0. Introduction

The idea that the imperfect has a basically quantificational meaning has the consequence that the so-called continuous readings, as in Alle cinque Mario dormiva (at five Mario slept(IMPF)), tend to be either disregarded or explained as instances of the partitive phenomenon (Krifka 1998).

In previous work (Giorgi and Pianesi 2001a; see also §2 below) we argued that the partitive analysis of the imperfect (and, generally, of the imperfective aspect) is inadequate, both empirically and theoretically. We believe that in order to understand the properties of the imperfect tense in Italian – and in Romance languages in general – the continuous readings, and the many others that do not seem to directly involve quantificational phenomena need be taken as prime source of evidence. This can be accomplished by acknowledging a basic distinction in the domain of eventualities between terminated and non-terminated ones, by readdressing the telic/atelic divide, and by rethinking imperfectivity/perfectivity as a morpho-syntactic phenomenon, and separating it from its notional counterpart.

In this paper, we will review, and provide details about, some of these points. We will propose a view of the Italian imperfect which crucially relies on two intuitions (and which, taken separately, are by no means new): a) that in some sense to be made more precise,
this tense is a ‘dependent’ one, often relying on the availability of suitable temporal referents, and b) that it behaves as a sort of present-in-the-past.

As observed, these two ideas are not new. It is an old observation that the continuous readings of the imperfect require some contextual temporal referent. However, we extend this idea to readings of the imperfect that have been rarely addressed in the literature, as the one we will dub ‘modal’.

Even the idea of the imperfect as a present in the past is not new. On the one hand, the data show that most of the phenomena (including continuous, modal, quantificational/habitual, and reportive readings, as well as its behaviour in subordinate contexts) pertain to the present tense as well.

On the other hand, the intuition is clear that the dependence on contextually supplied temporal referents corresponds to introducing a different perspective, or point of view, from the one provided by a perfective tense. As many scholars would say, the imperfect (and imperfective aspect in general) seems to introduce an internal perspective on events, presenting them as if they were seen from the inside, and contrasting with perfective tenses, which privilege an external appreciation of eventualities.

In many respects the imperfect tense of Romance languages has been a puzzle for linguistic theory because of the variety of contexts of use, and the diversity and apparent contradictoriness of its occurrences.

In this work we propose an analysis that differs from the other ones present in the literature. In the first place, we will add more puzzles to the stock of phenomena that people considered so far. At the same time, we will depart from many current approaches that, more or less explicitly, take the behaviour of the imperfect in quantificational environments as displaying and revealing the very basic properties of this tense. In this work we will neglect the quantificational readings arising in the presence of adverbs such as always, often etc., and the habitual/generic readings as well.

This paper is structured in the following way: the first section will set the scene, describing the distribution of the imperfect in various contexts, many of which often neglected in the literature. In the second we will review results from previous works, concerning the interplay between perfectivity/imperfectivity, telicity/atelicity and terminativity/non-terminativity. We will also discuss the distribution and role of temporal phrases with the imperfect tense. In Section 3, sequence of tense phenomena and temporal anchoring will be discussed, along with the idea that they require temporal coordinate shifting. In Section 4 we will provide our analysis of the imperfect tense, building on the framework provided in the previous sections.
1. The distribution of the imperfect: a description

1.1. Temporal and modal interpretations

The imperfect has usually been considered in the literature as an *anaphoric past* verbal form, since it appears to need a past referent, made available by the sentential or the extra-sentential context. Consider for instance the following examples:

(1) Ieri alle 4 Gianni studiava matematica
   'Yesterday at four Gianni was studying(IMPF) math'

(2) #Gianni studiava matematica
   'Gianni was studying(IMPF) math'

(3) Mario ha detto che Gianni studiava matematica
   'Mario said that Gianni was studying(IMPF) math'

Sentence (1) represents the ordinary usage of the imperfect — namely, a form introducing a past event, therefore compatible with adverbs such as *ieri* (yesterday). Example (2), on the other hand, is non-felicitous if uttered out of the blue — that is, without a previous context — for lack of a suitable temporal referent. Sentence (2) becomes perfectly acceptable if the right context is provided, for instance if it is used as an answer to the question: *Che faceva Gianni ieri alle 4?* (What was Gianni doing yesterday at four?). In example (3), the time of studying is taken to be simultaneous with the time of the saying. According to the traditional point of view we mentioned above, therefore, the anaphoricty requirements of the imperfect are satisfied by means of the temporal location of the superordinate event.

Importantly, the imperfect is a non-perfective form and does not entail the reaching of a *telos*, contrasting in this with the simple past and the past/present perfect. In a sense to be made more precise in §2.1., the imperfect is a non-completive, so that (1) can be paraphrased by saying that a certain event was going on at a given time.

The generalization underlying these cases seems to be that the imperfect needs a temporal topic. Notice that if explicitly provided by the sentential contexts, the phrase realizing the temporal topic must appear at its left. The counterpart of (4) with the

---

temporal specification appearing on the right is grammatical, but has a different range of interpretations:

(4)  #Gianni studiava matematica ieri alle 4.  
     'Gianni studied(IMPF) math yesterday at four'

If pronounced with a “normal” intonation, without adding contrastive focus, this sentence is not easily interpretable and does not mean what (1) means – namely, that at a certain time, yesterday at four, a certain event was going on. It could mean, for instance, that Gianni was supposed to study math yesterday at four, or that he intended to study it at that time, etc.³ We will consider these modal readings in a while. For the time being, it is enough to stress that (4) doesn’t have the continuous/factual reading of (1).

In a sentence such as (3), the topic can be taken to be an empty category, which receives its interpretation from the matrix event – in other words; the topic of the embedded clause is identified with the time of the event of the main clause.

The imperfect can also be used to express a variety of meanings, which have often been called modal.⁴ Consider for instance the following sentence:

(5)  Domani cantava Placido Domingo  
     'Tomorrow Placido Domingo sang(IMPF)'

Contrary to examples (1)-(3), (5) doesn’t convey that an event of a certain kind (a singing) was ongoing at a given past time. In the first place, the temporal phrase makes clear that pastness does not affect the event: the latter is neither located at, nor ongoing in the past. Secondly, utterances of (5) do not inform about actual states of affairs, but talk about possibilities. So (5) could be used as a reply to someone inquiring about whether there’s going to be any interesting performance tomorrow. By so doing, the utterer of (5) would not directly endorse the proposition that tomorrow Pavarotti will sing, but report

³. Beside contrastive focus, the sentence could be acceptable with a list reading: Gianni studied math yesterday at four, literature on Tuesday, etc. The two readings, as is well-known, share several properties which we are not going to discuss further in this work.

⁴. Cf Bertinetto (1991); Giorgi & Pianesi (1997 ch.4, 2001a); Ippolito (2001, 2002). But see also Roberts (2002), where these readings are discussed with respect to Spanish imperfect.
that, as far as her knowledge goes, a performance by Placido Domingo was expected. In another context, suppose A invites B to dinner; B already has the tickets for a concert where Placido Domingo is going to sing, and is reluctant, even if tempted, to give up the opportunity of listening to it. She might then reply with (5). Notice, incidentally, that there is nothing counterfactual about this latter use, for Placido Domingo is indeed going to sing tomorrow (as far as the utterer of (5) is concerned). Yet, the reference to a not necessarily current schedule/plan invites the implication that the utterer had elaborated plans in this respect, which somehow interfere with the other party’s proposal.

Contrasting with examples (1)-(3), in modal cases the temporal phrase can appear both at the rightmost, or at the leftmost position, without truth-conditional changes:

(6)   Placido Domingo cantava domani
      'Placido Domingo sang(IMPF) tomorrow'

We will argue in §2.2. that this contrast reveals the different interpretative role of temporal phrases in continuous and modal sentences with the imperfect. Modal readings of the imperfect can be exploited in a dialogue to correct or update the information provided by someone else:

(7)   A: Domani Pavarotti canterà alla Scala
      'Tomorrow Pavarotti is going to sing at the Scala Theater'
      B: Veramente, domani cantava Placido Domingo!
      'Actually, tomorrow Placido Domingo sang(IMPF)'

Here, speaker B counters A’s statement, which concerns a future event, by using a sentence whose verb is in the imperfect. In doing so she conveys something that can be paraphrased as the expectation was that Placido Domingo sings tomorrow.

The examples of modal/epistemic readings of the imperfect we have given might suggest that they are available only in the presence of a future-oriented adverbial. This is not so; true, the presence of such an adverb make the modal reading the only available choice, but they are always available, if the right context is provided. Consider for instance the following dialogue:

(8)   A: Ieri ha cantato Pavarotti
      'Yesterday Pavarotti sang'
B: Ma veramente ieri cantava Placido Domingo!
'Actually, Yesterday Placido Domingo sang(IMPF)'

This exchange is very close to (7). Speaker A states something about a past event — namely, that a performance by Pavarotti took place yesterday — and B rejects A’s statement. She doesn’t do so, however, by explicitly stating that the actual performer was Placido Domingo; this would have required the use of an ‘ordinary’ past tense, as in (9):

(9) Ma veramente, ieri ha cantato Placido Domingo.
'Actually, yesterday Placido Domingo has sang'

By using the imperfect, B conveys that the expected performer was Placido Domingo. The rest is left to conversational implicatures. Example (8) is important since it shows that modal readings don’t stem, or require, a mismatch between the past component of the imperfect and the non-past meaning of the temporal phrase. At the same time, (8), together with (7), shows that the modal readings can be used to go so far as to almost endorse the relevant proposition. B’s utterance in (7) is a clear case in point. Hence, it doesn’t seem entirely correct to hypothesise – as Ippolito 2002 does – that the modal uses of the imperfect trigger a conversational implicature to the effect that at the speech time the speaker doesn’t fully endorse the relevant proposition (e.g., that Pavarotti will sing tomorrow). If we stick to the suggested paraphrases, and maintain that the meaning of one such a sentence involves past expectations concerning a tenseless proposition, p, then the absence of a present endorsement of p need not be left to conversational implicatures. At the same time, the kind of propositional attitude towards p that the speaker presently (at speech time) entertains is vague, and susceptible of further contextual determination, ranging from something close to full endorsement, as in (7), to compatibility with explicit assertion of the contrary:

(10) Domani cantava Pavarotti, ma questa notte gli è venuto il mal di gola, quindi sarà sostituito.
'Tomorrow sang(IMP) Pavarotti, but this night he had a throat-ake attack, hence he will be substituted'

Just to stress this point, it should be remembered that while discussing (5) we considered a scenario in which that sentence was used to actually convey that Pavarotti will sing tomorrow, and that the speaker had plans in this respect that conflict with the other speaker proposal. In other words, (5), in the intended scenario, does not support the hypothesis of an implicature to the effect that the speaker doesn’t fully endorse the relevant proposition.

If the present analysis is correct, therefore, even in ‘modal’ cases, the imperfect contributes a past meaning. This does not affect the event, though — as the future orientation of (5)-(7) makes clear — but a set of expectations, or, more generally, propositional attitudes towards the content of the clause: *I knew/expected that yesterday/today/tomorrow Placido Domingo sing(tensless)*. The paraphrase explicitly extends to examples such as (8) where there is no superficial mismatch with the meaning of the temporal phrase. Future-orientation is present in all cases, since an utterance of (8) clearly requires the relevant attitudinal state about Domingo’s singing to be before the event itself. So, it seems that the suggestion that the relevant attitude take the form of an expectation is on the right track, for the latter are intrinsically future-oriented. The conclusion is that, in modal readings the imperfect differs from other tenses in that it doesn’t locate the event with respect to any temporal anchor. In §2.2. we will argue that this is actually a more general property of the imperfect, which extends also to continuous readings.

The ‘modal’ readings share with the factual/continuous ones a certain amount of context dependency; sentence (11) is odd if uttered out-of-the-blue, as (2) is:

(11)  #Mario partiva domani

'Mario left(IMPF) tomorrow'

For an utterance of (11) to be felicitous, an appropriate discourse context is necessary wherein the ‘modal’ meaning can find an appropriate discourse anchor, as in the following example:

(12)  Ieri ho incontrato Giuseppe. Mario partiva domani e lui appariva preoccupato.

'Yesterday I met Giuseppe. Mario left(IMPF) tomorrow, and he seemed worried'

This piece of evidence emphasises the fact that context-dependency is an important property of the imperfect, which can take different forms according to the relevant
reading. It can be oriented towards times, hence time-topics, as in (1)-(3), yielding continuous readings, or towards more generic discourse topics, past expectational backgrounds, as in the examples just discussed.

To conclude this section, let us point out that (12) shows that the relevant set of past expectations need not be the speaker’s. At least one possible reading of the second sentence of (12) has it that the leaving of Mario was something communicated by Giuseppe. If so, for the small discourse to be felicitous there is no need to understand the speaker as sharing, at some past time, the expectation that Mario leave tomorrow. All is required in this case is that Giuseppe had that expectation — that is, the modal background is that of a subject different from the speaker and suitably located at a past time. Generalising a little bit more, all the cases we have considered so far rely on (possibly unexpressed) subjects which are different from the current one (the speaker) in that they have a different temporal coordinate. Ultimately, this statement covers both examples (8) and (9), where the subject of the expectation can be the speaker as located in the past, and (12), where the subject can be a different person, provided that, again, her location be in the past.

1.2. Embedded contexts

In embedded contexts, at least those introduced by verbs of propositional attitude, the properties of the imperfect parallel those found in matrix contexts:

(13) Mario ha detto che ieri alle 4 Gianni studiava matematica.
    'Mario said that yesterday at four Gianni was studying(IMPF) math'

In (13), the phrase *ieri alle 4* (yesterday at four) specifies when the studying was taking place (according to the subject whose dictum is reported), and we can interpret the embedded event either as simultaneous with the saying – in which case the event of saying is located at *yesterday at four* as well – or as preceding it. In the latter case, the sentence reports about a past-oriented utterance of Gianni, as for instance in the following example:

(14) Questa mattina Mario ha detto che ieri alle 4 Gianni studiava matematica.
    'This morning Mario said that yesterday at four Gianni was studying(IMPF) math'
In Giorgi & Pianesi (1997) we suggested that the possibility for the event associated with the imperfect morphology to be interpreted as simultaneous with the superordinate form depends on its aspectual properties. We will consider this issue later.

Modal readings are available in embedded contexts as well:

(15) Due giorni fa Gianni ha detto che ieri cantava Placido Domingo
     'Two days ago Gianni said that yesterday Placido Domingo sang(IMPF)'

(16) Due giorni fa Gianni ha detto che oggi cantava Placido Domingo
to sing'
     'Two days ago Gianni said that today Placido Domingo sang(IMPF) to sing'

(17) Due giorni fa Gianni ha detto che domani cantava Placido Domingo
     'Two days ago Gianni said that tomorrow Placido Domingo sang(IMPF) to sing'

Examples (15)-(17) are all grammatical, and express future orientation — namely, the embedded event follows the event of the main clause independently of its location with respect to the utterance time. Such a future orientation is (notoriously) unavailable with ‘normal’ past tenses, as in (17a) with an embedded present perfect, and in (18b) with an English simple past:

(18) a. *Due giorni fa Gianni ha detto che ieri/ oggi /domani ha cantato Placido
     Domingo.
     'Two days ago Gianni said that yesterday/ today/ tomorrow Placido Domingo
     sang (PAST) '

   b. *Two days ago John said that Placido Domingo sang tomorrow.

The future-orientation, and the modal(epistemic reading underlying it, is therefore strictly dependent on properties of the imperfect, which displays properties similar to those of the so-called future-in-the-past, in Italian realized by the conditional perfect:

(19) Due giorni fa Gianni ha detto che ieri/oggi/domani avrebbe cantato Placido
     Domingo.
     'Two days ago Gianni said that yesterday/ today/ tomorrow Placido Domingo
     would sing'
Here, the embedded event is temporally located only with respect to the matrix one, and not with respect to the time of the utterance. Moreover, it is future oriented with respect to the matrix clause, independently of its location with respect to the utterance time. The meaning is modal, even if there is a meaning of *pastness* included. The epistemic state, as we pointed out above, must be based on the past experience of the subject bearing the modality.

Let us now go back briefly to examples where the imperfect is interpreted as simultaneous to the matrix verb. With respect to this point, as is well known, we find the following contrast:

(20) Gianni ha detto che Maria ha mangiato/ mangiò un panino.
    'Gianni said that Maria ate(PAST) a sandwich (simul)'

(21) Gianni ha detto che Maria mangiava un panino.
    'Gianni said that Maria ate(IMPF) a sandwich (past)'

In Giorgi & Pianesi (2001b) we argued that (20) is an instance of Generalized Double Access Reading. Normally, in Italian the embedded tense must be interpreted in such a way that both the perspective of the speaker and that of the attitude’s subject are accounted for, as it happens with the present tense in the traditional DAR contexts:

(22) Gianni ha detto che Maria è incinta.
    'Gianni said that Maria is pregnant'

In (22), the pregnancy is taken to hold both at the saying time and at the time of the utterance. In examples such as (14), however, the embedded event is anchored to the matrix clause, but it is not past with respect to it. In other words, there is no DAR in these cases.

---

6. It could be past with respect to the matrix event, as in the following case:

a. Venerdì Gianni ha detto che mercoledì alle tre Maria mangiava un panino.
   'On Friday Gianni said that on Wednesday at three o’clock Maria ate(IMPF) a sandwich'

However, in order to obtain this interpretation, a temporal reference to this purpose must be provided, either in the sentence or in the discourse.
The contexts reviewed in this section, are contexts where temporal anchoring is enforced. The temporal value expressed by the imperfect is past, either to directly locate an event in the past, or to locate the source of the modality connected to the embedded predicate.

1.3. Fictional and oniric contexts

In this section we consider a different set of data involving the Italian imperfect, which reveal a behavior quite different from that discussed in previous section. What these data have in common, is that they are all about contexts which are, in some respects, fictional. The unexpected behaviour consists in the fact that in the sentences we are going to discuss the imperfect doesn’t either have a temporal meaning, and/or a modal one. We start with the so-called *imperfait preludique*, typically used by children when playing — e.g., (24) — or by any other subjects (for instance, actors) involved in role-playing activities, —e.g., (23):

(23) (nella terza scena), Gianni era il re e Maria la regina.
'(in the third scene), Gianni was(IMPF) the king and Maria the queen'

(24) (facciamo finta che) Gianni era il ladro e Maria la guardia.
'(let’s pretend that) Gianni was(IMPF) the thief and Maria the guard'

In these contexts the imperfect seems to be a-temporal. For instance, with actual uses of (23) the state of Gianni’s being the king and Mary’s being the queen is clearly not located with respect to the usual anchor (the speech time); in the end, this is fiction. Nor is there any suggestion that the relevant scene was, is being, or will be performed. Finally, (23) can be used when talking about a play that hasn’t been written, hasn’t ever been played and ever will. At the same time, sentence (23) could be used to talk about a would-be play, but also to instruct real actors who are actually going to play a certain scene, as a description of a presently played scene, or as a report about a scene played in the past.

In these examples, the imperfect does not seem to express a modal meaning either. Not, at least, the kind of ‘modal’ reading discussed above — i.e., one involving the notion of expectation. In particular, (23) does not require that there be some past expectation to the effect that Gianni was the king and Maria the queen. Finally, no deontic/volitional/etc modality is at stake. Quite directly, utterances of (23) are true iff it is the case that in the
third scene (irrespective of whether it was/is/will be performed) the mentioned people
play the specified characters.

Sentence (24) might seem to indicate that some modal meaning is available, because of
the exhortative nature of the matrix (let’s pretend that…). But the latter is by no means a
necessary ingredient of the phenomenon we are pointing at. The same reading arises with
plain assertions:

(25) a. Gianni e Maria stanno recitando Amleto. Lui era il re e lei era la regina.
    'Gianni and Maria are playing Hamlet. He was(IMPF) the king and she
    was(IMPF) the queen'
b. Facevano che lui era il re e lei la regina.
    '(They) were pretending that he was the king and she was the queen'
As with (24), an utterance of (25) is true iff it is/was actually the case that the two people
are/were playing the specified characters, acting appropriately, etc.

If these observations are correct, then the assimilation of the imparfait préludique to the
modal readings, attempted by Ippolito (2002), might not be granted. Rather, the imparfait
préludique turns out to be close to sentences reporting about the content of books, movies,
etc., the so-called contensive contexts:7

(26) In Peter Pan, Capitan Uncino catturava Campanellino.
    'In Peter Pan, Captain Hook captured(IMPF) Tinker Bell'

In all these cases, the imperfect doesn’t either contribute a temporal or modal meaning.
As to other tenses, in contensive contexts the present tense yields results similar to the
imperfect, and both contrast with other past forms:

(27) In Peter Pan, Capitan Uncino cattura Campanellino.
    'In Peter Pan, Captain Hook captures Tinker Bell'

(28) #In Peter Pan, Capitan Uncino ha catturato/catturò Campanellino.
    'In Peter Pan, Captain Hook has captured/captured Tinker Bell'

Past tenses are marginal/very marginal in these contexts, as pointed out by several scholars.\(^8\) Intuitively, the contrast seems to be due to the fact that (28) means that an event of capturing Tinker Bell by Captain Hook took place in the speaker’s past – which is obviously not the intended meaning. On the other hand, the acceptability of (26) and (27) stresses that, in these contexts, the present tense and the imperfect don’t require the relevant event to be in the speaker’s past.\(^9\)

Another context with similar properties is provided by *dream* sentences (see Giorgi & Pianesi 2001a):

(29)  Gianni ha sognato che Maria partiva  
'Gianni dreamed that Maria left(IMPF)'

(30)  #Gianni ha sognato che Maria è partita/partì  
'Gianni dreamed that Maria left(PRES PERF/PAST)'

As with the previous cases, the leaving in (29) is not temporally located with respect to the dream (the temporal anchor). That is, it is neither simultaneous to, nor in the past or in the future of the dreamer. Further evidence that these contexts do not trigger temporal anchoring is provided by the absence of restrictions on the temporal interpretation of embedded past tense achievement predicates in English:

---

\(^8\) For a recent analysis of these contexts in Italian see Bonomi e Zucchi (2001) and Zucchi (2001). The judgements they give in their works is analogous to the one we are discussing here, with the difference that they do not analyze the distribution of the imperfect. Notice also that for some speakers the imperfect is more marked than the present tense. For one of the authors of this work in fact the sentence with the imperfect is slightly degraded with respect to the other one.

\(^9\) In *preludique* contexts, the present is felicitous only with current plays:

(i)  a.  Facciamo che io sono il re e tu la regina.  
'Let’s pretend that I am the king and you are the queen'

   b.  #Facevano che lui è il re e lei la regina.  
'They were pretending that he is the king and she is the queen'
(31)  a. John dreamed that Mary ate an apple  
     b. John said that Mary ate an apple

The event of eating need not precede the dreaming, whereas the interpretation of (21b), where anchoring is at play, crucially requires the eating to precede the saying – that is, the past of the embedded verb is interpreted as locating the eating in the past with respect to the perspective of the subject. See also section 3 below.10

1.4. Conclusions

Concluding this section, the generalizations concerning the distribution of the imperfect are the following:

- The imperfect always needs to be predicated of a local topic. Such a topic can be:
  - a temporal reference
  - an epistemic background
  - a fictional location.
- The imperfect can appear in contexts requiring anchoring—namely, contexts created by attitude predicates – in which it is interpreted as past. The pastness can either directly concern the location of the event appearing with imperfect morphology, or the (epistemic) modality expressed by it.
- When appearing in anchoring contexts, the imperfect can give rise to a simultaneous reading, given its peculiar aspectual properties.
- It can appear in contexts not enforcing anchoring. In this case it simply contributes to the interpretation the event itself, without adding any temporal information. These readings are a-temporal and non-modal.

Let us also briefly point out that in English only some of the functions we described for the imperfect can be taken over by the simple past.

As a first consideration, note that only non-eventive predicate, can be predicated of a topic as the imperfect is – namely, meaning that at a certain time a certain event is ongoing. If the predicate is eventive, the form must appear in the progressive:

10. And trivially with respect to the perspective of the speaker.
(30) Yesterday at four John was sick.

(31) #Yesterday at four John studied mathematics.

(32) Yesterday at four John was studying mathematics.

The same happens in embedded contexts as well – i.e., a simultaneous interpretation of the embedded event with the superordinate one is admitted only if the predicate is a non-eventive one, or, if eventive, it appears with progressive morphology:

(33) John said that Mary was sick. (simul)

(34) John said that Mary ate a sandwich. (shifted in the past)

(35) John said that Mary was eating a sandwich. (simul)

Giorgi & Pianesi (1997) analyzed these contexts and attributed the differences to aspectual properties varying across languages. We will briefly address this question in the next section.

The English past can never be interpreted modally, independently of word order, neither in matrix, nor in embedded clauses:

(36) *Tomorrow Placido Domingo sang.

(37) *Placido Domingo sang tomorrow.

(38) *John said that Placido Domingo sang tomorrow.

(39) *John said that tomorrow Placido Domingo sang.

Moreover, the English past cannot be used in fictional contexts:

(40) #I was the king and you were the queen.

(41) #In Peter Pan, Captain Hook captured Tinker Bell.
Sentence (40) is grammatical, but it is not a preludique sentence. Sentence (41) is infelicitous if used to describe the content of a fictional context.11 The English past is perfectly acceptable in dream contexts:

(42) John dreamed that Mary ate an apple.

The interpretation of the embedded clause is analogous to the Italian one and is non-anchored from a temporal point of view. As far as the aspectual interpretation is concerned, the English embedded verb in (40) is perfective, as expected. It contrasts with the following example:

(43) John dreamed that Mary was eating an apple.

In (43) the embedded event is viewed as continuous. With the exception of the dream contexts – which will be considered below – we can conclude therefore that the English past must always, and only, be interpreted as a temporal relation, locating an event with respect to another one, and can never be used in contexts in which the verbal form undergoes some other kind of interpretation.12

2. The imperfect at the interface

2.1. Terminativity vs. non-terminativity

In this section we briefly review the aspectual properties of the imperfect, in particular with respect to the telic/atelic distinction.13 This distinction can be given firm empirical grounds by resorting to the well-known for-X-time/ in-X-time adverbial test. It can be

11. See fn. 8 above.

12. Notice also that in dream contexts in English the present tense gives rise to marginal sentences:

(i.) *John dreamed that Mary is pregnant.

13. For more on this, see Giorgi and Pianesi (2001c).
observed that sentences, which have been classed as telic, can be modified by \textit{in-X-time} adverbials while rejecting \textit{for-X-time} ones.

(44) a. John ate an apple in/ *for ten minutes.
    b. John ran home in/ *for ten minutes.
    c. John reached the top in/ *for ten minutes.
    d. John died in/ *for ten minutes.

Conversely, atelic sentences admit \textit{for-X-time} adverbials and yield infelicitous results with \textit{in-X-time} ones:

(45) a. John ate apples #in/ for ten minutes.
    b. John ate #in/ for ten minutes.
    c. John ran #in/ for ten minutes.
    d. John pushed the cart #in/ for ten minutes.

Finally, the telic/atelic distinction is affected by the nature of the arguments the verb combines with. Thus (4), where the direct object is countable, is telic, whereas (8), with a bare plural, is atelic. Similarly, (5) with a prepositional locative phrase is telic, whereas (10), where such a phrase is missing, is atelic.

The \textit{in-X-time}/ \textit{for-X-time} adverbial test seems to be a rather secure basis for telling telic and atelic sentences apart. Extending it to languages other than English, and to tenses other than the English simple past, yields interesting results. With the Italian imperfect, the use of \textit{in-X-time}/ \textit{for-X-time} adverbials makes the factual, continuous reading unavailable, whereas, depending on the actional nature of the verbal predicate, the habitual reading might still be there:

(46) a. Mario mangiava (una mela) *in / *per un’ora.

'Mario ate (IMPF) (an apple) in/ for an hour'

b. Mario correva (a casa) *in / *per un’ora.

'Mario ran (home) in/ for an hour'

For our purposes, the stars in (46) mark the unavailability of the factual reading. Factoring habituality out, these facts seem to show that the telic/atelic distinction simply does not apply to continuous sentences with the imperfect. The problem at this point is to figure out what’s wrong with the imperfect. A possibility is that the problem is caused by
the fact that the imperfect is an imperfective verbal form, a conclusion strengthened by the observation that the same pattern as in (12) can be reproduced with the Italian present tense, another imperfective tense.\(^{14}\)

\[(47)\]

\[\begin{align*}
\text{a. Mario mangia (una mela) (*in / *per un’ora).} \\
& \quad \text{‘Mario eats (an apple) in/ for an hour’}
\end{align*}\]

\[\begin{align*}
\text{b. Mario corre (a casa) (*in / *per un’ora).} \\
& \quad \text{‘Mario ran (home) in/ for an hour’}
\end{align*}\]

Whereas sentences with present tense eventive predicates — with the exception of achievement predicates — are grammatical in Italian, yielding a continuous reading, the same sentences become ungrammatical when featuring an in-X-time or for-X-time adverbial. Therefore, it seems possible to propose a generalisation to the effect that the telic/atelic distinction does not apply to imperfective predicates. This, however, is not the whole story. In Giorgi and Pianesi (2001c) we proposed the following generalisation:

\[(48)\]

\[\begin{align*}
\text{a. the notional counterpart of morphologically perfective verbal forms is terminativity;} \\
\text{b. the morphological distinction between perfective and imperfective verbal forms does not correspond to two distinct aspectual (notional) values, but to the presence vs. absence of the unique aspectual value of terminativity.}
\end{align*}\]

The first thesis is rather simple and, in a way, uncontentroversial. Sticking, for the time being, to an intuitive notion of terminativity, (48b) states that the events referred to by perfective predicates are terminated. The second thesis, on the other hand, says that the distinction between perfective and imperfective verbal forms does not amount to that between terminated and non-terminated events. Rather, perfectivity/ imperfectivity distinguishes between verbal forms enforcing terminativity, and verbal forms that do not impose any

\(^{14}\) We haven’t reproduced examples with achievement predicates because they are ungrammatical with the present tense, irrespectively of the presence of in-time/ for-time adverbials. This fact holds crosslinguistically and is but another manifestation of the intrinsic perfectivity of achievement predicates, which will be discussed below. For more on this point, and the reasons why perfective predicates are not available with the present tense, see Giorgi and Pianesi (1997; 1998).
requirement to this effect. In technical terms, the perfective/imperfective distinction is a
privative one.

Consider the following sentences:\(^{15}\)

(49)  
\begin{enumerate}
\item (Alle tre) Mario mangiava una mela (e la sta mangiando tutt’ora).  
\hspace{1cm} (CONT, NON-TERM)  
\hspace{1cm} ’(At three) Mario ate (IMPF) an apple (and he is still eating it)’
\item * (Alle tre) Mario mangiò/ha mangiato una mela (e la sta mangiando tutt’ora).  
\hspace{1cm} (*CONT, TERM)  
\hspace{1cm} ’(At three) Mario ate (SP)/ has eaten an apple, and he is still eating it’
\end{enumerate}

In its continuous reading, it is possible to understand (49a) as made true by an event \(e\) such that \(e\) was ongoing at a past time, and \(e\) is still ongoing at the utterance time. Such a possibility is not available if the imperfect tense of (49a) is substituted by a perfective one, as in (49b): in this case the intuition is that the event has terminated, and that it cannot continue at the utterance time. Similar effects can be obtained if the accomplishment predicates of (49) are substituted by activity ones:

(50)  
\begin{enumerate}
\item Questa mattina Mario spingeva il carretto, e lo sta spingendo tutt’ora.  
\hspace{1cm} ’This morning Mario pushed(IMPF) the cart, and he is still pushing it’
\item ?Questa mattina Mario ha spinto il carretto, e lo sta spingendo tutt’ora.  
\hspace{1cm} ’This morning Mario pushed(PRES PERF) the cart, and he is still pushing it’
\end{enumerate}

While it is possible to understand (50a) as made true by one and the same event, which is ongoing both at a past time and at the time of utterance, this is not the case with (50b). If

---

\(^{15}\) Here and in other examples we resort to both the Italian simple past (the so-called \textit{passato remoto}) and to the present perfect as cases of perfective verbal forms. Perfect tenses deserve a more complex analysis than the one we are going to provide here. In particular, they have been argued to involve reference to the consequent state of the event described by the past participle (see Parsons 1990; Higginbotham 1994; Giorgi & Pianesi 1997). For our purposes, however, we can neglect the stative component since it is clear that the eventuality described by the past participle falls under the generalisation we are going to draw—namely, that they are terminated.
Sequence of Tense and the Speaker’s Point of View: Evidence from the Imperfect

accepted, (50b) requires two different events: a terminated event making the first clause true, and a non-terminated one, which is going on at the utterance time.\(^{16}\)

These differences do not depend on the use of past tenses:

(51) *Domani mattina Mario mangerà una mela. Alle tre del pomeriggio la starà ancora mangiando.

'Tomorrow morning Mario will eat an apple. At three pm he will still be eating it.'

To conclude, perfective verbal forms require events that are, in an intuitive sense, terminated, whereas imperfective ones may refer to non-terminated events. As a further argument in favour of Thesis b — namely, the non-committal nature of imperfective verbal forms as to terminativity — consider the following sentence:

(52) Tre ore fa, Messner raggiungeva la vetta (*e la sta ancora raggiungendo).

(*CONT)

'Three hours ago, Messner reached (IMPF) the top (*and he is still reaching it)'

This example is parallel to (49b). Despite the presence of the imperfect, the event is terminated—Messner reached the top at a past time—and the continuous/on-going reading is disallowed. Consider also (53):

(53) a. #Mario raggiungeva la vetta quando un fulmine lo colpì (e lui non arrivò mai in cima).

'M. reached(IMPF) the top when a bolt stroke him (and he never got to the top)'

b. Mario stava raggiungendo la vetta quando un fulmine lo colpi (e lui non arrivò mai in cima).

'M. was reaching the top when a bolt stroke him (and he never got to the top)'

Example (53a) is odd because the first part asserts that Mario did reach the top, whereas the second implicitly negates that this was the case. However, if we replace the imperfect tense of (53a) with a progressive form, as in (53b), the oddness is removed. Now the

\(^{16}\) The possibility is open for the first event to be a part of the second, in case we admit that non-terminated events can have terminated parts. The important point is that (50a) differs from (50b) since one and the same non-terminated event can make true both the clauses of (50a), but not those of (50b).
sentence conveys that Mario was on the point/ about reaching the top, when a bolt stroke him so that he never got to the top.

Examples (52) and (53) show that sentences featuring an achievement predicate in the imperfect tense pattern together with perfective sentences, in the relevant respects — namely, they yield terminative readings. Given that in other cases — e.g. (50a) and (51a) — sentences with an imperfective predicate can provide for non-terminated readings, it is possible to conclude that: i) the facts in (52) and (153) are due to the actional properties of achievements, and ii) the imperfect is compatible both with terminative and non-terminative readings. This proves Thesis (b): imperfective verbal forms are aspectually neutral.

Now, consider the following sentences:

(54) a. Ieri Gianni raggiungeva la vetta in tre ore.
   'Yesterday Gianni reached(IMPF) the top in three hours'
 b. Ieri Mario correva il miglio in un’ora.
   'Yesterday Mario ran (IMPF) the mile in an hour'
c. Due giorni fa Gianni leggeva la Divina Commedia in tre ore.
   'Two days ago Gianni read(IMPF) the Commedia for three days'

Despite the presence of the imperfect, these three sentences report about terminated events, something which is possible according to Thesis b.\(^\text{17}\) Importantly, in these cases in-X-time adverbials are allowed, showing that the predicates in (54), once terminative, are also telic.\(^\text{18}\)

\(^{17}\) The sentences in (54) have a strong reportive flavour. We will not discuss what reportivity amounts to. For our purposes it is enough to notice that, nuances apart, the imperfect is compatible with terminative readings.

\(^{18}\) Many authors (e.g., Ippolito 2002; Cipria and Roberts 2002) dub ‘progressive’ the readings we have termed ‘continuous’. This suggests – or has the consequence (Cipria and Roberts, 2002) – that those readings can actually be accounted for by resorting to the same machinery exploited for progressives. In previous works (Giorgi and Pianesi 1997, 2001a) we argued against such a reduction, proposing that the continuous reading be kept distinct from those arising with the progressive. One reasons was the contrast exemplified by (53): the continuous reading isn’t available with achievement predicates — that is, (i) doesn’t mean that at three o’clock an event of reaching the top was ongoing. As discussed in the text, (i) can only have the terminative reading according to which the reaching culminated at the given time:
These facts are important because they permit to improve on the conclusion we reached before about the reasons why the telic/atelic distinction doesn’t seem to apply to the continuous readings sentences with the imperfect (or present) tense. The right generalisation seems that telicity/atelicity is restricted to terminative predicates, and that the restriction is independent of the (morphological) ways terminativity is realised—either by means of a perfective verbal form, as in *Mario corse a casa in tre ore* (Mario ran home in three hours), or by means of imperfective ones, as in (54).

(i)    Alle tre Mario raggiungeva la vetta.
     'At three o’clock, Mario reached(IMPF) the top'

The use of the progressive yield the expected results; (ii) actually means that at the given time Mario was involved in an event of reaching the top:

(ii)   Alle tre Mario stava raggiungendo la vetta.
     'At three Mario was reaching the top'

The pattern is reversed with stative predicates: the present or the imperfect tense are perfectly acceptable with them, whereas the progressive form, notoriously, is not:

(iii)  Alla festa Mario sembrava felice.
     'During the party, Mario looked happy'

(iv)   Alla festa Mario stava sembrando felice.
     'During the party, Mario was looking happy'

To our view, these distributional data are strong evidence in favour of a distinction between the two verbal forms, and the resulting readings. This is finds further support in the observation that whereas there seems to be enough evidence to think that the progressive is intensional, the same evidence doesn’t seem to apply to continuous readings. We won’t discuss this last point here, referring the reader to the quoted work. To conclude, there seem to be enough support to the thesis that the continuous readings made possible by imperfective verbal form should be kept distinct, and given different account, from those arising with the progressive.
As expected, it is sometimes possible to force terminative atelic readings with the imperfect:

(55) Nel 1995 Mario Rossi dormiva per tre giorni, battendo così il record.
     'In 1995 Mario Rossi slept(IMPF) for three days, this way beating the record'

Suppose that the topic of the discourse is how long people can sleep before awaking. Then (55) would be both appropriate and acceptable, reporting about a remarkable achievement by Mario Rossi in this respect. The event making the sentence true is terminative and atelic, as witnessed by the availability of the for-X-time adverbial. Interestingly, similar conclusions hold for the events featuring in sentences with ‘modal’ readings:

(56) a. Domani Gianni correva per/*in un’ora.
     'Tomorrow Gianni ran(IMPF) for/in an hour'
   b. Domani Gianni leggeva la Divina Commedia in tre ore.
     ‘Tomorrow Gianni read the Comedy in three hours’

In conclusion, we have established the following three facts:

(57) a. the notional counterpart of morphologically perfective verbal forms is
     terminativity;
   b. the morphological distinction between perfective and imperfective verbal
     forms does not correspond to two distinct aspectual (notional) values, but to
     the presence vs. absence of the unique aspectual value of terminativity;
   c. the telic/atelic distinction only applies to terminative predicates.

As already observed, the relevant connection is that between telicity/atelicity, on one side, and terminativity/non-terminativity, on the other. Both distictions are notional/semantic ones, whereas that between perfectivity/imperfectivity is a morphological one, and plays a role only as a vehicle for the former(s). The proposal permits to account for the range of phenomena discussed above — namely, the vacuity of the telic/atelic distinction with continuous predicates — while extending to such facts as (55) — terminative predicates built out of imperfective verbal forms — without resorting to such devices as coercion.
2.2. Temporal phrases

In this section we focus on facts concerning temporal phrases, showing that both their distribution and their contribution to the truth-conditional meaning vary according to the status of the verbal predicate along the terminative/non-terminative dimension.19

(58) a. Alle tre Mario ha preso il tè.
   'At three Mario had tea'
   b. Mario ha preso il tè alle tre.
   'Mario had tea at three'

In perfective sentences, e.g. (58), the initial vs. final position of a temporal locating phrase such as alle tre (at three) does not affect the truth-conditions. Both (58a) and (58b) are true iff there is a past and terminated event of Mario having tea which occurred at three o’clock. Using the predicate \( t \) to distinguish terminate events (see Giorgi and Pianesi 2001b), and the asymmetric at relation, which is true of two temporal entities (events and/or times) iff the first is located at the second, we have the following truth-conditions for the sentences in (58):

(59) \( \exists e (\text{have-tea}(e) \land t(e) \land \text{at}(e, \text{three-o-clock})) \)

With imperfective sentences, the position of the temporal phrase does matter:

(60) a. Alle tre Mario prendeva il tè.     (CONT; HAB; FUTURATE)
   'At three Mario had (IMPF) tea'
   b. Mario prendeva il tè alle tre.     (*CONT; HAB; FUTURATE)
   'Mario had (IMPF) tea at three'

When the temporal phase is in the sentence-initial position, the continuous/non-terminative, the habitual, and the future oriented (modal) readings are all available. On the other hand, if the temporal locating phrase is sentence-final, the factual/continuous reading is unavailable, and (60b) cannot convey that at the given past time (three o’clock) an event of having tea was ongoing. Achievement predicates, which

---

19. See also Delfitto and Bertinetto (2000).
always provide terminative readings, give raise to the same pattern as in (58), with the position of the temporal phrase being truth-conditionally irrelevant:

(61)  (Alle tre) Mario raggiungeva la vetta (alle tre).
     '(At three) Mario reached(IMPF) the top (at three)'

Thus, setting habitual and futurate readings aside, it must be concluded that sentence-final locating temporal phrases are allowed only with terminative readings. Those differences seems to be related to the fact that in terminative sentences temporal phrases provide a value for the temporal location of the event, whereas this is clearly not the case in non-terminative, continuous ones. Not so, at least, under the ordinary understanding that the temporal location of an event is some entity (a time interval/region) that completely contains it. Thus, sentences (58a), (58b), and (61) report about (terminated) events such-and-such, whose temporal location is as specified by the temporal phrase. A sentence such as (60a), in its continuous reading, doesn’t have the same meaning: its truth conditions are not such that there is a past event whose temporal location is three o’clock. This can be easily seen if you consider that, as observed, (60a) can be continued as follows:

(62)  … e lo sta ancora bevendo
     '… and he is still drinking it'

Given that relevant event can still be on-going at the utterance time, there is no ground for assigning it a past location. Indeed, it turns out that that non-terminated events cannot be located at all: according to the theory developed in (Giorgi and Pianesi 2001c), only terminated events can. For, how would a non-terminated event be assigned a temporal location, under the intuitive understanding that the latter be some entity temporally containing the former?

According to the proposed account, the possibility of temporal phrases to provide the location of the event depends on whether the latter are terminative. If so, we expect that such a possibility be available not only in sentences with perfective verbal forms, like those in (58), but also in imperfective sentences whenever terminative readings arise. We have already seen that this expectation is confirmed by achievement predicates in the imperfect tense, cf. (61). It is also born out by the ‘modal’ readings of sentences with the imperfect whose events, we argued above in connection with (56), are terminated:
(63) a. Domani Mario partiva.
   'Tomorrow Mario left(IMPF)'
b. Mario partiva domani.
   'Mario left(IMPF) tomorrow'

As with (58), the position of the temporal phrase does not affect the truth condition. In both cases, utterances of those sentences are true iff it was expected/it was established that Mario would leave on the mentioned day. In other words, in these cases too the temporal phrase fixes the temporal location of the event. Finally, the same conclusions hold for other cases of terminative readings with the imperfect, as with ‘reportive’ sentences:

(64) a. Nel 1492 Cristoforo Colombo scopriva l’America.
   'In 1492 Cristoforo Colombo discovered(IMPF) America'
b. Cristoforo Colombo scopriva l’America nel 1492.
   'Cristoforo Colombo discovered(IMPF) America in 1492'

Expectedly, the two sentences have the same truth conditions, irrespective of the position of the temporal phrase. In the end, it seems possible to conclude that the possibility for a temporal phrase to fix the location of the event is determined by aspectual properties: as soon as the event is terminated, the temporal phrase can function in the expected way, and the truth conditions are insensitive to its position. As seen, this is so, irrespective of whether terminativity is morphologically enforced (by means of a perfective verbal form), or is due to lexical properties (as in (61), or to any other reasons.

Giorgi and Pianesi (1997) and Delfitto and Bertinetto (2000) argue that the temporal phrases of examples such as (58a) actually are arguments of the verbs; indeed, the lowest ones.20 Cases such as (58b), then, are obtained from (58a) by moving the temporal argument to a sentence-initial position. The facts just discussed suggest to extend this account to all terminative sentences, again irrespective of how terminativity is arrived at: in (58), (61) and (63) the temporal phrase fixes the location of the event and is an argument of the verb. Quite generally, it can be concluded that:

20. See also Larson (1998).
Given this picture of the syntax and semantics of temporal phrases in terminative sentences, what can be said of the temporal phrases of sentences such as (60a) in their continuous/factual reading? According to the observations above, *alle tre* (at three) in (60a) doesn’t fix the location of the event. If (65) is taken as stating the defining properties of temporal arguments, it can be concluded that those appearing in contexts like (60a) are different entities. We will propose that those temporal phrase are topics which are generated in the leftmost position. Interpretatively, they introduce (or regulate) the perspective from which the truth/falsity of the rest of the clause is assessed. This view is germane to the one that the imperfect is a present in the past: once the past perspective is fixed, the interpretation proceeds as if the main tense were the present. In past works (Giorgi and Pianesi 2001b, 2001c) we argued that sequence of tense phenomena require that the perspective of the subject (the believer, the sayer, etc.) be taken into account when interpreting embedded clauses. We also showed how this could be accomplished through a semantics that manipulate assignment sequences, making them sensitive to those subject. In this paper, we would like to suggest that the perspective shifts operated by the imperfect can be accounted for by resorting to, fundamentally, the same machinery.

3. Sequence of Tense

At the end of the previous section we suggested that the imperfect tense induces perspective shifts. In §4 we will propose that a mechanism of sequence change (or update) similar to that developed for tenses in subordinate contexts can be exploited to account for the basic properties of the imperfect tense. Hence, it seems appropriate to devote this section to give some details about the facts mentioned above and about the proposed account of temporal anchoring.

Besides the facts already discussed in §1.3. in connection with (27)-(29), there is other evidence in favour of the idea that dream contexts do not enforce/require anchoring. For instance, (66a) and (66b) are acceptable, simply conveying that in Gianni’s dream the singing/leaving was taking place at the specified times (yesterday, today or tomorrow):

(65) (a) temporal arguments locate the event;
       (b) their presence is ruled by aspectual properties; in particular, they are selected/licensed whenever the predicate is terminative.
(66) a. Gianni ha sognato che ieri/oggi/domani cantava Placido Domingo.
   'Gianni dreamed that tomorrow Placido Domingo sang(IMPF)' (not modal)
   b. Gianni ha sognato che partiva ieri/oggi/domani.
   'Gianni dreamed that he left(IMPF) tomorrow' (not modal)

If the matrix predicate is a verb of saying, the only available reading is that in which the subordinate clause has the sort of ‘modal’ reading we discussed in §1.3.:

(67) a. Gianni ha detto che domani cantava Placido Domingo.  (modal)
   'Gianni said that tomorrow Placido Domingo sang(IMPF)'
   b. Gianni ha detto che partiva domani.
   'Gianni said that he left(IMPF) tomorrow' (modal)

Sentence (67a) conveys that Gianni said something to the effect that, from his perspective, it was expected that Placido Domingo would sing tomorrow. Furthermore, we know that achievement predicates in the imperfect tense do not give raise to simultaneous readings when embedded under verbs of saying, given that, for aspectual reasons, they could not be properly anchored. Only backward shifted readings are available for (70a), provided that the context supplies a suitable temporal referent.²¹

(70) a. #Gianni ha detto che Maria raggiungeva la vetta.
   'Gianni said that Maria reached(IMPF) the top'
   b. Gianni ha sognato che Maria raggiungeva la vetta.
   'Gianni dreamed that Maria reached(IMPF) the top'

Such a restriction does not extend to the *dream* context in (70b). Finally, in dream contexts the matrix eventuality may not be available for reference from within the subordinate clause. Consider a temporal locution such as *in quel momento* (in that moment). It is anaphoric, as it ordinarily requires a temporal referent to be made available by the context, either sentential, or extra-sentential:

²¹. The reason is the same we briefly discuss below: terminative events cannot be simultaneous to their temporal anchor. See fn. 25.
Sentence (71) is odd if the context does not provide a suitable temporal reference for the locution \textit{in quel momento} (in that moment) to draw its reference from. Matrix eventualities seem capable of play this role, so the sentences in (72) are acceptable, even when uttered out-of-the-blue:

\begin{enumerate}
\item Gianni credeva che \textit{in quel momento} Maria mangiasse una mela.
'Gianni believed that in that moment Maria ate (PAST SUBJ) an apple'
\item Gianni ha detto che \textit{in quel momento} Maria mangiava una mela.
'Gianni said that in that moment Maria ate (IMPF) an apple'
\end{enumerate}

In both cases, \textit{in quel momento} can have the same referent as the matrix eventive variable. This possibility however is hardly available with \textit{dream} predicates:

\begin{enumerate}
\item Gianni ha sognato che \textit{in quel momento} Maria mangiava una mela.
'Gianni dreamed that in that moment Maria ate (IMPF) an apple'
\end{enumerate}

The temporal locution can connect to something \textit{outside} the dream context, provided that it is not the dream itself, as in (74), where the event providing the reference to \textit{in that moment} is the taking of the math examination:

\begin{enumerate}
\item Tre giorni fa Mario ha dato l’esame di matematica. Ieri Carlo ha sognato che in quel momento Mario partiva.
'Three days ago Mario took the math examination. Yesterday Carlo dreamed that in that moment Mario left(IMPF)'
\end{enumerate}

Also, \textit{in quel momento} can draw its reference from times/events that are part of the dream content:

\begin{enumerate}
\item Mario ha sognato che sua sorella entrava. In quel momento la madre piangeva.
'Mario dreamed that his sister entered(IMPF). In that moment his mother was crying'
\end{enumerate}
This is a case of modal subordination, where the second sentence is understood as continuing the description of the dream, and the temporal locution’s antecedent is constituted by the event of Mario’s sister’s entering.

The oddness of (73) is a striking fact, especially if confronted with the acceptability of (74), which shows that contextually supplied referents are available in dream sentences. More generally, we think that these observations are important because they show that temporal anchoring is not (easily) reducible to cross-clausal anaphoric processes — that is, processes which rely on previously supplied linguistic material for the purpose of reference assignment. Suppose, in fact, that this were not so, and that temporal anchoring simply amounted to the fact that the embedded tense directly accesses the matrix eventuality. Then, we would be at odds at explaining why such a process (which would be essentially driven by syntax) doesn’t obtain in the dream contexts we have discussed. Why (and how) shouldn’t the matrix eventuality figure among the accessible referent to the tense in (73)? Even if we stipulated that tenses embedded in dream contexts behave in peculiar ways, still we would have to explain why cross-clausal anaphora should fail with in quel momento.

We must admit that a) when in quel momento has the same reference as the temporal anchor, as in (72), this is not because it takes its reference directly from the matrix event (time), but because it has the same reference as the (local) temporal anchor; and b) from within the embedded clause, the matrix event is either available (represented) as the local anchor, or it is not accessible at all. Hence, utterances of the sentences in (72) are felicitous because: temporal anchoring is enforced; the temporal anchor is the saying/belief eventuality and it is available from within the embedded clause; the temporal locution ends up having the same referent as the temporal anchor — that is, the saying/belief eventuality. On the other hand, (73) is odd because temporal anchoring is not enforced, so that the dream eventuality is not an available referent.

Ultimately, temporal anchoring is closer to indexicality than to anaphora: in both cases, reference is not simply a matter of what has been made available by linguistic means, but involves considerations of other factors. We will return to those in a while.

Before closing our review of the phenomena concerning dream contexts, let us mention that if the tense of the embedded clause is an indicative tense other than an imperfect, a different meaning is obtained, which we called evidential dream (see Giorgi and Pianesi 2001a).

(76)  
a. #Gianni ha sognato che c’è stato un terremoto.  
’Gianni dreamed that there has been(PAST) an earthquake’
b. #Gianni ha sognato che Maria mangerà un panino.
   'Gianni dreamed that Maria will eat a sandwich'

In these cases (some form of) temporal anchoring is enforced:

(77) La settimana scorsa Gianni ha sognato che ieri Maria vinceva /*ha vinto al
totocalcio.
   'Last week Gianni dreamed that yesterday Maria won(IMPF/PAST) the lottery'

The sentence is grammatical with the imperfect, but not with the present perfect. The
incompatibility of the present perfect with the future-oriented temporal phrase shows that
with such a verbal form temporal anchoring is enforced. In some sense, the subordinate
events of (77) is located in the speaker’s past.

The availability of temporal anchoring with non-imperfect indicative tenses has further
consequences. Consider the following sentences:

(78) a. Gianni ha sognato che c’è stato un terremoto.
   'Gianni dreamed that there has been an earthquake'
   b. Gianni ha sognato che c’era un terremoto.
   'Gianni dreamed that there was(IMPF) an earthquake'

These sentences do not only differ in that the first locates the earthquake in the past, with
respect to the utterance and the dream, whereas the second sentence doesn’t. They also
differ in the kind of attitude the speaker takes with respect to the content of the
subordinate clause. When uttering (78b) — and, more generally, any dream-sentence
with the imperfect — the speaker simply reports about someone’s dream. When using
(78a), on the other hand, the speaker does something more: she talks about current states
of affairs, exhibiting an attitude of hers towards the dream content and entailing some
behavioural disposition. More precisely, the speaker presents the content of the dream as
concerning her actuality, offering the dream itself as evidence. Obviously, the speaker
needs not commit herself (and the hearer) to the truth of the embedded proposition; rather,
she is presenting a proposition/possibility together with supporting evidence, the dream.

In Giorgi and Pianesi (2001a) we argued at length that these and other facts make dream
contexts with a non-imperfect indicative tense very similar to epistemic evidentials:
In this case, the presence of the books is offered as evidence in favour the presence of Mario. These contexts and non-imperfect dream sentences exhibits several similarities at the interface, even if they are realized by means of different morphosyntactic structures. We refer the reader to the quoted paper for more on this topic.

So we have the following generalisations concerning dream contexts:

a) Dream contexts can be non-anchored; in this case the tense is the imperfect.

b) When a tense other than the imperfect is used, temporal anchoring is again obligatory. However, temporal anchoring mainly obtains with respect to the speaker (rather than the subject) and goes together with the expression of some kind of speaker’s attitude towards the proposition expressed by the embedded clause (the dream’s content).

c) The discussion above suggest that when there is temporal anchoring, the anchor is explicitly represented at some level in the embedded clause, and is available for anaphoric reference.

We argued above that temporal anchoring is an indexical phenomenon, given that it has in common with indexicality the reliance on information which is not merely provided by linguistic means. That tenses behave as indexical in matrix clauses is by no means new. What is more interesting is the possibility that they maintain such a property in embedded clauses too.

Indexicality is usually associated to reference to such ‘contextual’ parameters as the time, the agent, or the place of utterance/thought. The classical view (Kaplan 1989) has it that indexical reference always targets the current context. Recently, however, there have been attempts at showing that this need not be so, and that indexicals might shift their reference, considering contexts different from the current one.22

In previous work (see Giorgi & Pianesi 2001a) we argued for a theory assigning subjects of (ascribed) mental states a major role in determining the kind of assignment sequences to be used in the evaluation of embedded clauses. More precisely, when an embedded proposition is anchored, and the temporal anchor represent the temporal coordinate of the subject to whom the mental state/event is ascribed. However, in view of

---

well-known data concerning ignorance about temporal identity, it seems preferable that
the temporal coordinate be such that it does not require attribution of full temporal
knowledge to the subject. So, temporal instants or intervals don’t work, whereas states
and events seem to be more appropriate, in particular those mental/communicative states
and events that are introduced by such verbs as *say, believe, fear*, etc. Indeed, despite the
fact that the subject of an utterance or of a thought might have reasons to doubt about, or
be wrong about, its temporal location on the objective time series (is it three or four
o’clock?), it doesn’t seem possible for her to doubt that when she thinks ‘John is sleeping’,
she is having the thought that the sleeping is simultaneous to that very thought, a situation
which could be reported by saying ‘X thought that John was sleeping’. The subject might
then continue to wonder about time, but her uncertainty doesn’t undermine her
knowledge that the sleeping state she attributes to John is simultaneous to her thought. So,
she cannot continue by asking herself ‘is John sleeping NOW?’ As it turns out, thoughts
and dicta are anchored and the anchoring entity (the temporal coordinate) is the
thought/utterance itself.

Reports about thoughts and dicta maintain such an anchoring, and reproduce the
temporal perspective of the subject by using the very attitudinal state/event as the
temporal anchor, with the embedded tense connecting the event to it. This explains why
tenses don’t behave in embedded contexts the same way as in matrix ones: their primary
function is to reproduce the relation between events/states and the temporal anchor,
which was present in the ascribed thought/utterance.
The existence of contexts in which temporal anchoring is not required calls for a
qualification of these conclusions. Dreams and statements about books have content,
referring to events, states, etc. But dreams differ from thoughts in that there is no intrinsic
(ontological?) connection between the temporal location of the subject/dreamer and the
dreamed event. So John might dream that he is a passenger of the Titanic and that the
Titanic is sinking, but also wonder ‘Is the Titanic sinking NOW?’, and be reassured that
this is not possibly the case. Quite simply, despite being mental events, dreams do not
have the same status of thoughts. In particular, whereas the contents of thoughts and
utterances include the connection between the event/state they talk about and the very
thought/utterance, this is not the case with dreams. The latter are not tensed the same way
thoughts are. Thoughts and utterances are, so to speak, containers which require their
content to be connected to them. Dreams are containers which don’t. Similarly with
books: the content of Moby Dick as expressed by ‘In Moby Dick the whale smashes the
boat with its tail’ is untensed in that there is no connection between the smashing and the
container.
So, there are mental events/state whose content includes a connection with the event/state itself, and other containers whose content doesn’t. Importantly, reports about the former (have to) reproduce that temporal connection, whereas reports about the latter don’t, for there isn’t any to reproduce. According to the discussion above, the distinction seem to parallel that between predicates that express a propositional attitude, and predicate that don’t. The former (say, believe, etc.) enforce temporal anchoring — namely, require that the embedded event be linked to the subject’s temporal coordinate (the attitude itself). The latter don’t.

The semantics of embedded clauses can take the form of an ILF-based theory, according to which verbs taking clausal complements establish a relation between individuals (sayers, believers, dreamers) and syntactic objects enriched with semantic values, so called Interpreted Logical Forms. ILF are representations, and are suited to be used as the vehicle of communication and as the language of thought. As usual, values to variables (traces, pronouns, etc.) are provided by assignment functions/sequences. If tenses contribute a relation between the eventive variable and the temporal coordinate, then:

\[(80)\]
\[
\begin{align*}
\text{a.} & \quad \text{temporal anchoring amounts to the fact that the ILF of the embedded clause contains a temporal relation between the event of the embedded clause, and that of the embedding one (the attitude’s eventuality).} \\
\text{b.} & \quad \text{If a clause is the complement of a verb entailing a propositional attitude by the subject, then temporal anchoring obtains.}
\end{align*}
\]

If we factor out the relational part (which we can take to be due to tense), we obtain that:

\[(81)\]
\[
\text{For a clause to express the object of an attitude by a subject, it is necessary that its ILF contain the attitude’s eventuality.}
\]

By this, we mean that the ILF of a clause that expresses the content of a propositional attitude of a subject X has one of its nodes annotated with a value corresponding to the

---

23. Another way to state the same conclusion is that subjects locate themselves in time by means of certain episodes of their mental life: thoughts. Dicta, being the expression of thoughts take over the same property. Other mental episodes don’t have the same property/role.
attitude’s eventuality. If we consider that the latter amounts to the temporal coordinate of
the attitude’s subject, then we can state the following condition on propositional attitudes:

(82) **Condition on propositional attitudes:** if a clause is the object of an attitude by
a subject, then its ILF contains her temporal egocentric coordinate (Evans,
1982);

In general, if S is a clause describing the content of the attitude of some subject X, the
tense relates the event to X’s egocentric coordinate. In ordinary matrix clauses
(assertions) the subject in question is the speaker, and the attitude is one of asserting the
truth of the clause itself. In clauses which are subordinate to verbs of propositional
attitude, X is the attitude’s subject. If S, on the other hand, is subordinate to the verb
dream, anchoring doesn’t obtain and the behavior of tense may vary according to other
factors. In the end, tenses seem to behave as shiftable indexical: rather than always and
invariably picking up the speaker’s coordinate, they relate some entity (time and/or event)
to the temporal coordinate of the attitude’s subject.

The sensitivity of tenses to subjects of propositional attitudes suggests that ILFs can be
computed by considering subject-oriented value assignments. For the sake of simplicity,
let us assume that tenses are relational devices, which relate a distinguished variable, x0,
to the eventive variable:

(83) a. Val(<x₀, e>, Pres, σ) iff overlaps(σ(0), σ(e))
b. Val(<x₀, e>, Past, σ) iff σ(e)<σ(0), etc.

Assignment sequences for clauses reporting about attitude’s contents are relativised to the
subject’s coordinate. Hence, we distinguish between σ_sub(0) and σ_sp(0), the values
assigned by the subject-oriented, and the speaker oriented sequences, respectively.
σ_sub(0) corresponds to whatever value the matrix eventive variable is given by σ_sp (the
subject’s attitude episode).²⁴ σ_sp(0) assigns the variable with index ‘0’ the speaker’s attitude
episode (ultimately, the utterance). Therefore, in both cases the sequence assigns
the 0-th variable the (contextually determined) value of the temporal coordinate of the
attitude/communicative act episode.

---
²⁴ That is, we could rewrite take s_sub to be like s_sp but for the fact that s_sub(0)=s_sp(i), where i is the index of
the variable of the matrix eventuality.
4. Deriving the properties of the imperfect

In this section we will develop the idea that the main properties of the imperfect that we discussed in the previous section can be explained by hypothesising that such a tense is a “present in the past”. This is a recurring idea that builds on many parallelisms between the two tenses, some of which we already remarked upon in the previous sections. Here is a sample of relevant cases:

**continuous/factual readings:**

(84) a. Mario canta/mangia (una mela)ama Maria.
    'Mario sings/eats (an apple)/loves Maria'

b. (Alle cinque) Mario cantava/mangiava (una mela)/amava Maria.
    '(At five) Mario sang(IMPF)/ate(IMPF) (an apple)/loved Maria'

**habitual readings:**

(85) a. Mario mangia sempre/spesso/talvolta una mela.
    'Mario eats always/often/sometimes an apple'

b. Mario mangiava sempre/spesso/talvolta una mela.
    'Mario ate(IMPF) always/often/sometimes an apple'

**future-oriented (modal) readings:**

(86) a. Domani Mario scrive a sua sorella
    'Tomorrow Mario writes to his sister'

b. Domani Mario scriveva a sua sorella.
    'Tomorrow Mario wrote(IMPF) to his sister'

Both the present tense and the imperfect are aspectually neutral. In particular, with both tenses, continuous readings are non-terminative:

(87) a. #Mario mangia una mela per un ora/in un’ora.
    'Mario eats an apple for an hour/in an hour'

b. #(Alle tre) Mario mangiava una mela per un’ora/in un’ora.
    '(At three) Mario ate(IMPF) an apple for an hour/in an hour'

Both tenses admit modal readings, and in both cases they are terminative:
4.1. The imperfect in matrix clauses

There seems to be plenty of empirical reasons in favour of the idea that the imperfect tense is a present tense upon which some kind of temporal shift has operated. According to the examples above, the imperfect seems to behave as the present tense would, though not presenting events/states from the same perspective as that of the speaker, but from a point of view which has been shifted in the past. For instance, in (84b) the point to which shifting obtains is provided by the temporal phrase which appears in the leftmost position of the sentence.

Our strategy in the following will be twofold: in the first place, we will take the idea of the imperfect as a present shifted in the past at face value, proposing that the relevant tense morpheme contributes two features: *past and present. The former is presuppositional, since it contributes a check to the effect that the relevant assignment sequence obeys certain conditions. The second feature, present, behaves as one would expect a present tense to behave, basically obeying axiom (83a).

As to the temporal shift, we implement it as a change/update of temporal coordinate, and, eventually, of assignment sequence: the imperfect is a present tense which is not evaluated with respect to the speaker’s (current) temporal coordinate, but to a past one. In more details: let us hypothesise that in anchored contexts, the continuous reading of the present tense amounts to requiring that a non-terminated event overlap the temporal coordinate, as provided by the current assignment sequence, $\sigma(0)$. Normally, in main clauses $\sigma(0)=u$, so that a continuous/factual reading of (89a) has the LF in (89b) and the truth conditions expressed by (89c):

(89) a. Mario dorme.

'Mario sleeps'

b. [Mario T-pres [VP dorme ]]

c. $\exists e (\text{sleep}(e) \land \text{overlap}(e, u))$

With the imperfect, the temporal coordinate is shifted to a past time; the shift can be realized by selecting an assignment sequence, whose temporal coordinate is past with
respect to that of the speaker, and which is used to evaluate the relevant portion of the clause. The availability of a different time which is in the past is presupposed by the imperfect, thanks to the feature \( *_{past} \). This view can be implemented by imposing suitable conditions on available assignment sequences:

(90) If \( \sigma(0) \) is defined and \( \sigma(0) < \mathbf{u} \), then \( \sigma \) is an appropriate sequence for \([*_{past} \text{XP}]\)

This says that among the assignment sequences which are appropriate for evaluating a phrase introduced by a node hosting the feature \( *_{past} \), there are those which are defined for the 0-th variable, and assign it an entity which temporally precedes the utterance.

As to morphosyntax, we propose that the continuous/factual reading of the following sentence correspond to the schematic LF in (91b):

(91) a. Alle cinque Mario dormiva.
   'At five Mario slept(IMPF)'
   b. [Alle cinque [F0-*_{past} [IP Mario present dorme]]]

The temporal phrase alle cinque (at five) plays the role of a time topic, and is inserted in the derivation as the specifier of an appropriate functional category, F.\(^{25}\) The latter has features which match/attract the feature \( *_{past} \) of the imperfect tense morpheme, so that, at LF, the time topic and the temporal features of the imperfect are in a Spec,head relationship. We hypothesise the following interpretative axiom:

(92) \( \text{Val}(t, [T-term \ F'], \sigma) \) iff \( \text{Val}(t, F', \sigma') \) where \( \sigma' \) is an appropriate assignment sequence which is like \( \sigma \) but for the fact that \( \sigma'(0)=\sigma(T-term) \)

This axiom performs the time shifting, by requiring \( F' \) to be evaluated with respect to a new assignment, \( \sigma' \), whose temporal coordinate (the value of the 0-th index) is (the referent of) the temporal term (as determined by the old assignment sequence \( \sigma \)). Shifting is treated syncategorematically, triggered by a configuration where the head has the \( *_{past} \) feature, and its syster is a temporal term.

\(^{25}\) We follow Rizzi’s (1997) hypothesis that at LF topics are located in the so-called left periphery of the clause.
Once shifting has been accomplished, appropriateness of $\sigma'$ is checked within $F'=[F0-^\text{past} \text{ IP}]$, according to (90); the check is passed if the new sequence has a temporal coordinate — that is, $\sigma'$ is defined — and the temporal coordinate is in the past with respect to the speaker’s.

The interpretation then proceeds as it should, with the feature present within IP interpreted by means of (83a), and with respect to $\sigma$.\(^{26}\) Thus, we obtain the following truth conditions:

\[(93) \text{ For a time } t \text{ such that five-o-clock}(t) \& t<u, \exists e(\text{sleep}(e) \land \text{overlap}(e, t))\]

In (94), where no explicit temporal phrase is present, we take Spec,FP to be occupied by an empty pronominal, as in (94b).

\[(94) \begin{align*}
\text{a. Mario dormiva.} \\
'\text{Mario slept(IMPF)}' \\
\text{b. [T-pro [F0-^pas t [Mario present dorme]]]}
\end{align*}\]

Thus, our analysis of the imperfect in continuous sentences is based on the following ingredients:

- the imperfect has both a $^\text{past}$ and a present feature;
- the feature $^\text{past}$ checks that the phrase it combines with at LF is interpreted by means of an assignment sequence whose temporal coordinate is shifted in the past;
- the feature present is interpreted in the usual way, according to (83a);
- the presence of a temporal topic causes the current assignment sequence to be updated to another one whose temporal coordinate corresponds to the referent of the time topic.

Let us turn now to modal cases, considering again an example with the present tense first:

\[(94)' \text{ Mario parte domani.} \]

'Mario leaves tomorrow'

\(^{26}\) Indeed, this a special present tense, in that it does not take as its temporal anchor the utterance, but the locally available temporal coordinate.
We know that ‘modal’ sentences involve terminated events, and that in these cases the temporal phrase, even if it appears to the left of the clause, is an argument, as in *Domani Mario parte* (Tomorrow, Mario leaves). The usual rule for the present tense, which requires the temporal coordinate to overlap the event, cannot apply. If it did, there would be a temporal mismatch between the location of the event as constrained by the temporal phrase *domani* (tomorrow), and as constrained by the present tense. Besides this, it must be recalled that terminated events cannot be simultaneous to the temporal coordinate (see Giorgi and Pianesi 1997, 1998, 2001c). Given that (94) is grammatical, it must be concluded that the tense does not affect the event, but something else. Notice that even in

---

27. The constraint was proposed to account for the well know facts that: a) present tense English sentences with an eventive predicate cannot have a factual (continuous reading):

\[
\text{#John eats an apple}
\]

and b) in no language the present tense can report about terminated events occurring at the speech time. The explanation proposed by Giorgi and Pianesi (1997) was that terminated events cannot, quite generally, overlap their temporal anchors. The English facts then follows if one can argue, as Giorgi and Pianesi did, that English eventive verbs are uniformly terminative. The impossibility of the continuous reading for the Italian (94)’ follows as well, given that *partire* (to leave) is an achievement, hence a lexically terminative verb.

This diagnosis is confirmed by the behaviour of eventive predicates in clause that are subordinate to verbs of propositional attitude:

(i) a. John said that Mary slept.
   b. John said that Mary was sleeping.
   c. John said that Mary loved John.

Contrary to (b), which features a progressive, and to (c), with a stative verb, (a) does not admit a simultaneous reading, that is, the reading according to which the sleeping is simultaneous to, and ongoing at, the saying. If English verbs are uniformly terminative, the contrast in (i) follows from the hypothesis that the matrix eventuality behaves as the temporal anchor/ temporal coordinate of the subordinate clause, see Giorgi and Pianesi (2001a).

In the present context, appeal to the mentioned constraint seems redundant in view of the fact that the presence of *domani* (tomorrow) already seems to prevent the present tense to affect the event.
this respect, the present tense parallels the imperfect. In §1.1 we showed that in modal readings the pastness of the imperfect does not affect the VP’s event, but constrains the expectation. The same happens with the present tense: what is simultaneous to the speaker’s coordinate is the expectation that Mario leaves tomorrow.

We analyse modal readings with the present tense as due to the presence of an optional empty modal head, which we indicate as \(\emptyset\)-expect, the name meaning to suggest that the favorite reading of (94) can be spelled out, as argued in §1.1, as ‘it is expected/planned that Mario leaves tomorrow’. As to the position of this empty head, it can be noticed that modal interpretations are in complementary distribution with quantificational readings.

(95)  Ogni volta che la incontravo/le parlavo, Maria partiva il giorno dopo.
    'Every time I met(IMPF)/talked to her, Maria left(IMPF) the day after'

In (95), quantification is on actual events: to each event in which the speaker met Mary there corresponded an event of Mary leaving the following day. The ‘modal’ reading — which would have it that each time the speaker met Maria there was an expectation to the effect that she would leave the following day — is hardly available. To have something close to this reading, we need to resort to an overt modal head:

(96)  Ogni volta che la incontravo, Maria doveva partire il giorno dopo.
    'Every time I met(IMPF) her, Maria had(IMPF) to leave the day after'

Following many authors (including Delfitto and Bertinetto (2000) and, at least partially, Chierchia (1995)) we hypothesise that quantificational and habitual readings involve an (overt or covert) adverb of quantification in Spec,Asp, which can be selected/checked by an appropriate quantificational feature in Asp. Then, the complementary distribution between modal and quantificational readings can be accounted for by hypothesizing that the empty modal head and the quantificational features compete for the same position. In other words, \(\emptyset\)-expect occupies the head of AspP.\(^{28}\)

\(^{28}\) Alternatively (see, e.g., Cipria and Roberts 2002) the modal readings of the imperfect could be seen as a mere semantic phenomenon, due to the possibility for such a tense to take appropriate modal bases. In the light of our discussion in the text, such a property should be extended to the present tense. Notice, however, that the complementary distribution of modal and quantificational readings would not follow as straightforwardly as in our hypothesis. Hence, the syntactic approach in the text seems preferable to us.
We take 0-expect to have, in the relevant respects, the same properties as the verb to expect. In particular, it takes a propositional complement, in our case the VP.\textsuperscript{29} With this, the logical form of (94) is as in (97a), and the truth conditions are as in (97b):\textsuperscript{30}

\begin{align*}
(97) \quad &a. \ [T\text{-}present \ [\text{AspP} \ 0\text{-}expect \ [VP \ Mario \ partire \ domani]]] \\
&b. \ \exists e(\text{expect}(e) \land \text{overlap}(e, u) \land \text{Theme}(e, /\psi/))
\end{align*}

Here /\psi/ stands for the Interpreted logical form of the VP, whose truth conditions require a terminated event of leaving occurring tomorrow. Hence:\textsuperscript{31}

\begin{align*}
(98) \quad &\exists e(\text{expect}(e) \land \text{overlap}(e, u) \land \text{Theme}(e, /\exists e' (\text{leave}(e') \land t(e') \land \text{at}(e', \text{tomorrow}))/))
\end{align*}

The case with the imperfect tense would then be as follows:

\begin{align*}
(99) \quad &a. \ Mario \ partiva \ domani. \\
&'Mario \ left(IMPF) \ tomorrow' \\
&b. \ [T\text{-}pro \ [F0\text{-}past \ [T\text{-}present \ [\text{AspP} \ 0\text{-}expect \ [Mario \ partire \ domani]]]]]
\end{align*}

As before, the presence of the temporal topic T-pro causes the current assignment sequence to be updated to one whose temporal coordinate corresponds to the referent of T-pro, σ'. The appropriateness condition for clauses headed by *past checks that the new

\textsuperscript{29} The availability of expect-0 is subject to cross-linguistic differences. Hence, English doesn’t have it, as witnessed by the fact that the English counterparts of (86a) and (86b) do not have a futurate reading. If so, one would expect that, even if the English past tense were to behave, at least in some circumstances, as the Italian imperfect, it couldn’t exhibit modal readings because the underlying present tense doesn’t admit of them.

\textsuperscript{30} The use of the infinitive within the VP is meant to suggest that this propositional phrase is tenseless.

\textsuperscript{31} How can we account for the fact that non-terminated events are excluded from those constructions? It immediately follows from our theory, if we are right in hypothesising that Asp is occupied by 0-expect. As shown in (Giorgi and Pianesi 2001a), in fact, activation of such a node is enough for providing for terminated events.
coordinate is before the speaker’s, and the embedded clause is evaluated with respect to \( \sigma' \). From now on, the interpretation proceeds as with (97). The result is:\(^{32}\)

\[(100) \quad \text{For a time } t, t < u, \exists e (\text{expect}(e) \land \text{overlap}(e, t) \land \text{Theme}(e, /\exists e' (\text{leave}(e') \land t(e') \land \text{at}(e', \text{tomorrow}))/))\]

### 4.2. Embedded contexts

Let us turn now to the embedded contexts introduced by predicates of propositional attitude. In (Giorgi and Pianesi 2001b) we argued that the complementiser of the embedded clause, \( C \), can attract (some or all of) the temporal features of \( T \), and proposed the following axiom:

\[^{32}\text{For some reason, when the imperfect yields modal readings, an explicit time topic is not fully acceptable:}\]

(i) \text{??Ieri Gianni partiva domani.}  
'Yesterday, Gianni left(IMPF) tomorrow'

Such a sentence should mean, according to our theory, that as far as the speaker’s knowledge goes, yesterday it was expected/planned that Gianni should leave tomorrow. Notice that similar results are obtained with overt modals:

(ii) \text{??Ieri Gianni doveva partire domani.}  
'Yesterday Gianni had(IMPF) to leave tomorrow'

Moreover, these sentences becomes more almost acceptable if they have a contrastive reading:

(iii) \text{Due giorni fa Mario doveva partire/partiva domani, ieri doveva partire/partiva dopodomani,…}  
'Two days ago Gianni had(IMPF) to leave/left(IMPF) tomorrow, yesterday he had(IMPF) to leave/left(IMPF) the day after tomorrow; ….'

In the end, the impossibility of explicit time topics in sentences realising the modal reading of the imperfect seems to be ruled by the same factors that prevents explicit temporal phrases to play the role of time topics in sentences with over modals.
Val(⟨e, x⟩, [V [CP C [XP ... ]]], σ) iff for some y, Val(⟨e, x, y⟩, V, σ) and y=/XP/σ

Axiom (101) is used to compute the semantic value of phrases of the form [V [CP [XP ... ]]], where V is a verb of propositional attitude, and [CP [XP ... ]] is its complement. The axiom requires the ILF of the complement clause to be computed by means of the subject-oriented sequence, and skipping the C node.33

Suppose that in the simultaneous reading of (102a) the feature *past moves to C, and the feature present remains in situ, yielding the LF in (102b):

(102) a. Mario ha detto che Carlo dormiva.
   'Mario said that Carlo slept(IMPF)'
   b. [.....[C-*past [XP ... T-pres...]]]

According to (101), the ILF of the embedded clause is computed by means of σsub, which assigns the 0-th-indexed variable the matrix eventuality (see §4.1.). The only temporal feature within XP is present, so that the ILF of the embedded clause ends up talking about a sleeping event which is simultaneous to σsub’s temporal coordinate — that is, the matrix event. As to *past, the configuration it is in triggers (90), checking that the XP is evaluated by means of an assignment sequence σ’ such that σ’(0) is defined and σ’(0)<u. The test is successful, for XP is evaluated by means of σsub, and σsub(0)<u. Thus, the case in which *past moves to C, accounts for the simultaneous readings of the embedded imperfect.

One might observe that the structure assigned to the embedded clause of (102b) is different from those discussed in the previous section, because there is no (implicit or explicit) temporal topic. Why is this so, and what about the possibility that the temporal topic is absent in matrix sentence?

Our reply is that we believe that the presence of temporal phrases (topics) with the imperfect is fully optional. The difference between (102b) and cases such as (94b), where we posited an implicit temporal topic, becomes clear if we consider the option without the temporal pro the LF for (94) more closely:

33. For reasons why the C node should be skipped, see Giorgi and Pianesi (2001b) and Higginbotham (1991).
This LF would be evaluated by means of $\sigma_{sp}$, without any intervening temporal shift, for the latter is triggered by (92), and requires a temporal topic. But, then, the presuppositional check (90) fails, for $\sigma_{sp}(0)$ cannot precede itself. Hence, in cases such as (94) the lack of a temporal topic leads to a presuppositional failure. Example (102a) is different: even if there is no temporal topic, no presuppositional failure need arise, for the sequence used to evaluate the relevant constituent is the subject-oriented one, and passes the check (which is performed at the level of C), as we have seen above.

The remaining case features a temporal topic (explicit or implicit) in the subordinate contexts, to which we now turn:

(104) […..[C [T-term [F0-*past [IP … present dorme]]]]

These cases exactly parallel those discussed in §4.2: *past raises to F0, and the interpretative processes would be the same as for (91) or (94). The only difference is that the assignment sequence for the subordinate clause of (104) is $\sigma_{sub}$, rather than $\sigma_{sp}$. As a consequence, the ILF ends up talking about a non-terminated event which is on-going at a time preceding the subject’s temporal coordinate. That is, (104) accounts for the so-called backward-shifted readings.

In conclusion, we have two configurations for the features of an embedded imperfect at LF:

(105) a. […..[C-*past [XP … T-present V ..]]

b. […..[C [T-term [F0-*past [IP … T-present V ..]]]]

The first option takes advantage of the property of embedded C’s to attract (some or all of) the temporal features of the embedded tense, and accounts for the simultaneous readings. The second option, which reproduces the structures we discussed in §4.1, accounts for backwards shifted readings.

---

34. As in Abusch (1997), we take it that the time topic is interpreted de-re, hence by means of the speaker-oriented assignment. How this result is to be obtained is something we don’t have anything to say about.
4.3. Dreams
Thus far, we have analysed anchored contexts. The idea we have developed is that the imperfect is a present in the past. Its interpretation requires the update of the current assignment sequence to a new one exploiting a new temporal coordinate, and the presupposition that the latter be in the past with respect to the previous temporal anchor. Non-anchored contexts differ from anchored ones because there is no requirement that any temporal entity (be it a time or an event) be related to the coordinate of any subject. Let us hypothesise that this simply means that the assignment sequence used to compute the ILF of the relevant clause, and determined by the lexical properties of the verb, is undefined for the 0-th index. In this case, (90) applies vacuously. So consider the following:

(106) a. Gianni ha sognato che alle tre (di domani/ieri/oggi) sua madre mangiava un panino.
    'Gianni dreamed that at three o’clock (of tomorrow/yesterday/today) his mother ate a sandwich'
    b. \[\exists e (\text{dream}(e) \land e < u \land \text{Theme}(e, s//\psi//))\]

We take the truth conditions expressed by the ILF of the subordinate clause of (106a), \(\psi\), to be as in (101b).

Let \(\sigma_{dr}\) be the assignment sequence used to compute \(\psi\). As said, \(\sigma_{dr}(0)\) is undefined, hence, (90) applies vacuously. There is, however, a temporal phrase in the time-topic position; therefore (92) applies, changing the assignment sequence into \(\sigma’\), with \(\sigma’(0)\) assigning the value ‘three o’clock’. From now on, the computation of \(\psi\) proceeds as for (91), yielding the truth following truth conditions:

(107) for a time \(t\) such that \(t=three-o-clock\), \(\exists e’ (\text{eat-a-sandwich}(e’) \land \text{overlap}(e’, t))\)

According to this, the dream content is about a non-terminated event which is ongoing at three o’clock. Expectedly, there is no sign of temporal anchoring — that is, the time topic is not explicitly related to any temporal coordinate.

Now, consider the case where there is no time-topic (neither explicit or implicit):

(108) a. Gianni ha sognato che Carlo mangiava un panino.
    'Gianni dreamed that Carlo left/ate a sandwich'
    b. […] sognato.[C-*past [XP … T-present V ..]]
As for the cases of simultaneous readings discussed in the previous section, the *past feature raises to C. However, this time the assignment sequence determined by the lexical properties of the verb, $\sigma_{dr}$, doesn’t define any temporal anchor, so that, again, (90) applies vacuously, (92) doesn’t apply, the current assignment sequence is left unchanged and is used to interpret XP in (108b). What remains is the feature present within XP.

Up to now, we have taken present to fully correspond to the feature (or one of the features) of the present tense, and interpreted it by means of (89). But, now, this strategy cannot be maintained, since $\sigma_{dr}$ is undefined for the index 0. The only possibility seems to give present a treatment similar to that we suggested for *past:

(109)  If $\sigma(0)$ is defined, then $\sigma$ is appropriate for [present XP]

But using (109) would be pointless, for it simply says that a given assignment is appropriate when it is defined for the 0 index, leaving open the possibility (which we want to exploit in the case at hand) that assignments undefined for 0 are appropriate too. So, it seems better to suggest that present operates as a default:

(110)  If present is an anchoring environment, then it contributes (90).

In other words, as far as anchoring is required (the current assignment sequence is defined for the 0-th index) then present contributes what it is expected to. When anchoring is not enforced, nothing happens. In our case, $\sigma_{dr}(0)$ is undefined, then nothing happens. Eventually, all there is to the content of the dream according to (108) is a (possibly terminated) event of eating a sandwich:

(111)  $\exists e'(\text{eat-a-sandwich}(e') \land t(e'))$

When a temporal argument is available, as in (112a), the computation is expected to proceed as for (108a), the only difference being the overt temporal argument:

(112) a. Gianni ha sognato che domani Carlo mangiava un panino.
    'Gianni dreamed that tomorrow, yesterday/today Carlo ate(IMPF) a sandwich'
    b. $\exists e'(\text{eat-a-sandwich}(e') \land \text{at}(e', \text{tomorrow}) \land t(e'))$
Notice that the reading of (108a) and (112a) that (11) and (112b) capture are non-modal. The modal ones are possible in dream contexts, and can be obtained through computations similar to those used for (106a), and depend on the availability of a time topic, and of the 0-expect head. What is important here is that modal readings are not obligatory in dream contexts, whereas they are so in anchored ones. The crucial factor is anchoring, obviously. If the subordinate clause of (112a) were under a verb of propositional attitude, anchoring would have required the application of the default rule for the present, with the result of having the terminated event of eating overlap its anchor; something impossible, as we know.

Preludique and fictional contexts are analogous to the dream ones: they are non-anchoring environments.

The distribution of the English past, which we saw at the end of section 1, can easily follow by hypothesizing that in English the zero modal head is not available. As a consequence, the past form must be anchored, giving rise to simultaneous readings – with stative predicates – or to past shifted readings – in all the other cases. But all the readings yielding a non-past interpretation cannot arise at all.

In dream contexts, on the contrary, anchoring is not enforced – due to the peculiar nature of the matrix predicate – and no modal head must be provided. As a consequence, the past form can appear there, without differentiating between stative or eventive predicates and with no pastness interpretation.

5. Conclusions

Let us spent a few words now on some residual questions. The first question is the following: why is the present tense also available in Italian in the modal contexts, as well as in the preludique and fictional ones, but not in the dream ones? The second question is connected to the first one: for which reason in English the present tense is not available in contexts embedded under dream (see ex (i) in fn. 9)?

The answers we are providing to these questions are very speculative and deserve further work. Let us suggest that the present tense is always anchored, both in Italian and English. Its presence in fictional and preludique contexts, therefore, should be impossible, were these contexts always and only non-anchored ones.

However, we might follow a suggestion by Zucchi (2001) for fictional contexts – and extend it also to the preludique ones – according to which in these very peculiar cases the
utterance event undergoes a sort of *resetting* due to the fictional context. Anchoring therefore, occurs not with respect to \( u \), but with respect to new object \( u' \), created by the context itself. We might propose that this process is optional in Italian.

In other words: these contexts can either be genuinely non-anchored ones – in which case the imperfect appears – or can undergo an operation, which we can dub here *utterance event resetting* – in which case they appear with the present tense. As noted by Bonomi & Zucchi (2001) and Zucchi (2001), it could be that past tenses – in our perspective, past tenses other than the imperfect – are incompatible with a resetted \( u \), and obligatorily require the “original” utterance event as an anchor.

Concluding: in Italian, in the *preludique* and fictional contexts, real past forms cannot appear, because they require need be anchored. The present tense can appear if the *utterance event resetting* operation takes place, given that the present tense is compatible both with \( u \) and \( u' \). Otherwise, when the imperfect appears, the contexts in question work as purely non-anchored ones.

Moreover, in *dream* cases no *utterance resetting operation* can take place, because these contexts are syntactically embedded, and no \( u \), or \( u' \), can ever be available. Therefore, only the imperfect can appear, in that it is the only form compatible with non-anchored domains.

Finally, the English past cannot appear in *preludique* and fictional contexts for the same reason Italian past forms, other than the imperfect, cannot appear – namely, it is incompatible with a resetted \( u \). Analogously, in English the present tense cannot appear in dream contexts, for the same reason the Italian present tense cannot, because it obligatorily requires anchoring, though being compatible with the resetted \( u \).
References

Ippolito M., 2000, "Reference Time and Tense Anaphora". To appear in J. Higginbotham,
A. Giorgi & F. Pianesi (eds.) Proceedings of the Syntax and Semantics of Tense,
Ippolito M., 2001,"The Imperfect and Modality". To appear in the Proceedings of "The
Syntax of Tense and Aspect", Université de Paris VII, France
Facts and Events in the Semantics of Natural Language. Trento.
Krifka, M., (1992). ‘Thematic Relations as Links between Nominal Reference and
Temporal Constitution’. In I. Sag & A; Szabolcesi (eds.), Lexical Matters. CSLI.
Philosophy.