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# FUTURE TIMES, FUTURE TENSES

EDITED BY PHILIPPE DE BRABANTER,  
MIKHAIL KISSINE, & SAGHIE SHARIFZADEH

OXFORD STUDIES OF TIME IN LANGUAGE & THOUGHT

## Future Times, Future Tenses

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OXFORD STUDIES OF TIME IN LANGUAGE AND THOUGHT

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# Future Times, Future Tenses

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Edited by

PHILIPPE DE BRABANTER, MIKHAIL KISSINE,  
AND SAGHIE SHARIFZADEH

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## *General preface*

The series *Oxford Studies of Time in Language and Thought* identifies and promotes pioneering research on the human concept of time and its representation in natural language. Representing time in language is one of the most debated issues in semantic theory and is riddled with unresolved questions, puzzles, and paradoxes. The series aims to advance the development of adequate accounts and explanations of such basic matters as (i) the interaction of the temporal information conveyed by tense, aspect, temporal adverbials, and context; (ii) the representation of temporal relations between events and states; (iii) human conceptualization of time; (iv) the ontology of time; and (v) relations between events and states (eventualities), facts, propositions, sentences, and utterances, among other topics. The series also seeks to advance time-related research in such key areas as language modelling in computational linguistics, linguistic typology, and the linguistic relativity/universalism debate, as well as in theoretical and applied contrastive studies.

The central questions to be addressed concern the concept of time as it is lexicalized and grammaticalized in the different languages of the world. But its scope and the style in which its books are written reflect the fact that the representation of time interests those in many disciplines besides linguistics including philosophy, psychology, sociology, and anthropology.

The domain of futurity to which this volume is dedicated has recently been attracting more and more attention. In fact, futurity is not traditionally a major centre of interest to scholars in language and philosophy, who usually mostly focus on pastness. A classical problem with futurity has to do with the complicated ontological status of future states of affairs. Bearing no reality and having left no trace of existence, future events (and reference to future events) raise existential problems. A classical attempt to solve this is to think of future tenses and markers as essentially modal items expressing a sort of possibility (or array of possibilities branching onto the present), rather than some problematic 'future fact'. Typically, that some languages (for example English, but Germanic languages in general) express futurity with a volitional or modal verb (will) might be seen as a reflection of the modal nature of future expressions. Some contributions to this volume do specifically address this issue, but there are also a number of other ways of approaching the notion of futurity and its expression in languages that are worth consideration. In particular, aspectual features play an important role that actually varies across languages. Also, the volume suggests some new ways of handling the fact that many non-future linguistic expressions (notably the present tense) can express futurity as well, proposing new lines of explanation.

Kasia M. Jaszczolt and Louis de Saussure  
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## *List of abbreviations*

1	speaker
1 > 2	first person acting on second person
2	addressee
3	3rd person
A	transitive subject
ABS	absolutive
ACC	accusative
ADJR	adjectivizer
ALL	allative
AspP	Aspect Phrase
ATTR	attributive
AUX	auxiliary
CAUS	causative
CDS	child-directed speech
COM	comitative
COMPAR	comparative
COND	conditional
CONT	contemporative mood
CP	composed past
D	demonstrative
DAT	dative
DECL	declarative
DEP	dependent (con)verb form
DET	determiner
DIR.EV	direct evidential
DISP	dispositive (aspect)
ELAB	elaborating (mood)
EMPH	emphatic
ERG	ergative
ERPs	event-related brain potentials

ET	event time
EXC	exclusive
FEM/fem	feminine
FUT	future (tense)
FUT.CERT	certain future
FUT.UNCERT	uncertain future
GEN	genitive (case)
HABIT	habitual
HYP	hypothetical (tense)
II	intuitive reference
IMM	immediate
IMP/IMPV	imperative
IMPF	imperfective (aspect)
INCHOAT	inchoative
INCL	inclusive
IND	indicative
INE.FUT	inevitable future
inf	infinitive
INFR	inferred
INSTR	instrumental
INT	intentional
INT/INTER	interrogative
INTR	intransitive
IO	indirect object
IPFV	imperfective (aspect)
IRR	irrealis
LF	Logical Form
LOC	locative
M/MASC	masculine
MR	modifier
NEAR.FUT	near future
NEG	negator/negation
NF	non-feminine
NegP	sentence negation
NFUT	non-future (tense)
NOM	nominative

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NONIMM	non-immediate
NP	noun phrase
NPOT	impossibility
NR	nominalized clause marker
O	transitive object
ONOMAT	onomatopoeia
PBT	Partial Branching Time
PERFT	perfect
PERI	peripheral
PF	periphrastic future
PFV	perfective (aspect)
PL/pl	plural
PLAN.FUT	planned future
POS	positive
POSS	possessive
POT	potential (modality)
PRES	present (tense)
PRET	preterite
PRO	understood subject of control verb
PROG	progressive (aspect)
PROH	prohibitive
PROSP	prospective (aspect)
PRS	present (tense)
PRTV	partitive
PST	past (tense)
QR	quantifier raising
REAL	realis
REFL	reflexive
REL	relativizer
RT	reference time
S	intransitive subject/speaker
SEQ	sequential
SF	simple future
SG/sg	singular

SIFT	Spanish inflected future tense
SR	subordinate clause marker
ST	speech time
Subj	subject
SUBJ	subjunctive (mood)
TAM	tense, aspect, mood
ToM	Theory of Mind
TOP.NON.A/S	topical non-subject
TR	transitive
TRL	Thin Red Line
VAG.FUT	vague future
vP	light verb phrase
VP	verb phrase
WG	West Greenlandic
WSE	wide scope existential quantification

# Future tense vs. future time: An 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 Øhrstrøm 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 'eventualites' (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.<sup>1</sup> However, when it comes to specific languages, the inclusion of formal criteria

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<sup>1</sup> 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.<sup>2</sup> 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*)<sup>3</sup> 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):<sup>4</sup>

<sup>2</sup> 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.

<sup>3</sup> 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*.

<sup>4</sup> 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).<sup>5</sup> 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 1.3.

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).

<sup>5</sup> 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: 481ff; 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:<sup>6</sup> 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,<sup>7</sup> 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.<sup>8</sup> 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.

<sup>6</sup> Grammarians often took ‘affirmation’ to be the essential contribution of the verb, or one of its essential contributions. See Joly (1985) for some discussion.

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

<sup>8</sup> 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 (1633: 43); Jonson (1640/1909: 132–3); Wallis (1653: 34); Miège (1688: 65); Clare (1690: 73); Aickin (1693: 88); Ward (1758: 101); White (1761; as cited in Taubitz 1978: 322); 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 31 March. Crazy as it sounds to us today (*viz.* on 1 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 31 March 2013. From an unsophisticated application of this principle, it follows that if this proposition is true (or false) in the future—on 31 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 1 March, we cannot do anything to make our abiding by the deadline true (see, for instance, Perry 2006).

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 1984). 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 2006; Brogaard 2008). 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 31 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.<sup>9</sup> 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.<sup>10</sup> (They also reject the view that among all possible future histories one has a privileged status as the actual one (see below): the future, they say, is genuinely indeterminate.) 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

<sup>9</sup> For discussions of this issue relative to imperatives, see Kaufmann (2012: 144–168) and Jary and Kissine (2014: chs 2 and 5).

<sup>10</sup> 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; Øhrstrøm 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 Stechow 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

(17) Mary will come.

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

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.

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

(22) *it is possible*[*will*(*p*)]  $\leftrightarrow$  *will*(*p*)

(23) We 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),

11	<i>will</i> (p)	1	<i>possible</i> [ <i>will</i> (p)]	
	<i>necessary</i> [ <i>will</i> (p)]	1, (19)	$\therefore$ <i>not</i> [ <i>not</i> [ <i>will</i> (p)]]	(21), MT
	$\therefore$ <i>possible</i> [( <i>will</i> (p))]			

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) <sup>2</sup>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 *tha* + 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, *tha* combines with ‘strong’ modality adverbs equivalent to *probably* and *certainly*, but not with ‘weak’ modal adverbs such as *isos* (maybe/perhaps) and *pithanon* (possibly).

- |      |   |                    |   |     |        |        |  |
|------|---|--------------------|---|-----|--------|--------|--|
| (26) | I | Ariadne            | $\left\{ \begin{array}{l} \text{malon/sigura} \\ \text{*isos/*pithanon} \end{array} \right.$      | tha | ine    | jatos. |  |
|      |   | <i>the Ariadne</i> | $\left\{ \begin{array}{l} \text{probably/certainly} \\ \text{maybe/possibly} \end{array} \right.$ | THA | be.3SG | doctor |  |
- (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 *tha* 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 *tha* 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 *possibilmente* (which they gloss as *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 presneteranno [*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*.<sup>12</sup> 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/](http://www.tuttoandroid.net/news/il-6-settembre-forse-arrivera-il-nuovo-kindle-fire-61228/))
- (31) La finale di Coppa Italia **forse sarà** rinviata.  
(<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 prejudice 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

<sup>12</sup> Thanks are due to our three Italian informants.

1962: 357ff; Le Bidois and Le Bidois 1967: 451ff; Goose 2001: 1257ff; Riegel et al. 2009: 549ff; Wilmet 2007: 407ff).

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, St’át’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.<sup>13</sup> 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).<sup>14</sup>

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

<sup>13</sup> See also Bridget Copley Chapter 4 for an argument that progressives and imperfectives do not really extend reference time towards the future eventuality.

<sup>14</sup> Matthewson (2006) argues that, in spite of the fact that the St’át’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 St’át’imcets modals by Rullmann et al. (2008).

means of some phonologically silent morphosyntactic marking.<sup>15</sup> 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 '[i]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).<sup>16</sup>

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

<sup>15</sup> 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: 176f; 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.

<sup>16</sup> 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).<sup>17</sup> 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.1SG.IMPF*) can be used to express future time reference as well as perfective futures (*poidu-go.1SG.PFV*), on the face of which it is legitimate to ask whether both forms should not rather be classified as non-present (Grenoble 1989).<sup>18</sup>

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.<sup>19</sup>

<sup>17</sup> See also Błaszczak et al. Chapter 8 on competing future marking systems in Polish.

<sup>18</sup> 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).

<sup>19</sup> At this stage it is worth mentioning Jaszczołt’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.<sup>20</sup> 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.

<sup>20</sup> 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.