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Will: tense or modal or both?[1]

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Most grammarians refuse to treat *will* as a marker of future tense in English. We examine the arguments against treating *will* as a tense and find them weak; the arguments in favour of treating it as a modal also turn out to be poor. We argue that *will* should be treated as a marker of future tense, and that its so-called modal uses are either not modal or have independent explanations. The one exception is the volitional use of *will*: to account for this, we propose that willingness is a semantic relic from an earlier meaning of the word.

1 Introduction

We start with a thought experiment. Imagine that there is a morpheme in English – call it *M* – whose status is unclear. *M* sometimes appears to express a time notion, but most grammarians are reluctant to label *M* a tense for three reasons:

A. In other uses *M* appears to have a modal sense.
B. The only other morpheme with similar morphological properties to *M* expresses modality or mood, so the consensus is that the two morphemes should be treated together as markers of modality or mood.
C. The time notion that *M* sometimes expresses is also conveyed by several other forms.

A few grammarians nonetheless claim loudly that *M* is basically a tense marker, but their arguments have mostly been ignored by mainstream opinion.

Imagine now that *M* is the bound morpheme which attaches to verbs, and which is realised as *-ed* for regular verbs. The three reasons for not calling this morpheme a past tense marker would strike most grammarians as weak.[2] Nonetheless, they clearly apply:

A. The *-ed* morpheme has non-temporal uses, often labelled with the term 'modal remoteness'. These include its use in the protasis of unreal conditionals (*If he*

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[2] I exclude here analysts such as Janssen (1996, 1998) and Jaszczolt (2009), who argue that tenses are not basically time-based categories at all; similar suggestions are made by Ludlow (1999: 156–63). Nor is it possible here to do justice to Construction Grammar and its interesting challenge to the very notion of grammatical categories such as tense (cf. Bergs, this issue). To keep this article manageable, the discussion is restricted to analyses which accept that tense is a useful grammatical category, and that some languages have past, present and future tenses to express time relations, but which disagree over the tense system of English.

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arrived tomorrow, would he be too late?) and after verbs like *wish* (*I wish I had a secure job*); and the 'politeness' use in *I wondered whether I could see you for a few minutes*. Some people argue that in indirect reported speech in examples like *He said he was happy*, the second instance of *-ed* in *was* has a distinct meaning from the first instance in *said* (e.g. Huddleston & Pullum et al. 2002: 151ff.).

B. The only other verbal inflection in English that is distinct from the present tense is the subjunctive, which shows up in the verb *be* in constructions like *I insist that he be here when I arrive* and *If he were to arrive tomorrow, would he be too late?*. Since the subjunctive involves modal notions such as non-factuality, we should treat the past tense as basically modal.

C. We can also refer to the past using the quasi-auxiliary *used to*, and by means of the so-called 'historic' present tense. There is therefore no good reason to single out the *-ed* morpheme and call it the past tense.

Despite these arguments, the consensus among grammarians is that the *-ed* morpheme should be treated as a marker of past tense. When it comes to the morpheme *will*, however, the consensus is quite different. The three arguments which are not thought to disqualify *-ed* as a tense are (when appropriately reformulated – see below) taken as solid reasons for excluding *will* as a future tense. This is a strange and unsatisfactory situation, and the purpose of this article is to expose this strangeness and propose a more rational analysis of *will*. I argue that *will* should be analysed as a future tense marker with some residual elements of volitional meaning that are activated in the right contexts.

The article is organised as follows. Section 2 reviews the standard arguments against treating *will* as a future tense and concludes that they are unconvincing. Section 3 presents some arguments in favour of a future tense analysis of *will*. In section 4, the main arguments in favour of a modal analysis of *will* are scrutinised and found wanting. Section 5 re-examines the volitional use of *will*. The conclusion highlights some wider unresolved issues.

2 Arguments for not treating *will* as a future tense

2.1 The future is uncertain / will *is not an inflection*

If the three arguments against treating *-ed* as a tense look weak, why do most grammarians take them seriously when they apply to *will*? Before looking at these arguments in detail, we should consider the supposed differences between the two cases, which are these:

D. The future, unlike the past, is inherently uncertain and therefore has something in common with modality.

E. The *-ed* morpheme is an inflection, whereas *will* is an auxiliary verb; furthermore, *will* shares the morphosyntactic properties of the English modal auxiliaries.

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In his discussion of futurity, Comrie (1989: 53) calls argument (D) 'the conceptual non-argument', since it may be a fact about the world but that does not make it a fact about language. Comrie points out that if I say *It will rain tomorrow* and it does not in fact rain the next day, then my statement was simply false; this is not the case for *It may rain tomorrow*, which is genuinely modal. When *will* is used for future time reference it simply does not have the properties of modals. We return to this point in section 4.3.4 below.

It is argument (E) which is the reason most commonly given for saying that English only has two tenses, past and present. Jespersen was quite clear on this point:

> The English verb has only two tenses proper, the Present and the Preterite.
> (Jespersen 1933: 231)

The same position was adopted by all the grammars co-authored by Geoffrey Leech, starting with Quirk et al. (1972) and continuing up to Biber et al. (1999).

> English has two tenses, present tense and past tense . . . There is no obvious future tense in English corresponding to . . . present and past. Instead, there are a number of possibilities for denoting future time. (Quirk et al. 1972: 84–7)
>
> Some grammarians have argued for a third, 'future tense' . . . but we prefer to follow those grammarians who have treated tense strictly as a category realised by verb inflection.
> (Quirk et al. 1985: 176)
>
> From a structural point of view, English verbs are inflected for only two tenses: present and past. (Biber et al. 1999: 453)

This position rests on a remarkably narrow conception of tense as a purely morphological category: many languages use auxiliaries and particles to express time relations, and studies of tense in a range of languages, such as Comrie (1985) and Dahl (1985), do not assume that tense is only inflectional. It is generally agreed that morphological tense is more highly grammaticalised than other means of expressing time, but this does not mean that periphrastic tenses are not grammaticalised at all. Vetters & Skibinska (1998) comment that periphrastic constructions tend to evolve into morphological ones, for example in the development of the future tense in French, so that the distinction is not stable (1998: 250). Similarly, Declerck (1991: 10) points out that 'whether or not a tense is morphologically marked is the result of a historical development determined by arbitrary factors that have nothing to do with the essence of the phenomenon of tense itself. I therefore think it is unwarranted to claim that tenses can only be marked by an inflectional morpheme and not by a free morpheme such as an auxiliary.'

In a quantitative study of tense and aspect categories across languages, Bybee & Dahl (1989: 56) note that 73 per cent of the languages in their sample express the past tense using a bound expression, whereas the figure for future tense is 46 per cent (cf. also Dahl & Velupillai 2008). This difference may be significant, but this still leaves 54 per cent of languages using a periphrastic expression for future tense.

In non-literary French, the default way to refer to past time is by using the auxiliary *avoir* 'to have' + past participle, whereas future time is expressed using an inflection:

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(1) Nous avons mangé hier dans un restaurant.
'We ate yesterday in a restaurant.' (literally 'We have eaten')
(2) Nous mangerons demain dans un restaurant.
'We will eat tomorrow in a restaurant.'

If we only accept inflectional tenses, then French would have a future tense but not a past tense, a conclusion that few would accept.

Comrie dismisses argument (E) as 'the formal non-argument' against a future tense (1989: 54–5), and Huddleston (1995: 414) concedes that this argument 'has no force'.

It seems fair to conclude that arguments (D) and (E) do not provide a good reason to distinguish between *-ed* and *will*. We return now to the first three arguments as they apply to *will*: we shall see that they are equally unconvincing.

At this point it will be useful to list informally the different uses of *will* and *would* (see table 1).

We shall mostly ignore constructions with *would* such as *would like* (as in *We would like to see Mr Brown now, please*), *wouldn't mind* (cf. *I wouldn't mind a coffee right now*) and *would rather* (e.g. *I would rather go tomorrow*).

2.2 *Argument (A):* will *has modal uses*

Concentrating for now on the left-hand column of table 1, we can pick out uses (iii–viii) as those where *will* appears to express something other than simple future time reference. The first argument (A) against treating *will* as a future tense is the existence of these uses.

Faced with data of this kind, some obvious questions need to be asked. Firstly, what is the nature of these non-temporal uses of *will*? Are they all of the same kind, and should they be grouped together as 'modal'? Secondly, are they fundamentally different from future-time *will*, or are they best analysed as pragmatic inferences from a basic future time meaning, given the right contextual conditions? A comparison with other languages is likely to be revealing here: if we find similar phenomena in languages with an uncontroversial future tense, that would tend to support a pragmatic analysis. Thirdly, how common are they? If they are rare, marginal, or restricted in particular ways, that would make them less convincing as evidence against a tense analysis of *will*.

In response to the first question, it is surely only use (viii), often called the epistemic use of *will*, which has a strong claim to be called 'modal'. The core modal auxiliaries *may* and *must* have similar epistemic uses,[3] and although there are some interesting differences between epistemic *will* and epistemic *must* (see Gilbert 2001: 126–8 and section 4.3.4 below), the two are certainly analogous and can often be substituted one for another with little or no change of meaning: for example, in this exchange from the British National Corpus (BNC):

A: And that's all, there's nothing
B: No there's nothing down that way as far as I know.

[3] For arguments that *may* and *must* are core modals, whereas *can* is not, see Salkie (2009).

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A: Okay, it must be one of these then. Okay. [cf. *It'll be one of these then.*]
B: It's one of these, yes. (BNC KE2)

The other uses are less clearly modal. Intention (iii) and volition (iv) are not expressed by other modals in English. Characteristic properties (v) and persistent habits (vii) are likewise not usually taken as coming under the heading of modality, though there is a parallel with *can* (*Oil can float on water / He can sit in his room all day staring at the TV*): we are in the domain of genericity here, not modality. There is a similar parallel with *can*/*could* in polite requests (vi): *Can/could you help me look for my purse?* It is worth pointing out that apart from the epistemic use of *will*, none of the other uses has parallels with the core modals *may* and *must*. Thus apart from the epistemic use, to which we return directly, there is little here to convince us that *will* is fundamentally modal.

In response to the second question, even some of the strongest advocates of a non-temporal analysis of *will* concede that several of these uses can be accounted for by the interaction of a basic futurity semantics with elements of the context. Thus Haegeman argues that the volition and intention uses (iii, iv and vi in table 1) are determined by a 'volitional' proposition in the right context (typically with first- and second-person subjects), and are not separate from the future use (Haegeman 1983: 97). There seems to be general agreement that the persistent habit use (vii in table 1) depends on stress on *will*, and is not separate from characteristic properties (v). The latter is more interesting: it also arises with the simple present and past tenses in the right context (a non-specific subject, or an expression like *always* to indicate genericity):

(3) Oil floats on water.
(4) He sits in his room all day staring at the TV.
(5) He sat in his room all day staring at the TV.

However, with the past and present tenses the time reference does not change when the sentence is generic (a past generic like (5) is still past), but a generic with *will* does not refer to future time. There is perhaps a sense of 'If you take any instance of oil, it floats on water', with the idea that any such instance will have to be in the future; but this is different from past and present generics. It also remains to be explained why the French future tense is not always used for characteristic properties in the same way:

(6) Weakened batteries will result in lower volume or poor tonal quality.
(7) Des piles insuffisamment chargées entraînent un volume plus faible ou une qualité sonore médiocre. [from the INTERSECT translation corpus (Salkie 2008)]

It does not seem implausible, however, to derive these generic uses of *will* from a future time sense: they do not appear to have an intrinsic connection with modality.

Turning now to the third question, the frequency of these 'modal' uses of *will*, the evidence is that they are very rare. The first corpus-based study of this question was Wekker (1976). Using a corpus of 500,000 words of written English (novels and newspapers), and 100,000 words of spoken (radio and TV

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Table 1. *Uses of* will *and* would

will	*would*
(i) Future time It **will** rain in the morning, but the sun **will** shine later. John **will** soon realise what an idiot he's been	(i) Future time in the past She said that it **would** rain in the morning, but that the sun **would** shine later. John **would** soon realise what an idiot he'd been.
(ii) 'Future perfect' It **will have** rained heavily by December.	(ii) 'Future perfect in the past' (John left his arid farm in July). It **would have** rained heavily by December (when he was due to return).
(iii) Intention We**'ll** do the job as soon as we can.	(iii) Intention in the past He said that they **would** do the job as soon as they could.
(iv) Volition Louisa, **will** you please be quiet! I **won't** answer your questions, so don't try to make me.	(iv) Volition in the past He asked Louisa if she **would** please be quiet. He said that he **wouldn't** answer our questions, so we shouldn't try to make him do so.
(v) Characteristic properties or activities Oil **will** float on water. He**'ll** sit in his room all day staring at the TV.	(v) Characteristic properties/activities in the past Under the Tsars, crippling taxation **would** prevent rural development. He **would** sit in his room all day staring at the TV.
(vi) In questions – polite requests and invitations **Will** you help me look for my purse? **Will** you come to supper on Friday?	(vi) In questions – (even more) polite requests and invitations **Would** you help me look for my purse? **Would** you come to supper on Friday?
(vii) Persistent habits Peter **will** fight with Paul, whatever I do. No wonder you feel sick. You **will** eat chocolate all day long.	(vii) Persistent habits in the past John **would** keep fighting, though I asked him not to. Well, you **would** keep doing it. I warned you. (I wish they **wouldn't** keep asking me to visit them.)
(viii) Strong belief in the truth of something; deduction, inference, probability The match **will** be finished by now. Jean **will** have reached home by now.	(viii) Inference/probability I saw a girl at the window. Who **would** that be? Oh, that **would** be his elder sister!
(ix) Conditional consequence (apodosis) If it rains again we**'ll** have to cancel the match.	(ix) Apodosis of remote conditionals If you asked me to have some more, I **wouldn't** refuse. Brian **would** have phoned the police if his car had been damaged.
(x) Conditional protasis If the price **will** come down in a few months, it's better not to buy just yet.	(x) Conditional protasis The board did not have to disclose the source of its information if it **would** be contrary to the public interest.

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programmes), Wekker found 1,547 instances of *will*. He examined the first-person, second-person and third-person examples in turn, and his main results were as follows.

- *I/we will*: 209 instances, of which 46 are non-volitional like (8), most of the remainder 'ambiguous between a volitional and a simple future interpretation' like (9) (1976: 41).

(8) Next week we will learn for the first time the nature of the Cabinet minutes.
(9) If he should decide to instruct us further in the matter we will let you know.

- *You will*: 70 instances, of which 67 'express simple futurity and . . . show no trace whatever of either the speaker's or the subject's willingness or intentions' (1976: 54), e.g.:

(10) I can assure you, sir, that when you come back to Hue in a year, you'll find a Gideon Bible in your hotel room.

- Third-person subject: 1,268 instances, of which 1,241 (98%) express simple futurity, 'without saying anything about the wishes or intentions of the subject of the sentence' (1976: 60), e.g.:

(11) The new season will run until March 21, and the theatre will be announced shortly.

The next substantial corpus-based study was Larreya (1984), although a direct comparison with Wekker is not straightforward because Larreya's figures cover *will* and *would*. Larreya found a total of 2,241 instances in a corpus of 276,500 words of written English and 28,400 of spoken. The breakdown of this total is:

- Characteristic / habit 88 (3.9%)
- Epistemic 59 (2.6%)
- Non-future volition 28 (1.3%)
- Conditional 495 (22.1%)
- Prediction ± volition 1,571 (70%)

Larreya makes it clear that the 'conditional' category are all instances of *would* (1984: 304); if these are left out, the total is 1,746 and the percentages are:

- Characteristic / habit 88 (5%)
- Epistemic 59 (3.4%)
- Non-future volition 28 (1.6%)
- Prediction ± volition 1,571 (90%)

Some of these examples also involve *would* rather than *will*. Nonetheless, the non-temporal uses still appear to be fairly marginal, though it would have been useful to know how many of Larreya's 1,571 actually include volition.

Mindt (1995) used a much larger corpus of 80 million words. No details about the corpus are given, but see Mindt (2000: 596) for the corpora of 240 million words used during his ten-year project. Mindt's categories are not easy to match with the ones we are concerned with here, but they are nonetheless of interest:

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- *Certainty/prediction: 71 per cent*

(12) I am sure it will be published.
(13) Technique, rather than tactics, will be needed from the jockey.

- *Volition/intention: 16 per cent*

(14) I will be perfectly frank with you.
(15) One thing I'll ask of you, keep away from the ... Cadwells.

- *Possibility/high probability: 10 per cent*

(16) You hope I'll miss you.
(17) Indeed he will probably improve for a season or two.

- *Others: 3 per cent*

Others include *inference/deduction* (... *when steps sounded on the veranda, she said* '*That'll be Vetch's boy*') and *habit* (*you will never be lonely because your family will come along and pay you visits*) (1995: 60).

Mindt adds that 94 per cent of his instances of *will* have future time orientation.

Two other corpus-based studies suggest that the non-temporal uses of *will* are less rare. Coates (1983) used the Survey of English Usage corpus, containing 725,000 words. Her figures only relate to 200 instances of *will*, described as 'a representative sample' (1983: 2). Coates gives the following breakdown:

- *Willingness: 26 instances*

(18) Give them the name of someone who will sign for it and take it in.

- *Predictability: 19 instances*

(19) A commotion in the hall. 'That will be Celia,' said Janet.

- *Intention: 46 instances*

(20) But I will bring you more today I promise

- *Prediction: 96 instances*

(21) It will be lovely to see you.

All but one of the 'intention' examples have a first-person subject.

Palmer (1990) also uses the Survey corpus. He gives no specific figures, saying : 'This is not a textual study, and is not concerned with ... giving statistical information about the use of modals' (1990: 29). He goes on to comment, however: 'there are very few examples in the Survey of futurity *will* and *shall* that can, without any doubt at all, be regarded as simply predicting a future event' (1990: 137–8).

It is noticeable that Wekker, who believes that *will* is a future tense marker, has statistics supporting this view; while the figures given by Coates and the informal remarks of Palmer support their view that *will* is a modal. Larreya is a strong supporter of the modal position, however, and Mindt is agnostic – and their figures support Wekker. The figures in Leech et al. (2009) show a small decrease in the frequency of *will* over the past 50 years, but a far smaller decrease than for the core modals (see note 3 on which modals are core). All in all, the corpus findings seem to support the tense analysis.

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We return now to the epistemic use of *will* (viii in table 1). This use is found in languages which have an uncontroversial future tense, such as French or Italian (Rocci 2002):

(22) Pourquoi donc a-t-on sonné la cloche des morts? Ah! Mon Dieu, ce sera pour Madame Rousseau. (Proust)
'For whom did they toll the passing-bell just now? Oh dear, of course, it would be for Mme. Rousseau.' (translation by Scott Moncrieff, 1922)
'Now who were they ringing the passing-bell for? Oh, dear God, it must have been for Mme. Rousseau.' (translation by Lydia Davis, 2003)

(23) – A qui est-ce?
– C'est lui qui l'aura oublié ici . . . Il l'avait dans les mains hier au soir . . . (Simenon)
'Whose is it?'
'It's he who will have left it here . . . He had it in his hands yesterday evening . . . '

(24) Bella stoffa, bella . . . l'avrà pagata un occhio, immagino, laggiù in città non scherzano. (Buzzati)
'Nice material . . . you will have paid a lot of money, I imagine; there in the city they do not joke.'

(25) – Non c'è Marco?
– Sarà sarà in ospedale, è diventato papa oggi. (spoken conversation)
'Marco is not there?'
'He will be in the hospital, he became a father today.'

This epistemic use of the future tense is restricted and rare in French and Italian, but that is also true of English (cf. Celle 2005 for discussion of the restrictions in French and English. In her sample of 1,000 instances of the French future, Celle did not find a single instance of the epistemic use (2005: 208)). This indicates that the use of future tenses to express an inference or a deduction is available, though not necessarily common, across languages; it does not support the view that *will* is fundamentally modal. A similar conclusion is reached by Bybee, Perkins & Pagliuca (1994) and Tsangalidis (1999).

Notice also that *be going to* can be used to express an inference, as in these examples from the BNC:

(26) It seems unlikely then, that 'standard procedures' of recording space and time are going to be relevant to the unique identification of utterance acts. (F9V)

(27) So next year's output is to be a hundred and fifty percent of this year's. Because you add fifty percent to the hundred percent and a hundred plus fifty is a hundred and fifty. So the output is going to be a hundred and fifty percent of what it was last year . . . (KE2)

See Fleischman (1982: 91) and Tsangalidis (1999: 160) for similar remarks. The evidence thus suggests that the 'modal' uses of *will* are rare, and are either not modal or mostly explainable on pragmatic grounds.

2.3 Argument (B): the other modal auxiliaries have modal meanings

We do not need to linger long on this argument. It is true that *will* has the same grammar as other modals, but that does not necessarily mean that it has the same

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meaning. Huddleston & Pullum et al. (2002: 109) list eight morphosyntactic properties shared by *be* and auxiliary *have* – but there is no suggestion that they therefore share semantic properties. Huddleston & Pullum et al. concede: 'This argument is not in itself decisive . . . but it does place the onus of proof on defenders of the future tense analysis to demonstrate why *will* (and *shall*) should be differentiated from the others as tense auxiliaries vs. mood auxiliaries' (2002: 209). Given the weakness of the arguments against the tense position, the question of where the onus of proof lies is debatable.

2.4 Argument (C): English has many ways of referring to future time

This argument starts with data like these:

(28) I'm going to visit Germany next March.
(29) The train leaves in 2 hours.
(30) Helen is taking her exam tomorrow.
(31) Frank may arrive next week.
(32) Julie will visit Germany next April.

Is there any reason to pick out one of these as 'the future tense'? In fact, there are several. The other ways of referring to the future are restricted in various ways. For example, *The train leaves in 2 hours* can only be used for a 'pre-determined and certain' situation (Declerck et al. 2006: 182): you can't say, **Leeds Utd win against Everton tomorrow*, though you can say *Leeds Utd play Everton tomorrow*. The present tense is typically used in this way for statements about the calendar, future situations that result from a definite plan or a regular pattern which already exists at the time of speaking (Declerck et al. 2006: 182–3). The *will* + infinitive construction has no such restrictions. In addition, the *will* + infinitive construction can express future time by itself. The present tense normally needs a time adverbial for a future time interpretation (Huddleston & Pullum et al. 2002:132). Furthermore, French also has *aller* + infinitive, the present tense, and modals with future time reference, and this is true of many other languages (see in particular Bybee, Perkins & Pagliuca (1994) for other examples).

We conclude that the five major arguments against the tense analysis are far from convincing.

3 Arguments for the tense analysis

3.1 Frequency

As we have seen, the future time use of *will* is overwhelmingly the most frequent in naturally occurring speech and writing. Most corpus studies agree that the proportion of pure future time uses is over 90 per cent. Usually statistics of this kind would convince most linguists that the other uses were marginal; it is unlikely that they would be held up as representing the basic meaning of a word. Whether the different uses of a word correspond to distinct senses, and whether distinct senses can be derived from a more abstract underlying meaning, is a controversial issue, particularly with English

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Table 2. *Frequency of modals in the Longman corpus (Biber et al. 1999: 486)*

Modal	Frequency per million words
will	3,500
would	2,700
can	2,400
could	1,500
may	800
should	800
must	700
might	500
shall	200

modals (cf. Papafragou 2000): the frequency of different uses is, of course, not the only pertinent factor here, but a very high frequency of one use is surely relevant.

It is also worth noting that *will* is far more frequent than the core English modals. The figures from the large corpus used in Biber et al. (1999), presented in table 2, are revealing (compare also similar figures in Coates 1983: 23–5).

Since over 90 per cent of these occurrences of *will* probably express future time, this table tells us that there is a large difference in frequency between these occurrences and uses of the core modals – unsurprising if *will* is basically a tense.

3.2 Comparison with languages which do or do not have a future tense

It is useful to compare English with a language like French, which definitely has a future tense, and Finnish, which definitely does not. Compare these extracts from weather forecasts:

> *French weather forecast*
> En plaine les nuages bas seront souvent persistants . . . En montagne, un temps bien ensoleillé se généralisera progressivement . . .
> *English weather forecast*
> On low ground there will be low cloud cover . . . Sunny weather will gradually spread across all mountain areas. (Celle 1997: 48)
> *Finnish weather forecast*
> Sää kylmenee, mutta keskiviikkona tuulee idästä ja pyryttää lunta. Lämpötila kohoaa tilapäisesti nollaan tai jopa vähän suojan puolelle.
> Literal translation: 'The weather becomes cooler, but on Wednesday it blows from the east and there is drifting snow. The temperature rises temporarily to zero or even a little higher.' (Example from Dahl 2000)

The question is whether English looks more like French or Finnish. Leaving aside the fact that the French future is inflectional whereas *will* is not, it appears that English and French both have a morpheme which is routinely used to refer to the future in weather forecasts, whereas Finnish has no option but to use the present tense. Put this

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way, it appears that English is more similar to French than to Finnish. It is true that the simple present tense is also found in English weather forecasts, along with other expressions (*Tomorrow looks like being cloudy* / *Thursday is expected to be sunny*, etc.), but that does not affect the argument: meteorologists speaking French and English have a choice which is denied to their Finnish counterparts. (A similar comparison of the three languages is made by Dahl & Velupillai 2008.)

3.3 Typological comparison

Dahl (1985) includes English in his list of languages which have a future tense, ranking English twentieth out of 49 languages in its closeness to the ideal future tense category, higher than French or Spanish which are normally taken to have uncontroversial future tenses. He comments that 'the traditional view of the Future as a tense can … be defended' (1985: 107). In more recent work, Dahl (2000) looks at a range of European languages and argues that a number are genuinely 'futureless', including 'at least all Finno-Ugrian and Germanic languages except English' (2000: 326). With respect to English, Dahl argues that '*will* … has (in combination with *shall*) become what is probably the most highly grammaticalised future marker in the Germanic languages' (2000: 322). However, Dahl & Velupillai (2008) are more cautious, noting only that 'one result of the progressive grammaticalization of futures is that the temporal component of their semantics becomes more dominant relative to the modal component'.[4]

[4] The map of future tense marking in Dahl & Velupillai (2008) only contrasts languages that have an inflectional future with those that do not, thus classifying English and Finnish together in the latter category, and French in the former. This glosses over the issue in this article, which is whether a less grammaticalised form such as *will* is similar enough to the inflectional futures to also count as a tense. One of their reasons for doing this is relevant here, though:

> Inflectional markings more often tend to be obligatory and also on the whole have a wider range of uses. For instance, they regularly show up in temporal and subordinate clauses, where periphrastic future-marking devices are relatively rare. (Dahl & Velupillai 2008)

It is true that the French inflectional future is used in temporal clauses where English uses the present tense rather than *will*:

(i) Nous entendons faire une opposition constructive, mais énergique, surtout lorsque *seront* en jeu les droits et les attributions du Parlement.
(ii) We intend to be a constructive opposition, but a vigorous one, especially when the rights and paramount obligations of parliament *are* involved. [INTERSECT]

In the protasis of conditional clauses, on the other hand, French typically uses the present tense for future events just as English does:

(iii) Si un taux de fécondité de 1,7 *se maintient* durablement, la population française devrait commencer à décroître vers 2020.
(iv) If a fertility rate of 1.7 *is maintained*, the population of France should start to decline around the year 2020. [INTERSECT]

It may be that the difference in temporal clauses between French and English is nonetheless connected to the fact that French has an inflectional future tense whereas English does not – as Dahl & Velupillai suggest. If so, that would be one more way in which English *will* is not fully grammaticalised as a tense, though it is difficult to see how it supports the view that it is modal.

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3.4 Explanations for non-temporal uses of will

We saw in section 2.2 that it is relatively easy to account for the uses in table 1 under the headings of (iii) intention, (iv) volition, (v) characteristic properties, (vi) polite requests, (vii) persistent habits and (viii) inference and deduction. We return to the volition uses in section 5. That leaves only uses (ix) and (x) which involve conditional sentences: we consider these in our discussion of Huddleston (1995) below.

4 Arguments for the modal analysis

We turn now to the positive arguments in favour of the modal analysis, of which the most important are:

F. *Would* is the past time counterpart of *will.*
G. Certain generalisations about English grammar treat *will* as a modal.
H. There are semantic and pragmatic similarities between *will* and the other modals.

4.1 Argument F: Would *is the past time counterpart of* will

Like many of the arguments that we shall consider in this section, this one is put forward in Huddleston (1995). A third of his paper tries to demonstrate that *would* is the past tense counterpart of *will* (compare also Huddleston & Pullum et al. (2002: 209), where this is described as a 'major argument' against the tense analysis). Huddleston claims, accurately, that this relationship between *will* and *would* is fatal to any analysis in which *will* is 'the marker of a future tense contrasting with preterite and present in a three-term tense system: *will* is not in paradigmatic contrast with preterite and present tense but contrasts syntagmatically with either' (1995: 415).

Although this argument is correct, it is basically irrelevant, since no serious study of English tense has argued for a three-term system. The actual contenders are:

- Two tenses (the mainstream view)
- Four tenses (Huddleston's position, and that of Huddleston & Pullum et al. 2002)
- Eight tenses (e.g. Declerck 1991)

It is arguable that the eight tense analysis is the obvious, default one. Suppose we distinguish between the tense *morphemes* 'past' (represented schematically as *-ed*), *have* and *will*, and the tense *configurations* which result from using one or more of these morphemes in a clause. The three competing analyses can now be reformulated as claims about tense configurations:

- Two tenses: no configurations are permitted, since only *-ed* (vs its absence) counts as a tense morpheme.
- Four tenses: *-ed* and *have* can combine, yielding the four configurations in table 3.
- Eight tenses: *-ed, have* and *will* can combine, yielding the eight configurations in table 4.

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Table 3. *The four-tense analysis*

Configuration		Name	Example
-ed	*have*		
–	–	Present	Pamina lives
+	–	Preterite	Pamina lived
–	+	Present perfect	Pamina has lived
+	+	Past perfect	Pamina had lived

Table 4. *The eight-tense analysis*

Configuration			Name	Example
-ed	*will*	*have*		
–	–	–	Present	Pamina lives
+	–	–	Preterite	Pamina lived
–	+	–	Future	Pamina will live
+	+	–	Future in past	Pamina would live
–	–	+	Present perfect	Pamina has lived
+	–	+	Past perfect	Pamina had lived
–	+	+	Future perfect	Pamina will have lived
+	+	+	Future perfect in past	Pamina would have lived

These eight tense configurations are perfectly compositional: the first three contain only one morpheme, the next four contain two (as their two-part names suggest), and the last one contains three. They are the only possible configurations owing to the morphology of the three tense morphemes (*will* only has finite forms, so it cannot follow *have*, etc). Whether the eight-tense analysis can account for the semantics correctly remains to be seen, but it is fully compatible with the observation that *would* is the past counterpart of *will* (i.e. that *would* can be analysed as *will* + *-ed*). Huddleston's claims about *will* and *would* are thus irrelevant to choosing between the different analyses.

We should add that in French the future tense inflection can be combined with a past tense inflection to yield the 'future in the past' tense configuration (*Il mangera* [future)] vs *Il mangerait* [future in the past]):[5] this is also true of many other languages, as noted by Bybee (1995) and others. Thus there is nothing ad hoc about combining the future and past tense morphemes. Furthermore, the analysis in table 3 is not subject to Huddleston's objection that it treats the meaning of *Pamina will live* as 'future in present', which is implausible (1995: 418). The future tense configuration in table 3 simply lacks the *-ed* morpheme: that is, it is not specifically marked as past.

[5] This analysis of *il mangerait* is not accepted by all scholars. See Caudal & Vetters (2005) for arguments in its favour.

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4.2 Argument G: Generalisations about English modals

4.2.1 Time reference in the complement of modals

Huddleston (1995) argues that the time reference of the infinitival verb in the complement of *will* is identical to that of other modals, specifically *may* and *should*, and 'lexical modals' such as *bound*, *certain* and *likely*, and non-auxiliary *need* (1995: 423). This in turn is said to be part of a wider pattern of time interpretation in infinitival complements. Huddleston & Pullum et al. (2002: 160–2) develop the point with these examples:

(33) (a) She may be his sister [present] [future is also just possible – RS]
(b) She may abdicate [future]
(c) She will be his sister [present] [future is also just possible – RS]
(d) She will abdicate [future]

Huddleston & Pullum et al. divide catenative verbs into five groups according to the temporal interpretation they admit for their complement, which in turn depends on the meaning of the catenative:

Class 1 anterior	*recall, remember (+ing)*
Class 2 anterior or simultaneous	*admit, regret*
Class 3 simultaneous	*begin, like*
Class 4 simultaneous or posterior	*may, must, need, will*
Class 5 posterior	*intend, want*

['Anterior' here means 'anterior to the time of the matrix clause'.] *Will* also behaves exactly like *may* and the other verbs in class 4 when it has *have +en* heading its non-finite complement:

(34) (a) She may have already left [past]
(b) She will have already left [past]

In short, the temporal properties of *will* + verb are covered in the part of the grammar where the temporal properties of modals are covered: if we also treat *will* as a future tense, we have to repeat the same information there, so the tense analysis is redundant.

There are reasons to doubt the force of this argument. Firstly, unlike most sections of Huddleston & Pullum et al. (2002), which give substantial lists of items to illustrate grammatical generalisations, this section is suggestive at best. A closer look at some of the verbs in their small sample indicates that things are less clear-cut than they claim. Take *want*, supposedly in class 5. In these BNC examples, the context suggests simultaneity:

(35) (a) Marje now admits that her carefully nurtured image has been torn apart by revelations from a new biography. Why did she agree to have it written? Because, she said, she simply wanted to be honest. [CBC]
(b) You don't understand, Wallace. It isn't that. I'm not frightened or bored or weary. I've had enough. I don't want to be part of this. [FP7]
(c) He got up, galloped to the kitchen for the champagne and Ruth held her head in despair and didn't want to be there! [JY4]

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Such examples of *want* are rare, but the same is equally true of simultaneity with *will*. It seems, then, that we should move *want* from class 5 to class 4. Other common catenative verbs of 'desiring' listed by Biber et al. (1999: 702) are *like*, *need*, *wish* and *hope*. Huddleston & Pullum et al. assign *need* to class 4, unlike *want*, and put *like* in class 3. Consider, however, these examples:

(36) (a) I like to write novels.
(b) I'd like to write novels.

In (36b) the relationship is posteriority, so perhaps *like* should move to class 4. The point is that the time relationship between the catenative and its complement depends on the context of use, not just the meaning of the catenative.

A further problem with this classification of catenatives is that we cannot simply state that all modals belong to class 4. We have to treat *must* as an exception within class 4, because in its epistemic use it cannot refer to the future (*John must come tomorrow* can only be deontic, whereas *John may come tomorrow* can be deontic or epistemic). Again, context of use seems to be relevant.

In many cases the issue of the relationship between the time of the complement and the time of the catenative does not arise, because we cannot separate two situations with distinct times. This is clearest with catenatives like *manage*:

(37) (a) Sadly, they manage to combine all the worst qualities of the bedroom-band with none of the saving graces. [CHB]
(b) But I must tell you how I managed to escape. [GWH]

It is impossible to detach the time of 'managing' from the time of 'combining' or 'telling', any more than we could distinguish the time of the verb and the adverb if these sentences were rephrased as *they successfully combine* ... and *I successfully escaped*. Of the seven most common verbs taking infinitival complements (Biber et al. 1999: 698), five are like *manage* in this respect: *try*, *seem*, *begin*, *tend*, *attempt* (the other two are *want* and *like*, both problematic for Huddleston and Pullum et al. as we have seen).

Thus there are reasons to doubt that this is a genuine generalisation about English modals.

4.2.2 Modals in conditional sentences

Huddleston (1995) makes three separate points about the use of *will* in conditional sentences. I shall argue that only the third of these carries any weight, and even in that case its significance is unclear.

Huddleston argues firstly (1995: 425–7) that in the example of *will* in a conditional apodosis [main clause] (use ix in table 1, reproduced here as (38)), the future cancelling of the match is 'a modal future, dependent on the fulfilment of the condition':

(38) If it rains again we'll have to cancel the match.

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But any tense can be used in the apodosis here:

(39) If it rains again, we were wrong to cancel the match.
(40) If it rains again, we are wasting our time painting the roof.

So it is not clear that this is a separate use of *will*. Huddleston argues that the *will* in examples like (38) reinforces the conditional modality, and that this is connected to the obligatory presence of *would* in remote conditionals (unless some other modal is used – see below):

(41) If they were here, they would be upstairs.
(42) If they came they would sleep upstairs.

He says that 'in this construction, such reinforcement of the conditionality is grammaticalised into an obligatory requirement', and that *would* has the same meaning in (41) and (42). But within the imaginary world created by the *if*-clause, the times of being here and coming are different (present in (41) vs future in (42)), and the times of the apodosis containing *would* also differ accordingly. We can therefore treat *would* in (41) as an instance of epistemic *would* (like viii in table 1), and *would* in (42) as future in the past *would*. Hence they parallel:

(43) If they are here they'll be upstairs. (epistemic *will*)
(44) If they come they will sleep upstairs (future *will*)

We can thus claim that *will* behaves 'normally' in the apodosis of conditionals.

We turn now to Huddleston's second point, the use of *will* in the protasis [*if*-clause] of conditional sentences (example x in table 1, reproduced here as (45a)). Huddleston argues that *will* has a modal meaning in these examples, citing the difference between (45a) and the more normal (45b):

(45) (a) If the price will come down in a few months, it's better not to buy just yet.
(b) If the price comes down in a few months, it's better not to buy just yet.

The difference here is modal, not temporal, he says: the possible price reduction in (45a) and (b) is at the same time. Huddleston says: 'if *will* has a clearly modal meaning in (45a), then it is difficult to deny that it likewise has a modal meaning in the corresponding main clause: *The price will come down in a few months*' (1995: 427).

This is a weak argument. Firstly, if we applied it to (45b) we would have to say that the meaning of the present tense is the same in *The price comes down in a few months*, but that is not correct: in a main clause, the present can only have a 'scheduled future' sense, which is not the case in (45b).

Secondly, Declerck (1991: 192–222), and Declerck & Reed (2001: 205–15 and 319–67) give a thorough survey of different types of conditional sentence where *will* can be used in the protasis. They argue that these clauses all depart from canonical conditionals in the same respect: whereas in standard cases of the form 'if *p* then *q*' the future actualisation of *p* leads to the actualisation of *q* (e.g. *If you build it, they will*

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come), in examples like (45a) this is not the case. The same is true of other types of conditional sentence where *will* appears in the protasis, of which two are:

(46) If it'll make you feel any better, we now know that it wasn't your fault.
(47) If it'll make you feel any better I'll take it back.

In (46), *p* expresses a felicity condition on uttering *q*. In (47), a paraphrase would be 'Tell me that my taking it back will make you feel any better, and I will do so' – the logical structure is 'if (if *q* then *p*), then *q*'. These types of conditional are termed 'rhetorical conditionals' in Declerck & Reed (2001). In short, the use of *will* in conditional protases arises from the grammar of conditional sentences, and does not show that *will* is modal in such cases.

This leaves one final generalisation which allegedly has to treat *will* as a modal: it involves verbs in the apodosis of remote conditionals as in the examples in (x) under *would* in table 1, reproduced here as (48) and (49):

(48) If you asked me to have some more, I wouldn't refuse.
(49) Brian would have phoned the police if it had been his car.

The only forms which can replace *would* here are other past forms of modal verbs: *could*, *should*, *might* and *ought*. The generalisation would have to say that only past forms of modal verbs can appear in the apodosis of remote conditionals – but that treats *will* as a modal verb.

Several comments are in order. In the first place, it is far from clear that this generalisation avoids circularity, since it may be that the term 'remote conditional in English' is only definable as 'one which has a past form of a modal in its apodosis'. Secondly, we need to see evidence that this is a semantic generalisation about modals, as opposed to the morphosyntactic generalisations which we dismissed as irrelevant in section 2.1: perhaps it has been 'grammaticalised into an obligatory requirement', to use Huddleston's expression cited above. Thirdly, exceptions, albeit rare, can be found. For some speakers, *may* can occur in the apodosis of a remote conditional:

(50) The whole thing may never have happened if it hadn't been for a chance meeting. (Example from Denison 1992, cited in Huddleston 1995: 408)

Thus there may be more going on here than a simple generalisation about the occurrence of certain words in a certain type of sentence. For the moment, however, this remains an apparent problem for a future tense analysis of *will*.

4.3 Argument G: semantic and pragmatic similarities between will *and the other modals*

Before examining Huddleston's arguments under this heading, we need to consider the nature of the issues here. The central claim of the modal analysis is that *will* fits seamlessly into a framework for representing the meanings of the modal auxiliaries of English. The strength of any proposed modal analysis of *will* thus depends crucially on

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whether the overall framework for modality is plausible. Modality is a complex area, and scholars disagree radically about whether it should be broadly or narrowly defined, how to distinguish it from related areas such as mood and evidentiality, where to draw the line between semantic and pragmatic aspects of modality, whether it is in principle desirable to seek a single theoretical framework for English modals, and many other issues.

Huddleston does not propose a theoretical framework for modality, and his discussion adopts the descriptive classification of Palmer (1990), with one modification – the notion 'degree of modality' – to which we shall return. His arguments claim that *will* can be accommodated within Palmer's system. Arguably, though, almost anything loosely related to modality will have similarities with Palmer's system, since as a descriptive system it does not attempt to be exclusive. The most that we could concede to Huddleston is that he may develop some semantic generalisations about English modals which extend to *will*. In reality, we do not need to concede even this.

4.3.1 'Kinds' of modality

Palmer distinguishes deontic, epistemic and dynamic as kinds of modality. Huddleston claims that all three kinds apply to *will* (1995: 419):

(51) (a) He will have read it yesterday [epistemic]
(b) You will report back for duty on Friday morning [deontic]
(c) Ed will lie in bed all day, reading trashy novels [dynamic]
[=Huddleston's (45)]

Huddleston concedes that deontic modality is less 'semanticised' with *will* than with *must*, so that *You must report back for duty on Friday morning* has a deontic meaning whereas the deontic sense of (51b) is a 'context-dependent implicature'; but he maintains that 'deontic modality is still relevant to the pragmatic interpretation of *will*-clauses' (1995: 420).

On examination, this argument collapses completely. As we have seen, the French equivalent of (51a), *Il l'aura lu hier*, can have the same epistemic interpretation. The future tense in French, in the second person and in the same context as (51b), has the same implicature of issuing an instruction (*Vous vous présenterez* . . .). The same is true for *be going to* in the right contexts (e.g. *You're not going to mess around with her, buster*). As for the dynamic use of *will* in (51c), several scholars have suggested that dynamic modality may not be a type of modality at all, including Palmer himself, who devised the category (1990: 37), and Papafragou (1998: 2). The notion of dynamic modality is basically used by Palmer to cover uses of *can* and *will* which do not otherwise fit into his classification system. The modals *may* and *must* do not have dynamic uses.[6] Hence the fact that *will* exemplifies 'dynamic modality' is actually a difference between this word and the core English modals, not a similarity.

[6] Some scholars use the term 'dynamic' to cover any use of *may* and *must* which is not clearly epistemic or deontic. This makes the term even more of a rag-bag than its original application to *can* and *will*, and we shall ignore this use here.

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4.3.2 'Strength' of modality

Huddleston uses this term for Palmer's 'degree' of modality: it refers to the strength of a speaker's commitment to the truth or actualisation of the propositional content, so that necessity modals are strong while possibility modals are weak. The claim is that *will* is semantically strong like *must*, but that pragmatic weakening applies in certain contexts. Thus compare:

(52) (a) Ed must have overslept again
(b) Ed is Tom's father and Tom is Bill's father, so Ed must be Bill's grandfather.
(53) (a) Ed will have overslept again
(b) Ed is Tom's father and Tom is Bill's father, so Ed will be Bill's grandfather.
[= Huddleston's (47) and (49)]

Both (a) examples have the weaker force of 'very likely' rather than the 'necessarily' force of the (b) examples – thus the (a) examples are semantically strong but pragmatically weakened. This is true, but the French translations of (52) and (53) differ in exactly the same way, so the argument proves nothing.

Huddleston goes on to claim that even when *will* has a future time use, 'a comparable variation in pragmatic strength' can be found. He contrasts:

(54) (a) She will beat him in under an hour.
(b) He will be two tomorrow.
[= Huddleston's (50)]

Huddleston writes:

> Assuming that (a) is about some sporting encounter whose outcome has not been fixed in advance, the element of prediction is much more evident than in (b); the difference between (b) and *He was two yesterday* is hardly more than temporal, whereas that between (a) and *She beat him in under an hour* is manifestly modal as well as temporal. (1995: 421)

This sentence is hard to evaluate. Firstly, Huddleston does not make it clear how he is using the term 'prediction'. Secondly, it is not clear what 'hardly more than temporal' is intended to imply (why not 'purely temporal'?). Thirdly, what does 'manifestly modal' mean? Speakers are likely to be more certain about some future events, for instance birthdays, than others such as winning a sporting event. This is true for speakers of any language, and does not show that *will* is modal.

4.3.3 'Degree' of modality

This term refers to 'the amount of independent modal meaning' in a clause containing a modal auxiliary, and Huddleston applies it to cases where removing the modal from a clause has little or no effect on its meaning. His examples involving *can* and *should* are listed in (55) and (56), to which we can add the supposed example of low-degree modality with *may* in (57) from Huddleston & Pullum et al. (2002: 179):

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(55) (a) She can run the marathon in under three hours. [High degree]
(b) I can hear something rattling. [Low degree]
[= Huddleston's (51)]
(56) (a) He should be at school now. [High degree]
(b) It's odd that he should be at school now. [Low degree]
[= Huddleston's (52)]
(57) (a) They may know her [High degree]
(b) Strange as it may seem, I believe you. [Low degree]
[= Huddleston & Pullum et al.'s (10b) and (11.i.b)]

In the three (b) examples, leaving out the modal has no effect on the meaning, whereas this is not the case in the (a) examples. Huddleston goes on to argue that the examples in (54) above with *will* differ in the same way: 'pragmatically [54b] is no different from *He is two tomorrow*, whereas we could not similarly replace [54a] by an unmodalised version' (1995: 422).

This argument has two ingredients, both of them dubious. Firstly, Huddleston is claiming that there is a notion 'degree of modality' which is central to the analysis of English modals. However, as discussed in detail in Salkie (2009), all three 'low degree' constructions in (55–7) are lexically restricted and unproductive, and the two in (56–7) are stylistically marked as formal and somewhat archaic. We are dealing here with marginal phenomena, not with concepts which lie at the heart of modality in English.

Secondly, Huddleston wants to show that the notion 'degree of modality' applies to *will*, thus establishing a similarity between *will* and the other modals. It is evident, however, that the pairs with the modals *can*, *should* and *may* are very different from the pair involving *will*. In the former cases, the modals lose some of their meaning: thus *should* in (56b) has lost the sense of obligation that it has in (56a), a process sometimes called 'semantic bleaching' (cf. Hopper & Traugott 1993: 94–8).[7] In the case of *He will be two tomorrow*, there is no reason to claim that *will* has lost some of its future meaning. The fact that *He is two tomorrow* is available as an alternative comes about because the present tense can be used to refer to schedulable events in the future, of which birthdays are a classic example. As we noted above, a similar phenomenon is found in a language such as French where the future tense is inflectional and uncontroversial. This tells us something about the present tense: it tells us nothing about whether *will* is a tense or a modal.

Huddleston goes on to claim that 'in general, *will* has a lower degree of modality than *can*, *may*, *must*, etc.' (1995: 422). If this simply means that sentences where *will* is omissible (such as *He will be two tomorrow*) are more common than sentences where *may* is omissible (such as *Strange as it may seem, I believe you*), then as we have seen, there are independent reasons for this. If it means that *will* lacks a modal element of meaning which the other modals possess, then Huddleston needs to tell us what that

[7] The history of *will* seems to involve bleaching of the original meaning of volition, as noted by Bybee, Perkins & Pagliuca (1991: 26–9) – see also the discussion of volition in section 4 below, and the analysis of bleaching of the modal use of *be to* in Declerck (this issue). These are quite different from the supposed bleaching of futurity, the point at issue here.

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element of meaning might be. This would not be easy, because the idea that one modal generally carries less modality than others has no counterpart elsewhere in the set of English modals. The notion 'degree of modality' simply lacks the weight to support the use that Huddleston makes of it to analyse *will*. It is an incoherent and spurious notion: given the problems with it, we could regard Huddleston's claim that *will* has a low degree of modality as an admission that *will* has little modality as part of its meaning, and in fact is more like ... a tense.

4.3.4 Will *as a marker of potential world-type*

This section scrutinises Berbeira Gardón (1998, 2006), one of the most important attempts to analyse *will* within a substantial theoretical framework for modal verbs. I will argue that this analysis has serious problems. Space precludes a similar scrutiny of modal analyses of *will* in Celle (1994, 1997, 2005, 2006), Nicolle (1998), Gilbert (2001), and Copley (2009), so I will simply assert that these all incorporate a version of the modal semantics proposed by Enç (1996) – see below – and are subject to the same criticisms.

Berbeira Gardón (1998, 2006) proposes a framework for modality within Relevance Theory, and analyses the semantics of *may* and *will* as follows:

May: There is at least some set of propositions such that *p* is compatible with it, and the world type is potential.
Will: *p* is true and the world type is potential.

Here *p* is the proposition expressed by the sentence minus the modal. Potential worlds are 'worlds compatible with the individual's assumptions about the actual world which can be, or become, actual themselves' (Sperber & Wilson 1986: 85). For Berbeira Gardón, the notion of potential worlds is what all modals, including *will*, have in common. He concedes, however, that *will* is also very different:

> *will* is a doxastic modal, as opposed to the rest of the modals ... which encode a compatibility or entailment relation between the proposition expressed and a set of assumptions and hence can be explained in a very systematic and unified way. When uttering a sentence containing *will*, however, the speaker communicates that the proposition expressed is potentially true without making any explicit mention of the evidence available to her. (2006: 455)

A positive feature of this analysis is that it accounts for differences between epistemic *will* and epistemic *must* pointed out by Palmer:

> The difference between [epistemic] *will* and *must* is that *will* indicates what is a reasonable conclusion, while *must* indicates the only possible conclusion on the basis of the evidence available. Compare
> *John must be in his office*
> *John will be in his office*
> The first of these would be the more appropriate in response to an observation that the lights were on: the conclusion is that John is in his office. *Will* would be used to give a reasonable explanation (from previous knowledge) as to why the lights were on, rather than to draw a conclusion from this observation. (Palmer 1990: 57–8)

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This corresponds exactly to the distinction made by Berbeira Gardón between *will*, which does not invoke a set of assumptions in the context, and the other modals, which do. On the other hand the tense analysis of *will*, in which the epistemic use is an inference from the futurity sense, can also handle Palmer's data: a statement about the future, in a context where the issue is why John's lights are on now, is likely to be about future verification rather than a future fact. There is no essential process of relating *p* to a set of assumptions, because *will* is not a modal.

Berbeira Gardón explicitly concedes that *will* is different from the other modals, but it is important to be clear how big this difference is in his system. The difference between '*p* bears a relationship to a set of assumptions' for *may* and the other modals and '*p* is true' for *will* is massive: arguably, they fall squarely on either side of the line which divides modality from straightforward non-modal assertions. Much depends, of course, on whether the notion of 'potential worlds' can do the theoretical work which Berbeira Gardón wants it to do. There is a striking similarity between Sperber & Wilson's conception of potential worlds and the model-theoretic analysis of *will* in Enç (1996: 354), cited by Kissine (2008: 131):

> [*will* (p)] is true at utterance time UT in the real world *w* iff in every world w_1 accessible to *w* there is an interval i_1 such that UT $< i_1$ and *p* is true in w_1 at i_1. (My notation)

Kissine devotes much of his paper to demonstrating that this kind of analysis of *will* is incorrect because it includes the notion of necessity ('in every world'), and that weakening this to possibility also fails. This supports our position, of course, but the key criticism here is that Enç's analysis incorporates the statement 'there is an interval i_1 such that UT $< i_1$'. This clearly just expresses the notion 'future time'. There is a sense in which the notion 'possible world' has to incorporate future time, assuming that a possible world is not just a state of affairs but can change over time. Using that fact to capture futurity, however, incorporates the tense analysis of *will*: whether we also need the surrounding modal machinery of accessibility and quantification over worlds is a secondary issue (Kissine argues strongly that we do not). Returning to the notion of 'potential worlds', the same point can be made: Sperber & Wilson's definition incorporates the tense analysis.

A further problem with the system of Berbeira Gardón is that it makes future time reference fundamentally different in English and French. If we use Enç's (modified) notation to express simple futurity in (58) and modal futurity in (59), we get:

(58) French: [FUT (p)] is true at utterance time UT iff there is an interval i_1 such that UT $< i_1$ and p is true at i_1.
(59) English: [*will* (p)] is true at utterance time UT in the real world w iff in every world w_1 accessible to w there is an interval i_1 such that UT $< i_1$ and p is true in w_1 at i_1.

This would suggest that in the weather forecast examples in section 3.2, the English version invokes other possible worlds whereas the French version does not. There is no evidence for this difference: recall Comrie's observation, cited in section 2.1, that 'if I

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say *It will rain tomorrow* and it does not in fact rain the next day, then my statement was simply false' (1989: 53).

We conclude that the system proposed by Berbeira Gardón in effect concedes that *will* is not a modal, incorporates the tense analysis, is subject to Kissine's criticisms, and fails cross-linguistically.

5 Volition revisited

I suggested in section 3.2 that the willingness use of *will* is triggered by what Haegeman (1983) calls 'volitional propositions' in the right context. While this is essentially correct, it cannot be the whole story, because future tenses in French and German do not normally acquire a volitional interpretation,[8] and this is also true of other languages (including Greek, as noted by Tsangalidis 1999). I searched in the INTERSECT translation corpus for instances of *will you* and their equivalents in French and German. As Celle (1994: 89–90) points out, when there is a clear volitional sense in the English, the translation does not use the future tense in French:

(60) (a) And they called Rebekah, and said to her, Will you go with this man?
(b) Ils appelèrent donc Rebecca, et lui dirent: Veux-tu aller avec cet homme? [Bible]
(61) (a) Will you get me some matches?
(b) Voulez-vous me donner des allumettes? [English fiction]

The same is true of German:

(62) (a) Will you let me in, Fred?
(b) Willst du mich hereinlassen, Fred? [Dickens]
(63) (a) Will you not take a seat, Gentlemen?
(b) Meine Herren wollen Sie nicht Platz nehmen? [German fiction]

It is instructive to compare instances from the same text – in this case Reed's *Ten Days that Shook the World* – which are translated differently:

(64) (a) 'Will you please go to your Consul and make arrangements?'
(b) 'Wollen Sie das bitte bei ihrem Konsul in die Wege leiten?'
(65) (a) 'What will you do if we go forward?'
(b) 'Was werden sie tun, wenn wir doch gehen?'

In (64), which has a volitional interpretation, the translation uses *wollen* 'to want', whereas the translation of (65), a straightforward request for information about the future, uses the future tense marker *werden*.

[8] I assume here that the German *werden* + infinitive construction should be analysed as a future tense. Although there is a substantial debate about this issue among Germanists, I am persuaded by the arguments of Welke (2005) in favour of a tense analysis.

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This indicates that the volitional interpretation of *will* cannot just be a pragmatic inference from a future time semantics, but is also part of the meaning of *will*. The obvious explanation is that *will* has retained this element from an earlier time when Old English *willan* meant 'to want', a proposal made *inter alia* by Harder (1996).

This 'semantic retention' hypothesis is considered and rejected by Nicolle (1998) and Carretero (2004) (both of them, ironically, advocates of a modal analysis of *will*), and we need to look at their reasons. Haegeman (1983: 79–87) had noted that volitional uses of *will* keep a reference to future actualisation which cannot be cancelled, unlike the situation with *want*:

(66) ? I'll cut the grass but unfortunately I won't be able to.
(67) I want to cut the grass but unfortunately I won't be able to.

Nicolle argues that the willingness is cancellable, suggesting that it is inferred rather than encoded. He gives this example (1998: 237, ex. 43):

(68) Will you chair this afternoon's session, or don't you know yet?

I would argue that this example is not volitional: the only coherent interpretation is simple futurity. Questions with volitional *will you* typically have the force 'Do you agree', but the second clause of (68) cannot have the sense 'Don't you know whether you agree?' but rather 'Don't you know if you have been chosen?'

Carretero argues that volition is an implicature, rather than part of the semantics of *will*, because an example like (69) (her 7) is vague rather than ambiguous with respect to volition (2004: 209):

(69) My sister will marry that idiot after all.

It is not clear, however, that this test applies here. We are not considering whether *will* has two distinct senses – a future sense and a volitional sense – but whether the volitional interpretation is an extra element of meaning that is activated in the right context and added on to the future sense. The other two tests that Carretero uses – co-ordination, and substitution with *so*/*too* – are similarly unsuited to this question.

The semantic retention explanation of volitional uses of *will* therefore seems plausible. It may be that these uses are relatively frequent in the early stages of language acquisition: exchanges involving 'Will you?' and 'I won't' are probably far from rare around young children (for further discussion see Bergs (this issue) and the references cited there). That would go some way towards explaining the retention of this element of meaning.

6 Conclusion

I have argued that the analysis of *will* as a future tense has strong arguments in its favour. The arguments against the tense analysis are weak, and the arguments in favour

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of a modal analysis mostly do not stand up to scrutiny. What remains problematic for the tense analysis are these points:

(a) The characteristic properties use of *will* does not always correspond to a future tense in French (section 2.2).
(b) Most of the published statistics make the future time use of *will* vastly more common than its other uses – but some are less conclusive (section 2.2).
(c) The generalisation about past forms of modal verbs in the apodosis of remote conditionals may be genuine (section 4.2.2).

These do not seem to add up to a strong case for the modal analysis.

To account for volitional uses of *will*, I proposed that willingness is a semantic relic from an earlier meaning of this word. There is no need to treat *will* as a modality marker to account for its other non-temporal uses: all of them can be derived from its basic future time sense.

This article has tried to focus on the central debate about *will*. To further underpin the tense analysis, more discussion would be needed about (a) the differences between *will* and *be going to*; (b) the historical development of *will*; (c) the debate about *werden* in German; and (d) contrasts in future time reference between English and other languages. Meanwhile, however, there seem to be few reasons other than habit and a fixation on morphological tense to continue to treat *will* as a modality marker.

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