Future Times, Future Tenses

Edited by

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Introduction

PHILIPPE DE BRABANTER, MIKHAIL KISSINE, AND SAGHIE SHARIFZADEH

The future’s so bright I gotta wear shades
(Timbuk 3)

The introduction to a volume that seeks to make a significant contribution to our understanding of ‘the future’ initially faces the same difficult questions that confront any work on tense and time, and a few others in addition. First, how does one define tense and time in such a way that the distinction—but also the articulation between them—is clear? Second, can tense be neatly separated from other traditional ‘verbal’ categories such as aspect and mood/modality? Third, apart from the question whether this or that particular language has a future tense, is there sufficient evidence for the existence of the very category ‘future tense’ as part of the linguist’s descriptive repertoire? Our aim in this introduction is not so much to answer these questions or voice specific opinions on the linguistic expression of the future as to lay bare the difficulties and intricacies that often remain implicit in the literature on future tense(s). While doing this, we will also briefly touch on cognitive issues that may impact linguistic research on the future. In this way, we hope to shed light on the motivation for the present collection of articles, an outline of which is provided in the last section of this introduction.

1.1 THE VIEW FROM ‘TRADITIONAL’ LINGUISTICS

Let us start with discussions of time and tense in what, for want of a better term, we shall call ‘traditional’ linguistics, postponing a survey of more formal approaches, both linguistic and philosophical, until the next section. This will allow us to see that many—albeit not all—of the issues that preoccupy current students of the future, or of tense and time more generally, were identified in the course of the twentieth century.
It will also give us a chance to take a brief historical look at reflections on future time reference in the tradition of English grammar writing.

Although defining *time* is most reasonably regarded as a task for physicists and philosophers at large, students of language (linguists and philosophers) cannot entirely dispense with the exercise. Some concept of time is necessary for the semantics of tense, and of aspect as well. A traditional conception has it that time can be represented as a straight line with the present as a point dividing the past on the left from the future on the right. This representation has long been prevalent in linguistics (Poutsma 1922: 7, 13; Jespersen 1924: 257, 1931: 1; Quirk et al. 1985: 175; Comrie 1985: 2; Börjars and Burridge 2001: 146; cf. also Michaelis 2006: 220). Particularly striking is Jespersen’s formulation: ‘By the essence of time itself, or at any rate by a necessity of our thinking, we are obliged to figure to ourselves time as something having one dimension only, thus capable of being represented by one straight line’ (1931: 1). However, this ‘linear’ conception of time may sound strange today, as developments in formal/logical semantics, going back at least as far as Prior (1967), favour a different representation of time (see Öhrström and Hasle 2011). On that view, time can be represented as a straight line only as far as the present moment; the future, for its part, has a ‘branching structure’. (For further discussion, see Section 1.2, and Chapters 2 and 3 by Isidora Stojanovic and Fabio Del Prete, respectively.)

Moving on to tense, a basic consensus seems to prevail among linguists on the core meaning of the category. Thus, disregarding details of formulation, tense is understood as a grammatical category whose (main) function is to locate ‘eventualities’ (events or states) in time. This essentially semantic characterization of tense is, for instance, dominant in English linguistics (Poutsma 1926: 206; Zandvoort 1957: 58; Huddleston and Pullum 2002: 116; Downing and Locke 2006: 352), but it is also common in theoretical linguistics at large (Paul 1891: 300; Lyons 1977: 678; Comrie 1985: 9; Dahl 1985: 24–5, with a few reservations), and in textbooks of linguistics (e.g. Hockett 1958: 237; Fromkin 2000: 716; Fasold and Connor-Linton 2006: 516). A further point which, according to certain linguists, is too often left implicit is that tense is a deictic category, that is, it determines location in time in relation to the time of utterance (Lyons 1977; Comrie 1985: 14; Dahl 1985: 25; Michaelis 2006: 220).

For many, tense cannot be defined exclusively in such semantic terms: there must be formal constraints too. More often than not, this translates as a requirement that tense be an inflectional category. Other writers have less precise demands, requiring only that tense be the grammaticalization of (deictic) location in time, thus allowing for tense to be marked by auxiliaries or other means. We return to this issue in Section 1.3.

Now, it is certainly true that only semantic information, not formal features, should be made part of a ‘general-level’ definition intended to be used in cross-linguistic comparison.¹ However, when it comes to specific languages, the inclusion of formal criteria

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¹ For the distinction between ‘general-level’ and ‘language-particular’ definitions of grammatical categories, see e.g. Huddleston and Pullum (2002: 31–3). For a critical discussion of the applicability of ‘pre-established categories’ in cross-linguistic studies, see Haspelmath (2007).
seems inevitable. This is not the place to discuss and assess the validity of the precise formal criteria appealed to in language-particular definitions of tense. More modestly, we will take English as an illustration and see how an additional formal criterion (or its absence) affects the grammarian’s views on the tense system of the language. Naturally, we shall pay special attention to the future tense.

If tense is understood as necessarily marked by inflection, English has no future tense, and in this respect it is like other Germanic languages but contrasts with, say, French, Spanish and Italian. Many writers on English since the early twentieth century have endorsed that view (e.g. Jespersen 1931: 3; Hockett 1958: 237; Palmer 1974: 36f; Quirk et al. 1985: 176; Lapaire and Rotgé 1998: 385f; Börjars and Burridge 2001: 146f; Downing and Locke 2006: 352f). Note that the inflectional restriction appears to apply only, or primarily, to what is often called ‘absolute’ tense (Comrie 1985: 36ff) or ‘primary’ tense (Huddleston and Pullum 2002: 125), that is, directly deictic tense. When it comes to ‘relative’ tense (Comrie 1985: 56ff), that is, the temporal location of a situation in relation to a point distinct from the utterance time, this restriction is often relaxed. However, it is not because a linguist accepts periphrastic marking of tense, for example by <auxiliary will + base form of verb>, that he or she will automatically grant the existence of an English future tense. There may be other grounds for rejecting the latter category. Here are some (the authors mentioned do not necessarily recognize them as sufficient conditions):

- auxiliaries do not have the same level of grammaticalization as inflectional affixes. As Lyons (1995: 313) writes, they are semi-grammatical or semi-lexical. This, in the eyes of some, may make them unfit for grammaticalizing temporal reference.
- English has no shortage of means of expressing futurity (be going to, other modal auxiliaries, the present tense) and there is therefore no good reason to single out any one of those as the future tense (Palmer 1974: 37; Börjars and Burridge 2001: 148; Huddleston and Pullum 2002: 209). Note that not all writers who acknowledge the many ways of referring to the future in English conclude that English therefore has no future tense (e.g. Poutsma 1926; Zandvoort 1957: 77; Salkie 2010: 196).
- will (and to a lesser extent shall) cannot be a future tense since it has uses, such as the following, that make no reference at all to the future (Palmer 1974: 37; Lapaire and Rotgé 1998: 386; Downing and Locke 2006: 353).²

² Note that inflectional marking does not guarantee that you are dealing with a tense. Thus, Victoria Escandell-Vidal (Chapter 10) makes the case that the inflectional future of contemporary Spanish is not a tense, but an evidential marker. See also, for Italian, the brief discussion of Giannakidou and Mari (2013) in Section 1.3.
³ Given the sparse use of shall in present-day English, and the moderate attention that contemporary linguists devote to it, the rest of the discussion will focus on will.
⁴ For a more detailed discussion of the arguments against treating will as a future tense, see Salkie (2010: 188–96). Note that potential markers of futurity are not the only markers capable of non-temporal functions.
(1) Oil will float on water. [generic]
(2) Mary will be at the opera now. [epistemic]
(3) In winter, Mary will always wear a green coat. [habitual/dispositional/volitional]

Many linguists conclude from the previous point that will must be a modal auxiliary. Now this inference comes across very differently according to whether modal auxiliaries are defined morphosyntactically or semantically. In formal/logical semantics, modals are defined semantically as markers of modality, and this means, for instance, that their semantics will be expressed in terms of quantification over possible worlds. To other linguists, yet, the morphosyntactic criteria are paramount, and treating will as a modal comes almost as a matter of course. Among those linguists, however, some make a point of showing that modal auxiliaries are modals from a semantic point of view too (Palmer 1974; Lapaire and Rotgé 1998; Huddleston and Pullum 2002).

The latter, notably, argue that the central meaning of will is epistemic necessity. We take up again the relations between future tense and epistemic modality in Section 3.

It is also by no means always easy to draw the line between tense and aspect. Both tense and aspect have to do, semantically, with time. But whereas tense concerns deictic temporal location, aspect ‘has to do with the structure of the things going on or taking place in the situation described by the sentence’ (Dahl 1985: 24). Though these characterizations may seem to make tense and aspect clearly separate categories, delimitation issues do arise. Chapters 6 and 7 in this volume (by Naja Trondhjem and Gerd Jendraschek, respectively) provide welcome insights into the relations between tense and aspect.

One general issue lurking in the background of these questions about the limits of grammatical categories is the following: are tense (aspect, mood) markers monosemous or polysemous? Interestingly, although the answer to this question is bound to greatly affect one’s understanding of particular tense systems, it is rarely asked explicitly. Let us return to the periphrastic marking of futurity in English. We saw above that one of the arguments against treating will as a future-tense marker is that it has uses, such as (1)–(3) above, in which it does not refer to the future. This is definitely a stronger objection if will is monosemous than if it is polysemous. In the latter case, the existence of non-future uses might leave intact a claim that will marks tense (in other uses). In the former, treating will as a tense marker would require one to take its core semantics to be ‘location in future time’, and to explain how the other uses can nevertheless be derived ‘in context’ from this core semantics. There is a further

Taking the example of the non-temporal uses of the English past tense, Lyons writes that ‘it is no exaggeration to say that there is probably no tense, mood, or aspect in any language whose sole semantic function is the one implied by the name that is conventionally given to it in grammars of the language’ (1977: 680).

Binnick (1991: 8, 251–2) argues for will as a modal, but offers very interesting qualifications in note 44 (p. 488).
complication, both for the monosemist and the polysemist: many grammarians of English discuss uses in which two or more meanings co-exist, usually a temporal and a modal (epistemic, deontic, or volitional) one (e.g. Poutsma 1926: 221; Kruisinga 1931: 48ff; Zandvoort 1957). Few attempt to separate between the core semantics of a marker and ‘pragmatic effects’. Linguistics probably had to wait until the spread of Grice’s theory of conversational implicatures (Grice 1975) to become more alert to the distinction between the conventional and pragmatic meaning of grammatical markers. For an enlightening discussion, see Comrie (1985: 23ff). (In Chapter 3, Fabio Del Prete offers a formalization of the meaning of will, according to which its core meaning is temporal, whereas its modal overtones are explained as a pragmatic effect.)

To wrap up this section, we shall present a quick historical overview of the dispute about the number of (absolute) tenses in English. This controversy is acknowledged at least as early as the last quarter of the eighteenth century. Here is James Beattie’s portrayal of the reductionist view:

Some . . . will not allow any thing to be a tense, but what in one inflected word expresses an affirmation with time:⁶ for that those parts of the verb are not properly called tenses, which assume that appearance by means of auxiliary words. (Beattie 1783: 78–9)

A few years later, Lindley Murray emphatically agreed with Beattie’s rejection of the above view:

Grammarians who limit the number [of tenses] to two or three,⁷ do not reflect that the English verb is mostly composed of principal and auxiliary; and that these several parts constitute one verb. Either the English language has no future tense, (a position too absurd to need refutation,) or that future is composed of the auxiliary and the principal verb. If the latter be true, as it indisputably is, then auxiliary and principal united, constitute a tense . . .

(Murray 1805: 84 emphasis ours)

Interestingly, in our survey of a dozen or so important grammars of English between 1600 and 1900, we have not been able to locate a single claim that English had no future tense.⁸ In other words, for 300 years, most grammarians simply took it for granted that English had a future tense, every bit as much as it had a past and present tense. We are miles away from the intricacies that philosophers and logicians have tackled over the past fifty years, and which have permeated contemporary linguistic literature.

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⁶ Grammarians often took ‘affirmation’ to be the essential contribution of the verb, or one of its essential contributions. See Joly (1983) for some discussion.

⁷ Murray’s view is quite typical of the inflationist views of that time. According to him, English has six tenses: Present, Imperfect (i.e. preterit), Perfect (i.e. present perfect), Pluperfect, First Future, Second Future (i.e. future perfect).

⁸ Here are the references to the future tense (or tenses, or even time for a few grammarians who did not use a separate term for the grammatical category) in the grammars we consulted: Butler (1653: 43); Jonson (1640/1909: 132–3); Wallis (1653: 34); Mège (1688: 65); Clare (1690: 73); Aickin (1693: 88); Ward (1758: 101); White (1761; as cited in Taubitz 1978: 312); Lowth (1763: 51, 53); Murray (1805: 84); Cobbett (1818: 48, 52); Bain (1875: 100); Sweet (1898: 85f).
1.2 FROM PHILOSOPHICAL PROBLEMS TO LINGUISTIC HYPOTHESES

A hackneyed opening of philosophical works on time is that from our present point of view, the future is not fixed. While there is arguably only one past, the future is largely 'open' and/or 'indeterminate'. The central conceptual question, familiar since Aristotle’s time, is: when are statements about the future true or false, at the utterance time or at the time predicted for the event to happen? Take, for instance, the assertion that we will manage to send the manuscript to OUP by March. Crazy as it sounds to us today (viz. on March) we would like it to be true. However, and you may trust us on this one, we don’t know yet whether it will be true or not. By contrast, at the moment you are reading this, the claim has turned out to be either true or false.

One problem among many arises from the principle of the Excluded Middle: every proposition is either true or false. Now take the proposition that we will send the manuscript to OUP on March. From an unsophisticated application of this principle, it follows that if this proposition is true (or false) in the future—on March—then it is also true (or false) today. More importantly, it also follows that it was also true (or false) yesterday: in fact, it has been true or false all along. Now, no one can change the past. But see what happens now: we have just arrived at the conclusion that today, on March, we cannot do anything to make our abiding by the deadline true (see, for instance, Perry).

An obvious way out is to say that, as today goes, this assertion about the future has no truth-value yet—propositions do not have a truth-value in the absolute, but relative to some points of evaluation (for a classic statement of this position, see Thomason). However, the difficulty with this line of thought is that one thing we would like such a position to be able to predict is that once we have complied with the deadline, we will be perfectly warranted in saying:

(4) You know what? When we said ‘We’ll meet that deadline’, what we said was true.

Intuitively, (4) would not make much sense if before we met the deadline, it was neither true nor false that we would meet it. The remedy here would be that once the deadline has passed, the content of our assertion does acquire a truth-value—only, we have to wait to discover it (see also Heck; Brogaard). A popular ‘relativistic’ account that follows this line of thought is MacFarlane’s (2003, 2008). According to him, to receive a truth-value, an assertion needs to be evaluated not only relative to a context of use (at the time of utterance) but also relative to a context of assessment. Context of use and context of assessment may coincide, but they need not, and in the case of assertions about the future they do not. For instance, our assertion that we will send the manuscript to OUP on March can be true or false only relative to both
its context of utterance (temporal location, 1 March) and its context of assessment (temporal location, after 31 March).

This ‘relativistic’ or double-indexed solution may still appear counter-intuitive. We often discuss, and challenge, truth-judgements of yet unrealized predictions. For instance, the following exchange sounds perfectly normal:

(5) Us: We will hand in the manuscript by 31 March.
   Someone (we won’t say who): That’s not true. You won’t. You haven’t even started writing the introduction yet.

Let us point out here that not just any utterance can be challenged relative to its truth-value: imperatives or interrogatives cannot.

(6) Someone: Send the manuscript in by 31 March.
   Us: #That’s true. We will do that.

(7) Someone: Will you send the manuscript in by 31 March?
   Us: #That’s true. We will do that.

From (6)–(7) one may conclude that imperatives and interrogatives cannot be judged true or false. By contrast, (5) points in an opposite direction when it comes to statements about the future, and even before they can be evaluated relative to a context of assessment. So, either in some cases the context of utterance and the context of assessment of predictions coincide (which is not particularly sound), or some predictions can be assigned truth-values before an actual assessment takes place.

Belnap et al. (2001: ch. 6; also Belnap and Green 1994) readily accept that at the utterance time a statement about the future has no truth-value. However, they explain the intelligibility of predictions about the future—which they take to be inherently truth-valueless at the utterance time—by the properties of assertions. A successful assertion, according to them, entails that the speaker lays himself open to being either ‘vindicated’—if the asserted content is true—or ‘impugned’—if the asserted content is false. Take again the exchange in (5). Our assertion, albeit lacking any truth-value on 1 March, imposes on us a normative constraint: we will be vindicated if, and only if, on 31 March our manuscript reaches the editors’ office; if it does not, we’ll be impugned. So what about the spoilsport’s retort in (5)? According to Belnap et al.’s account, appearances notwithstanding, she did not actually challenge the truth-value of our assertion—since it had none at that time—but merely imposed on herself a

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9 For discussions of this issue relative to imperatives, see Kaufmann (2012: 144–168) and Jary and Kisseine (2014: chs 2 and 3).

10 In the same way, in their theory, as a sentence that contains a free variable.
commitment opposed to ours; if we fail to send the manuscript in on 31 March, we'll be impugned but she (God forbid) will be vindicated.

It is worth pointing out the difference that such an account entails between (5) and (8).

(8) Us: We managed to get the manuscript ready by 31 March.
   Someone: That's not true. You didn't.

On Belnap et al.'s view, in (5) contracting contradictory assertoric commitment does not coincide with a challenge to the truth-value of the previous assertion, as at the moment the challenge is issued, it has none. In (8), by contrast, because the assertion is about the past it has a truth-value at the utterance time. So, despite superficial similarity, these two dialogues are very different, as in (8) not only does the challenger contract a contradictory commitment, but this time she also challenges the truth of the previous assertion.

As we see the main challenge for theories like Belnap et al.'s or MacFarlane's is that they concede that at the utterance time (prior to 'assessment' time) a statement about the future has no truth-value. An entirely different option is to argue that what predictions are about is not what would happen in any future history, but what is actually the case in the future. Although the future history of the world is undetermined—there are many ways the world can be in the next five seconds—there is only one way it will actually be once these five seconds have elapsed. This *actual* history is a 'Thin Red Line' running through all the alternative histories that branch from the present moment. On such an account, a statement like (9) is true—at the utterance time—if, and only if, we submit the manuscript on 31 March in what is the *actual* history of the world.

(9) We will send the manuscript on 31 March.

Accounts of this breed thus consider that the truth-value of an assertion about the future is already settled at the utterance time; but since we cannot know what the *actual* future history of the world is, this truth-value is inaccessible to us at the utterance time. There are several nuances within such 'Thin Red Line' theories, and several problems with them. Since, in the second chapter of this volume, Isidora Stojanovic addresses them in detail (see also Belnap et al. 2001: 160–71; MacFarlane 2003; Øhrstrom and Hasle 2011), we won't spoil your anticipation here. Let us just limit ourselves to a brief remark. To repeat, on this view, predictions do have a truth-value as soon as they are uttered. The actual history, the Thin Red Line, is objectively associated with the utterance time, so that it is either true or false that the predicted event will take place on it. Note, however, that this does not explain in an entirely satisfying way the fact that predictions can be challenged, as in (5). Inherent in Thin Red Line theories is the presupposition that the future is genuinely and objectively non-deterministic. If so, from our present perspective, it does not make much sense to argue about the truth or
the falsity of a prediction. Aware as we are of the depressing lack of determinism in our world, knowing that the truth-value of any statement about the future is objectively and intemporally fixed should not impress us much, for we know that we cannot know it before the moment when the predicted event is supposed to happen.

There is a way to argue that assertions about the future do have truth-value at the utterance time, without committing oneself to the Thin Red Line or appealing to normative characteristics of assertion. The key premise here would be that if you believe that an event—say, submitting a manuscript on time—will take place independently of the way the world turns out to be, it makes sense to say that the prediction that this event will take place is true. The idea would thus be that a prediction like (9) is true or false as soon as it is uttered, and it is so, because in reality, it is a claim whose truth does not depend on contingent future facts. In other words, what (9) would mean is actually

(10) It is settled, no matter how the future turns out to be, that we will send the manuscript on 31 March.

And because claims like (9) do have truth-values, it therefore makes sense to challenge them.

And yet, there is something very counter-intuitive about this latter position too. For one thing, we sometimes make predictions about things we know to be uncertain. ‘Heads or tails?’ we ask; ‘Heads’ you answer—and yet, most probably, you know that the coin is just as likely to land tails. Furthermore, as Belnap et al. (2001: 159–60) point out, (11) and (12) are very different bets.

(11) I bet that the coin will land heads
(12) I bet that the present circumstances determine that the coin will land heads.

To win the former, all you need is that the coin lands heads. To win the latter, it also needs to be the case that it wasn’t possible for the coin to land tails. Interestingly, a natural patch on this problem leads us back to a trend we identified in the former section: future tenses are not tenses but modals. Let us see how.

1.3 IS THE FUTURE TENSE A GENUINE LINGUISTIC CATEGORY?

We ended the previous section by pointing out how problematic it would be to reduce assertions about the future to assertions about what will necessarily be the case. Some authors have toyed with the idea that a statement like (9) might resemble a possibility rather than a necessity statement (e.g. McArthur 1974; and, to some extent, Jaszczolt 2006). This position does not seem very safe, though. The main reason is that stating
that it is possible that something will be the case is compatible with stating that it is also possible that this same thing will not happen:

(13) It is possible that we'll send the manuscript on 31 March and it is possible that we won't.

Yet, after having stated that something will happen, it is impossible, without contradicting oneself, to add that it will, or even might, not happen (cf. Huddleston and Pullum 2002: 189).

(14) We will send the manuscript on 31 March, and we will not send it by then.
(15) We will send the manuscript on 31 March, and it is possible that we won't.

But one source of the problems with reducing predictions about the future to statements about what is necessarily the case in the future is that it is alethic necessity that features in this analysis—the future is assimilated to something that is necessarily the case given the metaphysical properties of the world. However, many necessity modal statements are weaker than alethic necessity. Take for instance (16):

(16) The publishers must be upset.

There is considerable debate in the literature on the semantics of such claims (see e.g. Veltman 1986; von Fintel and Gillies 2007). For our expository purposes, however, we can stick to the standard Lewis–Kratzer line (Lewis 1975; Kratzer 1977, 1981, 1991). According to this view (16) is true (at the utterance time and in the actual world) if, and only if, in every possible world compatible with some relevant set of information (some belief set), it is true that the publishers are upset.

As was mentioned earlier, several proposals have been made in the literature that the future should be thought of as a kind of epistemic necessity (e.g. Lyons 1977; Huddleston and Pullum 2002). The immediate pay-off of this move is to avoid assimilating a statement about the future to a statement about how the world is settled to be, no matter what happens. The idea is rather that we make claims about what the future will look like in all the possible worlds compatible with some body of beliefs (most often the speaker’s). There are other proposals to model the future as a modal, but all have it in common that they see it as necessity weaker than alethic (e.g. Copley 2009a).

It is important to realize that the substantial empirical and theoretical issue for linguists here is the very existence of the ‘future tense’ as a linguistic category. If speaking about the future is intrinsically speaking about what is necessary (relative to some set of propositions), then it makes sense to argue that there is no such thing as pure temporal reference to the future. Needless to say, not everyone agrees with such a radical move.

Until recently, this debate has been essentially centred on English. Two positions may be distinguished. Proponents of the first hold that the English auxiliary will has a
modal component within its semantics (e.g. Smith 1978; Yavas 1982; Haegeman 1983; Palmer 1986: 216–18, 1987; Enc 1996; Sarkar 1998; Condit 2001; Copley 2002; Jaszczolt 2006). Proponents of the second position treat will as a tense in future-oriented assertions, such as (17); however, they acknowledge that will may have purely modal meanings, when it is not (exclusively) used to mark future reference, as in cases like (1)–(3) (e.g. Comrie 1985: 43–8; Hornstein 1990; Kamp and Reyle 1993: 535).

(17) Mary will come.

Regarding cases like (17), many arguments have been advanced on each side. We are not going to reiterate all of them here. However, discussing one recent development, to which one of us contributed, may help move the discussion towards other languages. Kissine (2008a) provided a two-fold argument against analysing will as an epistemic modal. The argument is based on the properties will should have, were it an epistemic modal. The first is transitivity: in order to predict that a sequence such as (18) feels like a contradiction, (19) must hold.

(18) We will meet the deadline, and for all that we know, it is possible that we will not meet the deadline.

(19) \( \text{will}(p) \rightarrow \text{necessary}[\text{will}(p)] \)

The second is that will (treated as a necessity) should be Euclidean: in order to predict that a sequence such as (20) feels like a contradiction too, (21) must hold.

(20) We will not meet the deadline, and for all that we know, it is possible that we will meet it.

(21) \( \text{not}[\text{will}(p)] \rightarrow \text{necessary}[\text{not}[\text{will}(p)]] \)

It is easy too see that, together, (19) and (21) imply:¹¹

(22) \( \text{it is possible}[\text{will}(p)] \leftrightarrow \text{will}(p) \)

This, however, is a highly undesirable prediction as it follows from (22) that (23) and (24) are equivalent: if you are unconvinced that they are not, just try them on any editor.

(23) We will meet the deadline.

(24) It is possible that will meet the deadline.

Portner (2009: 240) objects to this line of reasoning that the unacceptability of (18) should not warrant (19). In dynamic approaches, such as Groenendijk et al. (1986),

\[ \begin{align*}
\text{will}(p) & \quad \text{possible}[\text{will}(p)] \\
\text{necessary}[\text{will}(p)] & \quad \text{possible}[\text{will}(p)] \\
\therefore \text{possible}[\text{will}(p)] & \\
1, (19) & \quad 1, (19) & \quad \text{not}[\text{will}(p)] (21), \text{MT}
\end{align*} \]
sequences of the form \( \phi \) and possible not-\( \phi \) are inconsistent for independent reasons. It should be noted, however, that in such approaches, sequences such as [possible not-\( \phi \) and \( \phi \)] are fine (as Portner 2009: 95 himself reminds us). But, because (25) is as weird as (18), something still needs to be fixed.

(25) For all we know, it is possible that we will not meet the deadline, and we will meet the deadline.

However things may be, the interaction between future and modality might be an interesting window on cross-linguistic differences, and, possibly, a promising way to decide whether or not a language has a genuine future-tense category. In Greek, while past and non-past time reference is marked morphologically, on the verb, the future is marked analytically, by a preverbal particle \( \theta a + \) a perfective non-past verbal form. Giannakidou (2012) provides several arguments for thinking that this particle should be considered not as a tense but rather as a modal. First, it stands in complementary distribution with particles like \( na \), associated with the subjunctive mood and \( as \), which marks the optative, rather than with other tense markers. Second, \( \theta a \) combines with ‘strong’ modality adverbs equivalent to \( \text{probably} \) and \( \text{certainly} \), but not with ‘weak’ modal adverbs such as \( \text{isos} \) (maybe/perhaps) and \( \text{pithanon} \) (possibly).

(26) I Ariadne \[ \text{malon/sigura} \quad \text{tha} \quad \text{ine} \quad \text{jatros.} \]
\[ \text{"isos/"pithanon} \]
\[ \text{the Ariadne} \]
\[ \text{probably/certainly} \quad \text{THA be.3SG doctor} \]
\[ \text{maybe/possibly} \]

(from Giannakidou 2012)

Clearly, the kind of argument put forward by Kissine (2008a) cannot be extended to Greek, as sequences like (26 2nd line) are simply unacceptable. The incompatibility of \( \theta a \) with weak modality makes plausible Giannakidou’s (2012) claim that this particle is an epistemic modal that triggers future-oriented temporal interpretation in combination with the perfective non-past.

Interestingly, the same argument can be used against applying a modal analysis of future to other languages—amongst which English, as the translations of (26) are all perfectly acceptable. Giannakidou and Mari (2013: 262f) extend Giannakidou’s (2012) analysis of the Greek \( \theta a \) to Italian. They claim that, what, in Italian, is traditionally seen as a future tense, is, in fact, an instance of epistemic modality. Prima facie, such a claim about Italian is more surprising, as in Italian future time reference is inflectionally marked on the verb, just like the past and the present tense. Yet, Giannakidou and Mari (2013) argue that, as in Greek, the future in Italian is incompatible with weak epistemic modal adverbs, such as \( \text{possibilmente} \) (which they gloss as \( \text{possibly} \)). Here are their judgements:
(27) *Possibilmente Giacomo sarà un dottore.
   Possibly Giacomo be-FUT.3SG a doctor

(28) *Probabilmente Giacomo sarà un dottore.
   Probably Giacomo be-FUT.3SG a doctor

Now, a quick Google search yields quite a few occurrences of *possibilmente* with future tense. Here is a hit for the verb *arriverà* (*arrive-FUT.3SG*) with the crucial portion highlighted.

(29) Questi giorni si presenteranno [sic] pieni di possibilità a livello lavorativo. Se stai aspettando una risposta, *possibilmente arriverà* verso la metà della settimana e sarà molto favorevole per te.
   (http://oroscopo.wuore.it/oroscoposettimanale-cancro-09072012.html)

However, native speakers we consulted felt that examples like (29) were usually not quite acceptable. On closer inspection, it turned out that their awkwardness probably had a lot to do with the fact that *possibilmente* is not used as a pure epistemic. Instead, it usually serves to introduce a wish or suggestion, and translates as *if possible* or *preferably* rather than *possibly.* When it comes to genuine weak epistemics, such as *forse* (*maybe*), judgements are clear: they are perfectly combinable with the future.

(30) Il 6 Settembre *forse arriverà* il nuovo Kindle Fire.
   (www.tuttoandroid.net/news/il-6-settembre-forse-arrivera-il-nuovo-kindle-fire-61228/)

(31) La finale di Coppa Italia *forse sarà* rinvianti.
   (http://alfredopedulla.globalist.it)

So, if the arguments of the kind advanced by Kissine (2008a) against the putative modality of *will* are valid, they also indicate that Greek has no genuine future tense. But, by the same token, this result on Greek makes it more likely that Italian and English do have a genuine future tense, irreducible to a modal operator.

A methodological lesson that can be learned from grouping English and Italian together in this respect is that the analytic or synthetic nature of future-reference marking cannot prejudge the (non)-modal character of this marker. (See also the brief discussion in Section 1.1.) In relation to the synthetic or analytic nature of the future, it is interesting to note that while contemporary English grammarians usually claim that English has only two tenses (see Section 1.1), by contrast, descriptive grammars of a language like French, which has an inflectional future tense, are less prone to assimilating the future to another, non-tense grammatical category (Wagner and Pinchon

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12 Thanks are due to our three Italian informants.

In any event, assuming that tense is exclusively—or even preferably—an inflectional category is a methodological mistake. Lyons (1995: 313f) warns against the parochialism of such assumptions, pointing out that tense is expressible notably by clausal particles and arguing that it is accordingly a clausal rather than a verbal category (but see the discussion of the Greek particle *tha* above). Tense (future or not) is periphrastic in many languages. For instance, Salkie points out that in spoken French, the periphrastic past tense (*passé composé*) is the default way to refer to past time (2010: 189). Moreover, by treating tense as necessarily an inflectional category, one would have to automatically classify all isolating languages as ‘tenseless’. By no means is this a straightforward option. For instance, Matthewson (2006) argues that, in spite of having no apparent morphological tense, Stát’imcets actually possesses covert tense morphemes, while Mucha (2012) argues that, under the same criteria, Hausa is a genuinely tenseless language.

In this connection, it is worth pausing on the criteria used by Matthewson (2006) and Mucha (2012) to test for ‘tenselessness’. First, in a genuinely tenseless language grammatical aspect should trigger default temporal interpretations (perfective aspect as past and imperfective/progressive as present, cf. Smith and Erbaugh 2005), while if aspect does not determine temporal anchoring, one should posit covert tense.\(^\text{13}\) But it is Matthewson’s second criterion that is especially relevant for the present discussion. Her explicit assumption is that, in a genuinely tenseless language, future time reference should be overtly marked by default. The reason given is that future time reference is more complex than past and present temporal anchoring—because it involves a modal component (see also Mucha 2012).\(^\text{14}\)

We thus see that authors like Matthewson (2006) and Mucha (2012) assume a priori that future time reference is too special for it to be totally unmarked within syntax and entirely derivable from the context. This goes counter to the claim, frequent in typology, that along the ternary past/present/future tense distinctions, there exist past/non-past as well as future/non-future languages (e.g. Timberlake 2007; De Haan 2011). Matthewson, well aware of this consequence admits that all putative past/non-past languages should then be reanalysed ‘as really involving a past/present split, with future readings obtained by means of some null morphology’ (2006: 708), viz. by

\(^{13}\) See also Bridget Copley Chapter 4 for an argument that progressives and imperfectives do not really extend reference time towards the future eventuality.

\(^{14}\) Matthewson (2006) argues that, in spite of the fact that the Stát’imcets future marker *kelh* has no non-future modal meanings, it is a modal with a variable existential or universal quantificational force, a claim extended to other Stát’imcets modals by Rullmann et al. (2008).
means of some phonologically silent morphosyntactic marking.\textsuperscript{15} It is worth noting, in this connection, that in the chapter of the World Atlas of Linguistic Structures devoted to the future tense, Dahl and Velupillai (2011) note that ‘[…]t is relatively rare for a language to totally lack any grammatical means for marking the future. Most languages have at least one or more weakly grammaticalised devices for doing so.

Moreover, even if future reference is always marked, at some level or another, it still does not follow that modality is always involved. To argue this last point, one has to demonstrate that conceptually the future is inherently linked to modality. The discussion of philosophical issues in the previous section may point at a theoretical reason for this. Note, however, that such philosophical justification is rarely assumed in explicit terms by those linguists who deny that reference to future can be made without involving modality. On the linguistic side, independent support for this position may be drawn from facts such as the clear diachronic relationship between modality and the future in Romance languages (e.g. Fleischman 1982). It should be noted, however, that, cross-linguistically, the future tense has also frequently evolved from constructions that involve verbs of movement and temporal adverbs (e.g. Bybee et al. 1994: 244–71).

In a study restricted to European languages, Dahl (2000) lists no fewer than fifteen different possible origins for ‘future-time-reference devices’. Note however that Dahl does not commit himself to calling all of those tenses, pointing out notably that ‘full grammaticalization of futures is not common in large parts of Europe’ (2000: 315).\textsuperscript{16}

It thus appears that two issues are often mixed in the literature: whether the future is more complex than other tenses, and requires a special treatment, and whether periphrastic marking of the future provides a reason for not treating it as a tense. We have just seen that matters surrounding periphrastic future marking are complex, to say the least, so that the absence of an inflectional future does not warrant the claim that the future tense is inexistent altogether. As already mentioned, disputes about the exact nature—tense or not—of future marking are not limited to periphrastic forms. In addition to Italian, briefly discussed above, let us quote, as a particularly striking example, Bittner’s (2005) analysis of Kalaallisut, a polysynthetic Eskimo language, where future reference is marked affixally on the verbal stem. Bittner argues that despite its morphological nature future reference in Kalaallisut is derivational, viz. that ‘future’ affixes are incorporated predicates, and not tenses. Here too, a careful linguistic analysis is required to settle the matter. In Chapter 6, Naja Trondhjem argues that, pace

\textsuperscript{15} A few writers on English who recognize only two (absolute) tenses have argued that the distinction should be between past and non-past rather than past and present (e.g. Lyons 1977: 678; Quirk et al. 1985: 176; Börjars and Burridge 2001: 147). To others (e.g. Huddleston and Pullum 2002: 134), the traditional terms are preferable, because uses of the present tense for future-time reference (futurate uses) are heavily restricted in main clauses. If Matthewson is right, then the more conservative view is safest. For futurates, see Bridget Copley Chapter 4.

\textsuperscript{16} Opinions may differ as to the value of diachronic considerations. Thus, Comrie judges that such historical developments ‘say nothing of the synchronic status of such forms’ (1985: 46).
Bittner, Kalaallisut is a genuine past/non-past language, which grammaticalizes fine-grained remoteness distinctions within future tenses.

By no means is Kalaallisut exceptional in having several means of marking futurity (although, arguably, it does reach quite a high level of complexity). A well-known issue, from English, is that of forms such as be going to. If you are among those who analyse will as a future tense (auxiliary), you still face the question of whether you should incorporate be going to within the future tense system or not. Russian provides another nice illustration of this dilemma. In Russian perfective/imperfective aspect is marked on the verb. It is usually said that perfective verbs have a past and a future form, while imperfectives have a past and a present form, the future of imperfective verbs being formed analytically with the auxiliary bit’ (= to be) (see Błaszczak et al., Chapter 8, for a discussion of a similar construction in Polish). However, imperfective present forms (e.g. idu-go.) and perfective futures (poïdu-go.), on the face of which it is legitimate to ask whether both forms should not rather be classified as non-present (Grenoble 1989).

To conclude our discussion of linguistic arguments in favour of modal analyses of futures, let us briefly return to uncontroversial modal uses of will in English, such as (1)–(3), repeated for convenience:

(1) Oil will float on water.
(2) Mary will be at the opera now.
(3) In winter, Mary will always wear a green coat.

We already saw in Section 1.1 that some scholars have invoked such ‘non-temporal’ examples as an argument against analysing it as a tense marker. The first thing to note is that corpus studies reveal that they are fairly infrequent (see Salkie 2010 for a review). Secondly, an important question is whether the modal meaning is encoded within will or whether it is pragmatically derived (see Kissine 2008a). Take ‘epistemic’ will, as exemplified by (1). Similar constructions can be found in languages with clear inflectional futures, such as Italian (e.g. Giannakidou and Mari 2013) or French (Tasmowski and Dendale 1998). One might start looking for a language-independent pragmatic explanation of what makes future marking apt for expressing epistemic modality. And, at that point, it is, of course, very tempting to return to the relationship between modality and future and to argue that future time reference inherently involves some hypothetical overtone, viz. some modal component.19

17 See also Błaszczak et al. Chapter 8 on competing future marking systems in Polish.
18 Grenoble (1989) argues for subtle, aspect-related contrasts between these two forms (on such criteria as the imminence of the event relative to the speech time, sequentiality, givenness, plannability, and likelihood).
19 At this stage it is worth mentioning Jaszczolt’s (2009) proposal to treat all tenses as modal. As a matter of fact, the author defends an even more radical picture on which time itself is a modal category.
1.4 THINKING ABOUT THE FUTURE

In the previous two sections, we saw that the temptation is great to link future time reference with modality—a temptation coming both from philosophical and linguistic quarters. In addition to technical and analytical justifications that can be found in the literature, there is a common-sense attractiveness to the idea that thinking about the future is very different from thinking about the present and the past. Whenever we pause to reflect on it (if we ever do), we feel deeply that the future is indeterminate, open, and uncertain. It would seem then that it is inconceivable for an organism to be able to think about the future without having some sort of ability to consider alternative, possible states of affairs.

Another potentially important source of data, which we can do no more than mention here, may come from neurolinguistics. We saw in the previous section that several authors single out future tense/time reference as being conceptually more complex than past and present time reference. However, a number of studies show that past reference is much more likely to be impaired in aphasia than non-past reference (e.g. Bos et al. 2013). By contrast, future time reference is more likely to be preserved, be it in a language like Turkish that marks futurity inflectionally or in languages like English or Greek, with exclusively analytical future marking (Nanousi et al. 2006; Yarbay Duman and Bastiaanse 2009; Bastiaanse et al. 2011). To be sure, one should be wary of interpreting clinical data too hastily. For instance, Bastiaanse et al. (2011) found that in the productions of Mandarin Chinese speakers, future, present, and past temporal reference was equally impaired.20 That said, aphasiological data seem to point consistently at a specific difficulty with past reference, and provide no indication as to a special, more complex, cognitive status of anchoring events in the future.

Another area where the future seems more basic than the present and the past is evolutionary speculation about subjective temporal projection. The somehow counter-intuitive idea that the main function of memory is to allow projection into the future makes perfect sense once one starts thinking about the kind of adaptive features that may have prompted the selection of memory. For any organism endowed with long-term memory, it seems much more beneficial to be oriented towards the future than to stare back into the past. In support of the functional primacy of future projection, Klein et al. (2010) report, for instance, a much better recall in a condition where participants had to imagine a future camping event, compared to a condition in which they had to imagine an atemporal camping event or were prompted to remember a previous camping event. Of course, this does suggest that the future is special.

20 Interestingly, to explain this difference, the authors invoke the fact that Mandarin Chinese is a genuinely tenseless language, with temporal reference being essentially marked through aspectual distinctions, the omission of which does not result in agrammaticality (cf. Smith and Erbaugh 2005). Consistent with this line of thought is their finding that, in comprehension, future reference was easier than past for Mandarin speakers with aphasia.
The question, however, is whether it is special in that it involves additional capacities not required to remember the past. Data from aphasia suggest that the reverse is more likely to be true.

In an insightful survey article, Klein (2013) cites a great number of experimental and clinical data supporting the view that episodic and semantic memory form the basis supporting two basic temporal projections into the future. The first kind of projection is subjective, akin to McTaggart’s (1908) ‘A-series’, where the events are experienced as flowing from the future to the past, and this projection requires episodic memory. The second type of projection is more reminiscent of McTaggart’s ‘B-series’, with events being frozen into an immutable temporal sequence; it requires semantic memory, which is necessary for experiencing the future as ‘known’, as if from a third-person perspective. This is not to say, of course, that semantic memory does not play a role in more subjective future-time projection; in fact, Klein argues forcefully that it does. But what this line of research strongly indicates is that the most important divide is not between the orientation of temporal experience—past or future—but between the kinds of experience—first- or third-person, as, rather unsurprisingly, the same distinction between a self-centred awareness and third-person ‘knowing’—underpinned by episodic and semantic memories, respectively—also holds for remembering the past (e.g. Tulving 1993). (Richard Weist in Chapter 5 addresses the role played by (especially episodic) memory in the acquisition of future temporal reference.)

From the considerations adumbrated above, there also seems to be little motivation to believe that conceiving of the future necessarily involves conceiving of a domain of possibilities. In this connection, it is interesting to note that a well-established characteristic of autistic spectrum disorders is a difficulty to conceive of alternative situations of the world (e.g. Hughes et al. 1993; Jarrold et al. 1993; Hill 2004; Ozonoff et al. 2005; Leevers and Harris 2000; for an extensive discussion and review, see Kissine 2012; Kissine 2013: 132–44). Consequently, if thinking about the future were linked to modality, in a way that remembering the past is not, one should expect to find specific problems with future projection in persons with autistic spectrum disorders. Yet, this is not what emerges from the recent experimental literature. Both episodic memory of the past and episodic projection into the future appear to be impaired in autism (Lind and Bowler 2010). However, in a task with fewer demands on the generation of specific, autobiographical propositions, adults with autism show no specific impairment at the level of projection into the future (Crane et al. 2013).

1.5 OVERVIEW OF THE VOLUME

In the preceding sections we have attempted to provide a glimpse into the complexity surrounding philosophical, linguistic, and cognitive approaches to the future.

21 For a presentation of McTaggart’s categories, see Binnick (1991: 243) and Jaszczolt (2009: 16–28).
A volume that reflects the empirical and methodological complexity of these issues seems timely to us. So why is it not a Handbook of the Future that you are reading? In our opinion, such a book would be premature, because, as you may have realized from the foregoing, in many (most?) of the areas concerned, the study of the future remains a messy affair.

For instance, as we have already mentioned, there is a tension between, on the one hand, the intuition that assertions about the future can often be judged, as true or as false, right at the utterance time, and, on the other hand, the straightforward idea that the truth or falsity of such speech acts cannot be verified until the relevant moment in the future. As Isidora Stojanovic (Chapter 2) shows in her contribution, despite the increasing sophistication of semantic and logical tools, the issue remains unsolved. In fact, whether the existing semantic paradigms are suited for studying reference to the future is itself still a matter of debate. Another contribution, Bridget Copley’s (Chapter 4), shows that although model-theoretic semantics—especially its Kratzerian version—is often unquestioningly adopted, it is ill-fitted to account for subtle differences among English expressions of futurity. The popularity of Kratzer’s possible world semantics (aimed at formalizing modality) is explainable to a large extent by the widespread assumption that future markers like English will are best analysed as modals rather than tenses. As we have seen, characterizations of this or that language as ‘expressing future through modality’ or ‘with aspectual distinctions’ must be examined carefully. Comparative studies, such as Alexandra Aikhenvald’s (Chapter 9) or Gerd Jendraschek’s (Chapter 7), suggest that terms like ‘modality’ and ‘aspect’, just as much as ‘future’, do not denote transcendental, language-independent grammatical categories. It was shown in Section 1.3 that the widespread assumption that tense is systematically marked inflectionally is problematic. One of the lessons of Naja Trondhjem’s Chapter 6 is that certain languages resort to derivational morphemes to mark future reference. To give a final example of unresolved questions, Chapter 5 by Richard Weist makes clear our current lack of understanding of what determines the emergence of the capacity to handle future perspective during language ontogenesis.

Though it is premature to attempt to supply a ‘compendium of the future’, there is a need for a volume that provides students of language with an overview of the empirical and conceptual diversity of the phenomena, and with sound and instructive methodology. This is what we set out to achieve.

Each chapter addresses an original and important issue in relation to the future. But not only are the chapters worth reading for their own sake; taken together they also constitute a significant source of methodological insights. First and foremost, linguistic inquiry needs to look beyond Indo-European languages—and several of our contributors emphasize this (Aikhenvald, Jendraschek, and Trondhjem). The detailed and precise description of the morphosyntactic systems of such languages is, in itself, an important and challenging task. Naja Trondhjem’s study of future tense in West
Greenlandic shows that it is necessary to pay close attention to the morphological structure—affix ordering in particular—in order to determine the grammatical status (derivational versus inflectional) of futurity markers, and thus permit a more accurate analysis of what has been previously analysed as a 'tenseless' language. Likewise, a careful morphological analysis allows Gerd Jendraschek to decide, on solid grounds, whether languages like Turkish, Basque, or Iatmul have a future tense or whether futurity is expressed by markers of aspect or mood (irrealis). Whereas the connections between future marking and aspect or modality are rather well-documented, there are other very important interactions between future and other grammatical categories outside TAM which are rarely mentioned. Alexandra Aikhenvald bases her discussion on a typological survey of the interaction of future tenses with the imperative mood, person distinctions, and evidentiality. The relationship between future tense and evidentiality is also the central topic of Victoria Escandell-Vidal’s Chapter 10, which argues that the contemporary Spanish future tense is essentially an evidential marker. There are two methodological lessons here. First, the claim that the Spanish future is, at its core, an evidential must rest on a sound distinction between semantic and pragmatic factors. Second, since the postulated monosemy of the Spanish future departs from the diachronically basic meaning (locating a situation after the utterance time), the author must back up her claim with additional synchronic data—here, from language acquisition and dialectal distribution. Another methodological observation is that reference to the future covers distinct linguistic mechanisms, each with its own semantic and conceptual properties. Bridget Copley shows that accounts currently available in formal semantics obliterate the differences between ‘futures’, ‘futurates’, and ‘imperfectives’, and, accordingly, conflict with speaker’s intuitions. In order to arrive at a finer-grained account, Copley offers a reflection on the semantic and ontological status of causation.

The various chapters represent different theoretical orientations and are concerned with distinct aspects of future talk. Factor in the broad array of languages examined and you may begin to wonder if this volume displays sufficient homogeneity. We think it does. In fact, one of its strengths are the common threads that run through a priori theoretically remote contributions. Let us give a few examples. Victoria Escandell-Vidal partly grounds her claim about the Spanish future tense on developmental data. The acquisition of the future is Richard Weist’s main topic; his arguments rest on cross-linguistic evidence, among which data from an Inuit language feature prominently. The morphosyntax of future-time reference in an Inuit language, West Greenlandic, is addressed in detail by Naja Trondhjem. As we have already mentioned, several contributions address the interaction between future tense and other grammatical categories; Weist pays close attention to the link between future and modality in language acquisition. Like Copley, Louis de Saussure addresses the conceptual constraints on a particular class of ‘futurates’, and like Escandell-Vidal he carefully distinguishes between semantic and pragmatic aspects of interpretation.
1.6 OUTLINE OF THE CONTRIBUTIONS

In her 'Talking about the future: Unsettled truth and assertion', Isidora Stojanovic looks into four logical-philosophical accounts of future-tensed assertions, all of which adopt the influential 'branching-future' view. After making explicit their respective semantics, she tests each of them against two sets of assumptions. The first are a couple of intuitively attractive conditions on any theory that accepts the metaphysical indeterminacy of 'future contingents'. The second are constraints on the assertability of those kinds of sentences by rational speakers. Stojanovic argues that none of the theories she assesses does well on both tests. Supervaluationism and theories that assimilate future tense to a necessity modal fare poorly on both counts. The 'Open Future' account is compatible with the first couple of constraints, but cannot explain assertability. The 'Thin Red Line' account, which holds that at any given moment there is a unique actual history, shows the opposite picture. The author's provisional conclusion is that no current logical-philosophical account yet satisfies all the requirements on an adequate theory.

Fabio Del Prete's chapter investigates the semantic properties of English will from the angle of two classic problems in formal semantics which arose in connection with examples such as the following:

(32) Mary wants to marry a rich man.
(33) Mary will marry a rich man.

The first issue—Stalnaker's Asymmetry (cf. Stalnaker 1981)—is that a non-specific interpretation of the indefinite NP is available with want, and but not with will. The second issue, raised by Karttunen (1976), is that in sequences such as (34) the specific reading of the indefinite NP in the first sentence triggers the epistemic reading of must, while the non-specific reading of this NP triggers the root reading.

(34) Mary wants to marry a rich man. He must be rich.

Del Prete shows that, when substituting will for want in such Karttunen-type sequences, it is nonetheless possible to get readings on which the necessity modal in the second sentence (not necessarily must) is interpreted teleologically and the indefinite NP in the first receives a non-specific interpretation. Thus, one is left with a conundrum: Stalnaker's Asymmetry suggests will is different from want in triggering only a specific interpretation, hinting that it does not involve quantification over possible worlds, whereas the Karttunen-type examples suggest it exhibits modal concord with must. Del Prete's solution consists in positing a clear separation between the respective contributions of tense and time. Semantically, will is a tense marker: it locates a situation in the future, as predicted by Stalnaker's Assymetry. At the same time, the inherently branching nature of future time induces a pragmatic strategy of universal quantifi-
cation over possible future histories. It is that universal quantification which makes modal subordination possible in Karttunen-type discourses, allowing a teleological interpretation of the necessity modal in the second sentence.

Bridget Copley, in ‘Causal chains for futurates’, proposes a novel account of ‘futurate’ English constructions, such as, (35)–(36).

(35) John is getting married tomorrow.
(36) John gets married tomorrow.

She starts by arguing that progressives and imperfectives such as these do not extend the eventuality time towards the future, but introduce a ‘plan’. ‘Plans’, in Copley’s conception, are reified as states which directly cause the future event denoted by the verbal phrase. In order to implement plans at the syntax–semantic interface, Copley modifies Kratzer’s (1996) classic characterization of ‘little vP’ in agentive predicates: in futurates, a ‘director’ stands in the specifier of a ‘little vP’ whose complement is introduced by a state predicate. Semantically, the director is responsible for the state—the plan—which directly causes the future event. The presence of a director is thus required to trigger futurate readings, which, according to the author, explains why (37) has no future interpretation even in a context where the ball is rolling towards the pin.

(37) The pin is falling over.

A further consequence of this analysis is that futurates, but not ‘futures’, involve the presupposition that the event is something that can be directly caused by a plan. The distinction between futures and futurates is important, as Copley argues that the sort of possible-world accounts often advocated for the future cannot be transposed to futurates without being rendered redundant by constraints posited by her causal account.

In his ‘Future temporal reference in child language’, Richard Weist examines how children acquire the capacity to code future temporal reference within the morphosyntactic structure of their first language, relating it with the mastery of the ‘event time’ (ET) and ‘reference time’ (RT) systems. Reviewing data on the developmental trajectories of future tense morphology in different languages, such as Slavic languages, English, Finnish, he addresses the question of what exactly the child codes when she uses markers of futurity. Do these morphemes code that an event is likely to occur subsequent to speech time or do they convey a deontic meaning centred in the ‘here and now’ of the speech event? To tackle these issues, the author allows for the interaction between language acquisition and conceptual development. He considers the research on memory processes in the context of cognitive development and investigates the meaning that morphemes have at various phases of the child’s development.

As we saw earlier in this introduction, Kalaallisut (West Greenlandic, WG) has been claimed (e.g. by Bittner 2005) to be a tenseless language. Naja Trondhjem maintains...
that it is a future/non-future language. The core of her argument is that, in a somewhat unusual fashion, tense in WG is marked derivationally. To show this, Trondhjem pays close attention to the strict affix ordering prevalent in WG. A verbal stem is (optionally) followed by derivational affixes, then (obligatorily) by an inflection (marking mood, person, and number). Probably as a result of grammaticalization from more concrete to more abstract meanings, the tense affixes are often polysemous (from two to five meanings, lexical, aspectual, temporal, or modal). Unlike present-time reference, which is never marked, and pastness, for which marking is only optional, future-time reference must be marked: remove the future affix and that reading is no longer available.

Gerd Jendraschek examines three very different languages—Turkish, Basque, and Iatmul (Papua New Guinea)—which, nevertheless, raise similar issues about future-time marking. For Turkish, he shows that careful consideration of verbal morphology, together with recognition that the present tense marker has zero exponence, forces the conclusion that the futurity markers -er and -ecek are aspectual rather than tense affixes, the former expressing dispositive aspect, the latter prospective aspect. In modern Basque, the main means to express futurity is a periphrastic construction with a prospective marker on the lexical verb, within the aspectual slot, followed by an auxiliary in the present tense. In Iatmul, futurity is mainly expressed by an affix found in the 'tense–mood' slot of the verb. The range of meanings of this affix invites classification as 'irrealis' rather than as 'future tense'. The author suggests that his various observations argue for a view of Tense–Aspect–Modality as falling under the broader category of 'situation perspective', which subsumes the grammatical representation of situations. Under this view, aspect, tense, root modality, and epistemic modality correspond to increasingly abstract perspectives on a scale, and their relative positions on that scale determine the directionality of grammaticalization for TAM markers.

Joanna Błaszczak, Patrycja Jabłońska, Dorota Klimek-Jankowska, and Krzysztof Migdalski claim that, in Polish, future time reference can be expressed by means of markers of perfective and inceptive aspect. In the light of discriminating syntactic criteria, the authors argue that the three forms expressing futurity in Polish—that is, the simple future (SF) and the two periphrastic future (PF) constructions—are all monoclausal. From a semantic point of view, there is no clear difference between the two PF constructions: the PF consisting of the auxiliary będzie and an imperfective lexical verb in the form of an l-participle is simply more innovative than the periphrastic future consisting of the same auxiliary complemented by the infinitive form of an imperfective lexical verb. Not only the PF forms, but all three constructions expressing future reference in Polish have in common a perfective present tense element which shifts the reference time forwards and locates it after the speech time. The difference between SF and PF in Polish therefore lies in the fact that the simple future marks a bounded future eventuality whereas the periphrastic future expresses an unbounded future eventuality.
In her ‘On future in commands’, Alexandra Aikhenvald looks into the marking of future-time reference in imperative and non-imperative directive speech acts in a wide range of languages. Although imperative clauses seem bound to refer to the future, some languages do distinguish between two forms of the imperative, one ‘immediate’, the other ‘delayed’, or ‘future’. These distinctions often do not run parallel to those found in interrogatives and declaratives, which tend to be richer. Future imperatives interact in interesting ways with other grammatical categories. Thus, it is not rare for them not to be compatible with all three grammatical persons. The choice of a future imperative may also have pragmatic consequences, often coming across as a more polite alternative to the immediate imperative. There are intriguing interactions between the declarative future tense and directives too. In some languages the future tense is used for strong commands, yet in many others it is associated with milder directives evincing politeness. When a language has several future tenses, not all may be used in commands, and selection of a future tense for polite requests may be dictated by speech etiquette.

Victoria Escandell-Vidal proposes the following semantics for the Spanish inflected future tense (SIFT): \[\text{FUT}(p) = (p) \land \text{Source}(p) = S \land \text{MKnow}(p) = \text{II}\]. In other words, a future-tensed sentence indicates that the propositional content \(p\) under the scope of the SIFT has the speaker \(S\) as its only source, and intuitive inference \(\text{II}\) as the mode of knowing. This evidential meaning falls outside the propositional content; it contributes to the level of meaning that records propositional attitudes and illocutionary force. Traditional accounts ascribe various meanings to the SIFT, chiefly futurity, conjecture, concession. These are here shown to result pragmatically from the interaction of the evidential semantics with various linguistic and non-linguistic factors. Escandell-Vidal claims that conceiving of futurity as the primary meaning of the SIFT leaves unexplained three crucial empirical facts: (i) out of context, it is impossible to tell whether a future-tensed sentence locates an event in future time or not; (ii) children master the conjectural uses of the SIFT much earlier than the temporal ones, and use the periphrastic \(\text{ir a} + \text{inf.}\) construction when referring to the future; (iii) spoken data from contemporary varieties of Spanish reveal that futurity is preferentially expressed periphrastically. The author then proceeds to argue that the uses that seem to contradict the evidential semantics (apodeictic, performative, stipulative) are found only in written Spanish, and are relics of a former system in which the inflected future encoded a temporal meaning.

In certain contexts, the French passé composé can be used to refer to an eventuality considered past from a future reference point. Louis de Saussure calls that use the ‘futurate composed past’. The composed past (CP) has two main types of meaning in French: the anterior CP fulfils a narrative function whereas the perfect CP serves to convey that a state of affairs resulting from the expressed eventuality is relevant at speech time. Saussure’s chapter suggests that, with the futurate CP, what is represented is the truth of the implied state of affairs in the future and that futurate CP
utterances trigger a pragmatic inference about what should be done in the present for the expressed eventuality to come about. The latter is achieved through an allocentric representation of the deictic present point $S$ in the future and the simulation of a future state of affairs presented as past and therefore as true.

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