Why Plain Futurates Are Different*

Hotze Rullmann, Marianne Huijsmans, Lisa Matthewson, and Neda Todorović

1 Introduction

Futurates are constructions which convey future time reference without overt future marking. English has two types of futurates, involving either the present progressive or the simple present tense, as in (1a,b). We call the second type a 'plain' futurate. For recent analyses of futurates, see Kaufmann 2005, Copley 2008, 2009, 2014, 2018, a.o.

(1) a. The Red Sox **are playing** the Yankees tomorrow. (*progressive futurate*)

b. The Red Sox **play** the Yankees tomorrow. (*plain futurate*)

The literature has often focused on only one type of futurate, or treated them as more or less equivalent (e.g. Lakoff 1971, Goodman 1973, Vetter 1973, Palmer 1974, Huddleston 1977, Comrie 1985). Here we show that plain and progressive futurates convey different meanings: unlike progressive futurates, plain futurates presuppose the existence of a *schedule*, in a sense made precise below. While the use of the term "schedule" in connection with futurates is not new (e.g. Dowty 1979, Comrie 1985), to our knowledge no one has provided empirical evidence that plain and progressive futurates differ in precisely this way, nor attempted to explicate exactly what a schedule is.

We present our core evidence in section 2. Sections 3 and 4 formalize the notion of a schedule and introduce constraints on schedules. Section 5 compares plain futurates with progressive ones. Section 6 addresses the question of *why* schedules make it possible to talk about the future in the present tense, based on new observations about *past*

futurates. Section 7 compares our account to Kaufmann's and Copley's.

The data in this squib were constructed based on the judgments of the two authors who are L1 English speakers. All data points were tested in an online questionnaire, in which 34 English L1 speakers gave acceptability ratings for sentences in discourse contexts; the question order was randomized for each participant. Judgments were on a four-point Likert scale of 1-4, with 1 representing maximum acceptability; there was also a 'don't know / no opinion' option (which the participants used only twice). We provide average response scores at the right of each data point. These scores *replace* the usual acceptability diacritics such as *, ? or #, and are consistent with the authors' L1 speaker intuitions. Where relevant, we also tested whether judgement differences between pairs of examples were statistically significant using the Wilcoxon signed rank test with continuity correction in R (R Core Team 2020). Unless otherwise specified, results we classify as significant had p-values of < 0.001.

2 Core Observations

Our core empirical claim – that plain futurates, but not progressive futurates, require a schedule – is illustrated by the clear contrast between (2) and (3). In (2), the context does not provide a schedule for block parties; the sentence is simply about a one-off future event. The progressive is fully acceptable, but the plain futurate is quite degraded.

(2) [The speaker's street has decided to have its first ever block party. The speaker is letting their friend know about it.]

a. Our street **is holding** a block party on March 25th. 1.12

b. Our street **holds** a block party on March 25th. 2.85

In (3), on the other hand, the context contains a schedule for block parties, making the plain futurate acceptable. The contrasts between (2a) and (2b) and between (2b) and (3b) are statistically significant; the contrast between (3a) and (3b) is not ($p = 0.168$).[1]

(3) [In the speaker's neighbourhood, every street holds a block party at some point, and there is a schedule for the parties. The speaker tells their neighbour:]

a. Our street **is holding** its block party on March 25th. 1.06

b. Our street **holds** its block party on March 25th. 1.21

These data show that the plain futurate is felicitous in contexts where there is a *schedule* of future events, not just a plan for a single event. A schedule improves the acceptability of plain futurates even if it is not explicitly mentioned and is not a conventional public schedule. In (4), the progressive futurate is fully acceptable if B has a one-off plan to weed the garden. In contrast, the plain futurate is marginal in B′ (the difference between B and B′ is significant), but improves in B″ where there is a recurring weeding event. B″ is significantly better than B′ ($p = 0.015$).

(4) A: Let's go to the beach tomorrow.

B: Sorry, I'm **weeding** my garden tomorrow. 1.09

B′: Sorry, I **weed** my garden tomorrow. 2.24

B″: Sorry, I **weed** my garden tomorrow, like every Saturday. 1.76

Similarly in (5), the progressive futurate, but not the plain futurate, is fine for a one-off future event ((5a) vs. (5b) are significantly different). The plain futurate prefers a recurring schedule, as in (6) ((5b) vs. (6B) are also significantly different, $p = 0.006$).[2]

(5) [A and B are spouses. A looks at the tax return that B filed for them this year, and then says to B:]

a. I**'m doing** our taxes next year. 1.15

b. I **do** our taxes next year. 2.18

(6) [A and B are spouses. Every second year, A prepares their joint tax return, and every other year, B does it.]

A: I am not looking forward to doing the taxes next year.

B: Don't worry, I **do** our taxes next year. 1.74

The schedule in (3), which is a conventionalized, public schedule (neighbourhood block parties), differs from the schedules in (4B″) and (6), which are more idiosyncratic or private schedules (an individual's weeding, a couple's tax returns). This correlates with a difference in judgments: while the non-conventionalized schedules do cause statistically significant increases in the acceptability of the plain futurate in (4)-(6), the schedule cases receive lower average scores in (4B″) and (6) than in (3b). This gradient effect suggests that the prototypicality of a schedule plays a role; we give further evidence of this below.

3 What is a Schedule?

We propose that plain futurates *presuppose* that there is a *(unique) salient schedule* in the context. Intuitively, a schedule can be characterized as a matrix of information concerning future events, and can be represented with multiple rows and columns (or in any other format). For instance, table 1 is a schedule for the chores in a household.[3]

INSERT TABLE 1 AROUND HERE

We define a schedule as a (physical or mental) representation providing a set of answers to a multiple *wh*-question about future events. Table 1 answers the question in (7):

(7) Who does which chore on which day?

To implement our idea formally, we assume that a question denotes a set of propositions that are its possible answers (Hamblin 1973, Karttunen 1977). Thus, (7) denotes the set of propositions in (8): all propositions of the form "Person *x* does chore *y* on day *z*".

(8) $\lambda p \exists x,y,z[\text{person}(w)(x) \wedge \text{chore}(w)(y) \wedge \text{day}(w)(z) \wedge p = \lambda w'[x \text{ does } y \text{ on } z \text{ in } w']]$

We call (7) the *schedule question* of table 1: it is the maximal multiple *wh*-question answered by the schedule. This maximal question subsumes many partial questions answered by the schedule, such as 'Who does which chore on Dec. 8?', 'When does Cam do the laundry?', or 'Does Ann do the dishes on Dec. 15?'. These are *subquestions* of the schedule question; they denote subsets of the set of propositions in (8). In a given discourse context, the schedule question or any of its subquestions may be the Question Under Discussion (QUD) in the sense of Roberts 2012.

A schedule is a representation that provides a set of (partial) answers to the schedule question. The *complete schedule answer* is the proposition that is the conjunction of all these answers; for table 1, the complete schedule answer is (9). A proposition is *entailed by the schedule* iff it is entailed by the complete schedule answer.

(9) Ann does the vacuuming on Dec. 8, Bob does the laundry on Dec. 8, Cam does the dishes on Dec. 8, ... , and Bob does the dishes on Dec. 22.

We can now state a necessary condition on the felicity of plain futurates. A plain futurate declarative sentence S can only be uttered felicitously if the context provides a

unique, salient schedule that entails the proposition expressed by S.

Consistent with our claim that the schedule requirement is a presupposition, it projects: when (1b) is negated (*The Red Sox don't play the Yankees tomorrow*) or questioned (*Do the Red Sox play the Yankees tomorrow?*), the schedule requirement survives. If a plain futurate sentence is uttered and the common ground does not contain a schedule at the utterance time, one can be accommodated: the addressee can try to conjure up a context containing a schedule to satisfy the presupposition.

In certain cases, such as (10a), a plain futurate is permissible even though the schedule on its own does not logically entail the proposition, but additional premises are required that characterize schedules (e.g., "x hours in meetings = a busy day"); such sentences still function as higher-level *descriptions* of the schedule. But, as (10b) shows, plain futurates are unacceptable if they rely on additional premises that go beyond mere description of the schedule, such as expectations about the *outcome* of scheduled events.[4]

(10) [The speaker is looking at their calendar.]

a. I **am** quite busy tomorrow. 1.06

b. I **am** tired tomorrow. 3.54 ((10a) vs (b) are significantly different)

4 Constraints on Schedules

So far we have given a purely formal definition of a schedule, but not just *any* matrix of information is a schedule which licenses a plain futurate. One constraint which is familiar from the literature is that schedules contain information about future events that are "pre-determined" at the utterance time (see e.g., Goodman 1973). Often, this means that the

scheduled events are intentionally planned by humans, as in (1) or (11). However, as is well known, plain futurates can also be used for pre-determined natural events, both with prototypical schedules of natural events such as the timetable for sunrises (12), and with non-prototypical ones like (13). (The lower rating for (13) is expected; cf. (4B″) and (6).)

(11) [Tomorrow is the weekly clean-up day in the house shared by A, B, and Cam.]

A: Who is responsible for which chore this week?

B: Cam **vacuums**, I **do** the laundry, and you'**re** on dishes. 1.25

(12) [A and B are planning a sightseeing day tomorrow. A says to B:]

The sun **rises** tomorrow morning at 6:30. 1.15

(13) [The speaker is an astronomer, telling their friend about events far in the future.]

The sun **turns** into a red giant in 5 billion years, and it **becomes** a white dwarf in 6 billion years. 1.73

What has *not* been previously noted about plain futurates is that the schedule which underlies them must represent a *non-trivial* matrix, with multiple dimensions (e.g. for (11): people, chores, weeks). A trivial table consisting of just a single cell is not a schedule. In terms of our formal semantics this means that the set of answers to the schedule question provided by the schedule cannot be a singleton set. This is why (2b) is infelicitous: a plain futurate cannot be used to express a one-off plan for a single event.

The non-triviality constraint, together with the pre-determinacy requirement, also accounts for the contrast between (12) and (14) (see also Copley 2008:273; 2014). Unlike sunrises, rainstorms do not follow a pre-determined schedule involving multiple events.

(14) A: What clothes should I pack for my overnight camping trip?

B: Pack a raincoat. It **rains** tomorrow. 2.70

To the extent that a raining event *can* form part of a schedule with multiple events, e.g. in a weather forecast, the plain futurate crucially improves in acceptability, as in (15); the contrast between (14B) and (15B) is significant.

(15) A: What's the forecast?

B: It **rains** tomorrow starting at 3pm, but it's sunny on the weekend 1.74

Conversely, when discussing sunrises outside of the context of a schedule, the plain futurate becomes much less felicitous, as predicted. For example, the information in (16) is too trivial for a schedule: it would contain either just a single cell for "tomorrow", or a series of days with the same information for each day (namely that the sun rises), which would make for an oddly uninformative schedule.[5]

(16) [A child has read a book about the life cycle of the sun and become frightened. Their parent reassures them by saying:]

The sun **rises** tomorrow. 2.65

5 Comparing Progressive and Plain Futurates

While plain futurates presuppose a schedule, progressive futurates do not. This means that all else being equal, the plain futurate should be felicitous in a subset of the contexts where the progressive futurate is. However, all else does not appear to be equal. For a start, as a reviewer suggested, if plain and progressive futurates differed only in the presence vs. absence of the schedule requirement, then the progressive futurate would be expected to be dispreferred in schedule contexts, due to a blocking effect arising from a

scalar implicature or Maximize Presupposition (Heim 1991). Interestingly, however, we found no support for this in our survey. In contexts with salient schedules such as (3), there was no significant difference between the two futurates. This suggests that the plain and progressive futurate are not direct pragmatic competitors that differ only in their schedule requirements. We must leave analysis of the progressive futurate for later research, but in the remainder of this section we present additional new empirical findings about how the two futurates do, and do not, differ.

One case where the literature leads us to expect only plain futurates to be possible is with natural events. Copley (2014:76), for example, says that "natural futurates" cannot occur in the progressive (cf. also Leech 1971, Huddleston 2002). Adopting a 'plan'-based analysis of futurate licensing, she argues that the progressive makes a plan temporary, and "plans" like the sun rising at 6:30 are not temporary. We find this contrast to be subtle at best (see also Copley 2009:39). In fact, in the right context, progressive natural futurates are fine, as in (17). Progressive futurates can also at least marginally occur in sunrise and rain contexts, as shown in (18)-(20). Differences in acceptability for the plain vs. progressive in these cases are significant only for (12) vs. (18) and (14) vs. (19); in the latter case this is independently predicted by the absence of a schedule. Ratings for (17a) vs (17b) are not statistically different ($p = 0.297$); nor are the ratings for (15) vs (20) ($p = 0.877$). This re-confirms that progressive futurates are not ruled out in schedule contexts.

(17) [A and B are planning a day at the beach. A says to B:]

a. The tide **is coming** in at noon today. 1.26

b. The tide **comes** in at noon today. 1.36

(18) [As in (12)]: The sun **is rising** tomorrow morning at 6:30. 1.59

(19) [As in (14)]: Pack a raincoat. It**'s raining** tomorrow. 1.88

(20) [As in (15)]: It'**s raining** tomorrow starting at 3pm, but it's sunny on the weekend. 1.66

Another contrast claimed in the literature is that plain (but not progressive) futurates prefer the presence of an overt temporal adverbial (Wekker 1976; Huddleston 1977, 2002). While this preference does seem to hold in out-of-the-blue contexts, we suggest that this is because without adverbials, plain present-tense verbs are easily understood as habituals (see fn 3). If the context makes the future time reference clear, a plain futurate does not require an adverbial, as in (11B). Another case is (21); not only does this lack a temporal adverbial, the date of the matches does not even need to be known at the utterance time; a schedule doesn't have to contain specific dates or times.

(21) [A and B are discussing the upcoming women's soccer World Cup. They don't know exactly when the matches will be held.]

A: What do you know about the first round of matches?

B: Brazil **plays** Nigeria, and Sweden **plays** Canada. 1.18

Our empirical results suggest that the overall relationship between plain and progressive futurates is quite nuanced and not a simple superset-subset relationship, although the progressive futurate has a wider distribution. We have identified a systematic set of contexts where the plain futurate is unacceptable, namely those without a schedule. The progressive futurate can be used with or without a schedule, but may be subject to constraints of its own.

6 Why Are Plain Futurates Possible?

We now turn to the question of *why* plain futurates exist. Why does a schedule make it possible to use present tense for future events? The key to answering this is the observation we made about the contrast between (10a) and (10b): even if there is a schedule in the context, not just any proposition about the future that is predictable from the schedule can be stated in the present tense. Plain futurates can express higher-level generalizations about the schedule, but can't refer to future events that are the outcome of the scheduled events. In other words, a plain futurate is not a *prediction* about the future, but rather a *description* of the schedule that is true at the present.[6]

Crucial evidence for this idea comes from futurates in the *past* tense. It has been claimed that plain futurates cannot appear in the past (e.g., Huddleston 1977), unlike progressive futurates; this is taken to be supported by the contrast between (22) and (23) (both adapted from Copley 2008:265; this difference is statistically significant).

(22) [A is reading the sports news and sees that an upcoming game has been canceled due to storms. They turn to B and say:]
The Red Sox **were playing** the Yankees tomorrow, but now they won't. 1.67

(23) [As in (22):] The Red Sox **played** the Yankees tomorrow, but now they won't. 3.30

But what has been overlooked so far is that plain futurates actually *can* appear in the past tense, for instance in contexts where there has been a change in the schedule, as in (24). The contrast between (23) and (24) is significant.

(24) [As in (22):] The Major League schedule has been revised. <u>In the original schedule,</u>

the Red Sox **played** the Yankees tomorrow, but now they won't. 1.55

In situations in which schedules can change or be updated, we cannot simply talk about "the" salient schedule in a given context. (24) involves *two* schedules for the MLB season: the original one, and the revised one. Schedules are thus only current (or only *hold*) during a certain time-span (which we call its *holding time*). By default, the schedule that matters for plain futurates is the one that holds at the utterance time. But this default can be overridden if the sentence contains explicit reference to a schedule that no longer holds, such as the adverbial PP *in the original schedule* in (24). In that case, the tense is past because the time that determines the tense is the holding time of the original MLB schedule. We can account for this theoretically by proposing that, in plain futurate clauses, the reference time is the holding time of the contextually salient schedule.

Additional support for this proposal comes from data with plain futurates in the present tense where doubt is cast on whether a scheduled event will actually take place. Such cases have been claimed to be bad (Comrie 1985, Copley 2008); however, in our results they are only slightly degraded, as shown in (25), and again, adding explicit reference to a schedule improves their acceptability basically to perfection, as in (26):

(25) [A knows that there is a big storm coming which will likely prevent an upcoming scheduled baseball game from happening. They say to B:]

The Red Sox **play** the Yankees tomorrow, but it probably won't happen. 1.48

(26) [As in (25):] <u>According to the schedule</u>, the Red Sox **play** the Yankees tomorrow, but it probably won't happen. 1.09

This observation can be accounted for by assuming that, in the absence of explicit

reference to a schedule, the default schedule (the one that holds at the utterance time) is presumed to be *correct*, i.e. the events it describes will actually take place. Overriding this correctness presumption is facilitated by explicit reference to the schedule (the adverbial *according to the schedule* in (26)).

In summary, a plain futurate presupposes that there is a salient schedule in the context. Tense is determined by the relation between reference time and utterance time, as usual; the only thing that is different about a plain futurate is that it describes the schedule rather than the event itself, so the reference time is the holding time of the schedule. In default cases, the relevant schedule is the one that holds at the utterance time, and therefore the sentence is in the present tense. However, when the sentence explicitly refers to a schedule that no longer holds, the reference time is the holding time of that superseded schedule and it is therefore in the past.

7 Comparison with Other Theoretical Approaches and Outlook

In this section we briefly compare our analysis with approaches to futurates by Copley and Kaufmann. Neither discusses the crucial role of schedules (in the sense of our proposal), and their analyses do not account for the full range of facts. For instance, Copley and Kaufmann's accounts fail to make the right distinctions for natural events as in (14)-(20), and neither deals with past plain futurates as in (24)-(26). However, both appeal to theoretical concepts that are in principle combinable with our observations.

Copley's early work (2008, 2009) is based on the concepts of a 'plan' and a 'director'. Copley (2014, 2018) revises her earlier analysis by adding the notion of direct

causality in order to deal with futurates with natural events (such as sunrises): the intentions of an animate entity or physical tendencies directly cause the future eventuality. The difference between the two futurates is argued to be aspectual: the plain futurate "conveys that the plan, the habit, or the state is rather permanent or long standing," while with a progressive futurate the plan "is more temporary or episodic" (Copley 2014:75). While a causal analysis is not incompatible with our proposal, it is not required to account for the data discussed here. An analysis in terms of schedules can be agnostic about causality or intentionality.

Kaufmann (2005), in his discussion of plain futurates, claims that they involve a null necessity modal. This modal, unlike the overt future modal *will*, lacks an ordering source, and so is generally too strong for future reference. It can occur in plain futurates, where he claims that the truth of the proposition is 'settled'. This idea could in principle be combined with our proposal; one could claim that the propositions entailed by the schedule provide the modal base for a covert modal in plain futurates. However, modality in the semantics of plain futurates is not necessary. Our schedule-based account explains the tense choice in plain futurates without appealing to a covert modal operator.

To conclude, we have provided empirical support for the proposal that English plain futurates presuppose the existence of a schedule (a non-trivial matrix of future events). As pointed out by a reviewer, the restrictions on plain futurates may differ in languages that do not have a contrasting progressive form that is used for future time reference. Future research should therefore investigate plain futurates in a variety of other languages, including those with independent differences in their tense/aspect systems.

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Hotze Rullmann, Marianne Huijsmans, Lisa Matthewson, and Neda Todorović

Department of Linguistics

University of British Columbia

hotze.rullmann@ubc.ca, marianne.huijsmans@ubc.ca, lisa.matthewson@ubc.ca, neda.todorovic@ubc.ca

Footnotes

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[1]A reviewer points out that (2) and (3) differ in indefinite vs. definite noun phrases *(a/its block party*). This is because there is a familiar block party in (3), but not in (2). According to our judgments, using parallel determiners would only have increased the contrast here: (2b) is even worse with *its,* as there is an additional presupposition failure.

[2]We thank Bruno Andreotti for (an earlier version of) the examples in (5)-(6).

[3]A reviewer observes that there is a similarity between plain futurates with regularly recurring events (e.g., (4B″), (6B), (9)) and habituals (e.g., *I do the dishes every Friday*). It would be interesting to explore in future work whether habituals involve similar matrices of information as schedules.

[4]See Copley (2018) for additional arguments against the notion of 'predictability' as a defining criterion for futurates.

[5]This is compatible with Copley's (2009, 2018) explanation for why cases like (16) are odd. She argues that plain (but not progressive) futurates introduce focus alternatives, and all the potential foci are odd (e.g., focusing *sun* invokes alternatives to the sun).

[6]Copley (2014) proposes something similar for both plain and progressive futurates: that the plan for the eventuality, rather than the eventuality itself, overlaps with the reference time (the time that determines tense choice in a neo-Reichenbachian approach).

Tables

Table 1: A schedule for chores

	Dec. 8	**Dec. 15**	**Dec. 22**
vacuuming	Ann	Bob	Cam
laundry	Bob	Cam	Ann
dishes	Cam	Ann	Bob