions such as *raining events* or other natural events in this vein. Hence, the additional restrictions that a causation account brings in appear rather empirically problematic than supporting.

As for the latter argument, Copley is indeed right that under Kaufmann’s account and our modal account, the semantics of non-furates becomes more complex than strictly necessary, but this comes at the advantage of unifying the syntax and semantics of futurate and non-futurate tensed clauses. As discussed in Section 2.2, there is no grammatical reason to assume that the two types of tensed clauses must be distinguished. Hence, this unification, albeit semantically more complex, seems to be an enrichment rather than a problem for the grammatical treatment of tensed clauses.

A settledness account indeed has no problems accounting for the liberal usages of futurates that can be observed. Nevertheless, the question does arise as to why particular languages impose additional restrictions on the usage of futurates. For instance, why are futurates in English only available for (certain types of) natural dispositions and planned events?

We don’t have much to say here, but we would like to point out that any futurate may stand in pragmatic competition with overt future morphology. For English, this concerns competition with *will*. Kaufmann (2005) presents examples that show that *will* does not bring in a CC in

the way a present futurate does. For instance, he shows that in a scenario where a fair coin is about to be tossed some large number of times, (54a) can be felicitously uttered but (54b) cannot.

- (54) a. The coin will come up heads (eventually).  
b. # The coin comes up heads (eventually).

Irrespective of what exactly underlies this property of *will*, it stands to reason to assume that whenever the usage of a *will*-clause is more appropriate than a futurate, speakers will indeed use *will*-clause. Hence, only in cases where the speaker appears completely certain that the settledness of the event can or will not be undone, futurates are used. This can then derive the further English-specific usage-conditions for futurates beyond settledness.

Naturally, things may be different in other languages. Strikingly, the Dutch counterpart of (54) works in exactly the opposite fashion:

- (55) a. ?Het zal (eens) kop worden  
It will (once) head become  
The coin will come up heads (eventually).  
b. Het wordt (eens) kop  
It becomes (once) head  
The coin comes up heads (eventually).

This suggests that the usage of Dutch *zullen* ('will') is much more marked in comparison to its English translation. Needless to say that the more marked the overt future marker is, the less marked a futurate will be.

Hence, we concur that settledness is indeed a necessary condition for the usage of futurates, which directly follows from the settledness modal base we assume to be present. This, however, does not exclude any additional language-specific, pragmatically motivated, constraints on their usages, which is indeed what is attested in English.

### 4.3 Pragmatic competition between present and past futurates

In the previous sections, we have shown that the CC attested for present tense futurates follows directly from the settledness requirement. If something is settled at the time of utterance, the speaker must be certain of it. However, since settledness can change over time, in a past futurate, settledness only has to hold for the relevant time in the past. Uttering a past tense futurate instead of a present tense futurate does not convey that the issue must also be settled at the time of utterance; in fact, it may very well be the case that is no longer settled.

However, uttering a past tense futurate does not only convey that the event's happening was settled in the past, but also signals that the speaker no longer takes it to be settled at the time of utterance. As we observed before, past futurates in fact require some marker of speaker uncertainty. Uttering a past futurate out of the blue seems odd. Hence, the question

arises as to where does this uncertainty requirement comes from. After all, sentences like (56) (without the continuation) only mean that the speaker was certain about tomorrow’s raining from the perspective of a time before the time of utterance.

- (56) Het regende morgen, #(toch?)  
 It rained tomorrow PRT  
 ‘It will rain tomorrow, won’t it?’

Here, we argue that this uncertainty effect is a straightforward result of pragmatic competition between past and present futurates. If past and present futurates stand in competition, the hearer can infer that by using a past tense futurate, the speaker takes the corresponding present tense future not to hold anymore. Then, uttering a past tense futurates also conveys that the speaker is no longer certain of the corresponding present tense futurate.

One particular implementation of past versus present tense competition is Altshuler and Schwartzschild (2013). They point out that cessation inferences arise once a past tense form appears where a present tense form could have appeared had the speaker chosen to use it. (57) is an example, where the answer comes along with a (cancellable) implicature (58) that Scotty is no longer anxious .

- (57) a. How is Scotty doing?  
 b. Scotty was anxious.

- (58) Scotty is no longer anxious.

Altshuler & Schwartzschild (2013) argue that the cessation inference in (58) is a scalar implicature. Altschuler & Schwarzchild (2012) take the present tense to be stronger than the past tense. Consequently, a scalar implicature (assuming Gricean quantity maxim) is derived when uttering a past tense: the speaker does not want to convey the corresponding present tense.<sup>2</sup>

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<sup>2</sup>Some authors (ex. Musan 1997, Magri 2009, Thomas 2012) reject the idea that present tense entails past tense. Take (i):

- (i) Gregory is from America.

Musan (1997: 279) argues that “if Gregory came into existence right now, at this very moment while I utter this sentence, then *Gregory is from America* would be judged true, but *Gregory was from America* would be judged false”. Musan is assuming the possibility of a first moment for the tenseless Gregory be from America. Similarly, Thomas (2012) considers the sentences below and claims that “...the present tense sentence in (ii)b is not stronger than the past tense sentence in (ii)a. Rather, the two sentences are logically independent.” Thomas concludes: “If the present sentence is not stronger than the past sentence, it cannot be negated by exploiting the maxim of quantity according to Gricean reasoning” (ibid: 47-48).

- (ii) a. John was a graduate student.  
 b. John is a graduate student.

Nevertheless, consider this contrast:

Applying this to present and past tense futurates means that a speaker will only utter a past future when she no longer takes to corresponding present future to hold. In other words, s/he uses the past futurate only when s/he thinks that the relevant event is longer settled. This analysis then correctly predicts that every past futurate must express some speaker uncertainty, which explains why past futurates without material signalling any kind of speaker uncertainty are pragmatically odd.

Evidence for such a competition analysis comes from the fact that unlike planned events, natural dispositions do not lend themselves very well for past futurates. Take (59):

(59) #The sun rose at 6:36 tomorrow.

When uttering (59) it should have been settled in the past that the sun will rise tomorrow at 6:36. But unlike plans, natural dispositions, once determined to hold, must remain determined to hold. There is no reason at all to expect it to change. Consequently, when the past futurate (59) is true, the corresponding present futurate (60) must be true as well, and there is no reason for the speaker to utter (59) instead of (60).

(60) The sun rises at 6:36 tomorrow.

Hence, given pragmatic competition, (59) is correctly predicted to be infelicitous.

Note that if under very extreme situations, the course of natural events does unexpectedly change, past futurates involving natural events should improve. This is indeed confirmed in (61) below:

(61) The sun rose at 6:36 tomorrow. That's what they all thought to be the case. After all, how could they know that 1 hour ago, 3 nuclear power plants exploded, causing a change in the positing of the earth's orbit. Now the sun rises at 6:38.

This shows that past futurates can only be used if the speaker is no longer certain about the settledness of the mentioned event.

## 5 Conclusions

In this paper we have argued that (i) the distribution of futurates can be richer than is observed for English and (ii) that present tense futurates come along with a Certainty Condition (CC) that the speaker appears confident that the relevant event will hold, but (iii) past futurates lack this CC, and can actually only be felicitously uttered if the speaker is not certain about the future status of this event.

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(iii) a. John was a graduate student, in fact, he still is. b. # John is a graduate student, in fact he was.

We take this to suggest that it is indeed the case that past tense is weaker than present – as is well known, one may follow an utterance by a stronger one, but not by a weaker one.

We take the cross-linguistic distribution and behaviour of present and past tense futurates to follow from the interplay of three factors: (i) that every grammatical tense introduces an epistemic necessity modal that takes scope below grammatical tense; that the modal base of this modal is based on settledness; and (iii) that pragmatic competition takes place between present and past tense, after Altshuler and Schwarzschild (2013). This analysis combines insights voiced in Condoravdi (2002), Kaufmann (2005) and Copley (2008, 2018), but does not face the particular problems that these other accounts are challenged by.

A present tense futurate then conveys that the future event according to the speaker has already been settled and is therefore certain to happen, whereas a past tense futurate conveys that the speaker at some point in the past took the event to be settled and was, therefore, certain that the relevant event was going to happen in the future. As a result of pragmatic competition between the present and the past tense, when uttering a past tense futurate, the speaker conveys that she no longer takes the relevant issue to be settled at the time of utterance, thus invoking the uncertainty effect.

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