Future, judges and normalcy conditions

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1. Introduction

Both early and recent work on modal expressions has been focused on the way their root and non-root interpretations correlate with the properties of the predicates with which they combine (see eg Bertinetto, 1979; Condoravdi, 2001; Werner, 2006). Likewise, the temporal and the modal interpretations of the future have also been studied in correlation with the eventive versus stative distinction. This paper focuses on these distinctions in Italian (see in particular Bertinetto, *ibid*.; Berretta, 1997)[1].

The 'modal' use of the future and the non-root interpretation of *potere* and *dovere* are illustrated in (1b) and (2b). In this case, the property is (i) stative and (ii) its description is located at the utterance time. The 'temporal' reading for the future and the root interpretation of the modal *potere* and *dovere* are illustrated in (1a) and (2a) respectively. What these cases have in common, is that (i) the property is eventive and (ii) the event description is forward-shifted[2].

(1) a. Giovanni arriverà   (TEMPORAL INTERPRETATION)
     John will arrive
     b. Giovanni discenderà da una famiglia nobile (MODAL INTERPRETATION)
     John will descend from a noble family

(2) a. Giovanni può arrivare / deve arrivare   (ROOT/NON-ROOT)
     John can/must arrive
     b. Giovanni può/deve discendere da una famiglia nobile   (NON-ROOT)
     John can/must descend from a noble family

Note that (2a) can also have a non-root interpretation and, in fact, as we are going to argue, (1a) can also have a modal interpretation. Nonetheless, let us

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[1] I would like to thank Fabio del Prete, for bringing to my interest the question of future and for his helpful comments. Brenda Laca has also provided some precious suggestions.

[2] Note that (2a) can have a non-root interpretation as well; similarly, (1b) can have a root interpretation if 'discenderà' is under focus.

assume, as a starting hypothesis, a correlation that translates at least a strong preference, using Condoravdi's (2003) terms.

(3)   Eventive predicates obligatorily forward-shift the event description w.r.t. the utterance time; stative predicates do not.

This correlation, and the intrinsic relation between the future and the modals, are at the core of this paper, the purpose of which is to present a revision of the principle (3) and a new explanation that answers the question of what conditions favor the forward shifting of event descriptions. The paper argues that (3) encodes tendency but cannot be considered a rule. It argues that forward-shifting is related to evidentiality, and occurs for reasons that are peculiar to the evidential mechanism.

The main claims are that (i) synchronically the future is an *evidential* marker that also signals that the event is *non-past* and (ii) the forward-shifting of event descriptions (under some specific conditions) is due to the evidential nature of the future.

Moreover, recent but robust observations across languages of different families have shown that (3) is at play not only with modals and future (*e.g.* Bertinetto, 1979; Condoravdi, 2001; Werner, 2006) but also with *if*-clauses (Copley, 2006), and the Spanish subjunctive (Laca, 2008). The pattern is also observed in Italian (see (4) and (5)). The paper strongly suggests that the view elaborated here for the future, might be extended beyond it, and possibly to other contexts that appeal to an evidential mechanism.

(4)   a. Se si ammala$_{PRES}$, non viene

        If he gets sick (in the future), he does not come

        b. Se sta male$_{PRES}$,non viene

        If he is sick (now), he does not come

(5)   a. Credo che venga$_{PRES-subj}$

        I believe that he comes (in the future)

        b.Credo che sia malato$_{PRES-subj}$

        I believe that he is sick (now)

Three sections follow. In Section 2, we discuss three views of the temporal / epistemic ambiguity of the future. In section 3 we present some pieces of new evidence. Section 4 is dedicated to our own account, and divided into two parts. In Section 4.1 we present the evidentiality mechanism, which is reminiscent of the work of Matthewson, Rullman and Davis (2006) (arguably assuming that evidentiality is a form of epistemicity). Specifically, the account will integrate indices to judges (Stephenson, 2006) and evidence-

based normalcy conditions. In Section 4.2 we explain the conditions under which eventive predicates forward-shift the event description, focusing on the mechanism for fixing the time of the event, starting from the unspecific instruction of the future as non-past. Section 5 concludes the paper.

Terminologically, even if the modal interpretation of the future is essentially epistemic, we simply use the label 'modal'.

2. The modal and temporal uses of the future

In this section we consider three views of the modal/temporal distinction and their relation. We dedicate Section 2.1 to Bertinetto's account, Section 2.2 to Bonomi and del Prete's view and Section 2.3 to Condoravdi's theory.

2.1 Betinetto (1979)

We would like to begin our discussion of the use of the Italian future with the work of Bertinetto (1979), which, highlighting the strict relation between the future and epistemic/evidential *dovere* (*must*), and considering the complementary distribution of the meanings of the future depending on the properties of the predicate it combines with, already contains many of the ingredients that are found in the more recent literature.

Two results of Bertinetto's work are essential for us here. First, he states the correlation in (3). Second, he assigns to the future an essential modal component, arguing that the temporal is derived under particular conditions.

We consider here the second point. The essential modal component of the future is shown to be of two natures, inferential (i.e. non-root use of the future is synonymous of *dovere* (*must*)) and conjectural (the future is also synonymous with *potere* (*can*)).

(6)   a. Giovanni si sbagliarà, ma non ne sono sicuro (= *potere/can*)

      Giovanni might be wrong, but I am not sure

      b. Giovanni si sbaglierà, non c'è alcun dubbio (= *dovere/must*)

      Giovanni might be wrong, there is no doubt

Bertinetto's thesis is that the temporal component of the future is derived from its modal one. The argument is as follows.

> "Se l'impegno a fare qualcosa vale al momento dell'enunciazione, esso perdurerà fin tanto che l'azione stessa non è stata compiuta. Si deduce che, in mancanza di indizi contrari, per estrapolazione, l'azione sarà compiuta in un momento successivo a quello in cui l'enunciato viene prodotto » (Bertinetto,1979 :119).

If the commitment to do something holds at the utterance time, it will hold insofar as the action has not yet been accomplished. One can infer by extrapolation, in the absence of contrary evidence, that the action will be accomplished in a moment succeeding that in which the utterance is produced.

The core meaning of the future is then the actual commitment of the speaker to accomplish an action (or to the realization of an event). Since the commitment holds at the time of the utterance it will hold until the event is realized. By 'extrapolation,' the realization of the action to which the speaker is committed is fixed to a future time.

Two ingredients are present in the explanation that Bertinetto provides for explaining the birth of the temporal use of the future: (i) the actual commitment to the realization of an event that extends until the event is realized, and (ii) the extrapolation procedure that fixes the occurrence of the event in the future.

The author argues that the extrapolation procedure can be 'blocked' in two cases. First, by stative verbs, which "exclude any kind of modification of the actual state of affairs" (this would explain why forward-shifting is obtained with non-statives only). Second, it can be blocked when precise temporal indications are given. Bertinetto provides the following examples:

(7)   In questo momento saranno le sì e no le 5 (Bertinetto, p. 77)   (MODAL)
       By now, it will be 5

(8)   se continua così, tra dieci anni la lira varrà un decimo …   (MODAL)
   *if things go on in the same way, in ten years the 'lira' will be worth a tenth of …*

The extrapolation procedure however, has to be abandoned since there are no clear conditions explicated for applying it (crucially, as we are going to show in Section 3, it is also blocked with non-statives in the lack of precise temporal indices; see *infra*). Instead, as is generally assumed in the more recent literature (see in particular Copley, 2002), the modal component of the account, (as in '*impegno*' - '*commitment*') is also at the core of our account. However, instead of 'commitment', our evidential account will endorse the notion of 'guarantee'. This goes hand in hand with a peculiar view of normalcy conditions.

2.2 Metaphysical and epistemic possibilities: Bonomi and del Prete

It is nowadays a common view that branching time is a suitable framework for talking about the future, with the timeline branching towards the future but not towards the past (Thomason, 1984; Benlap, 1992).

Authors disagree essentially on the way one has to conceive the nature of the branches dividing at the utterance time. Under a non-deterministic

view of the future (*eg*. Benlap and Green, 1994), they represent epistemic *and* metaphysical options. Under a deterministic view (*eg*. Lewis, 1986), theoreticians consider that the options are metaphysically closed but epistemically open and that branches only represent epistemic possibilities (see for a detailed discussion, McFarlane, 2006).

t_0, or t_u
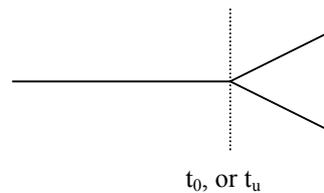
A similar distinction has been discussed in a recent work on Italian future by Bonomi and del Prete (2008), who argue that, in Italian, the future can have both the non-deterministic use ('wait and see interpretation' (9b)) and the deterministic one ('modalist interpretation' (9a)). Roughly, these two interpretations correspond to the non-deterministic (or 'actualist') and deterministic (or 'anteactualist') view of future.

(9)   a. Secondo la tabella, il treno arriverà alle 6   ('modalist')
      According to the schedule, the train will arrive at 6
      b. Il dado cadrà sul 6   ('wait and see')
      The die will come up 6

The treatment they provide is uniform and is based on the Priorian notion of settledness that they specify in two different manners for obtaining the two different interpretations.

Interestingly for our purpose, the difference that they claim to exist between the two uses does not cut across different kinds of predicates, and the 'modalist' use is also compatible with eventive predicates (see (9a)). The difference that the authors see between these two cases is the following. In (9a), evidence is available for setting the issue once and for all. In other words, one can predict at t_u what the future will be like and all the possible futures are alike (*'antactualist'* intuition). For (9b), there is no way to predict what the future will be like, and only one branch will realize it (*'actualist'* intuition).

In order to distinguish between these two interpretations, the authors elaborate the priorian notion of settledness. According to the classical Priorian view of settledness a future sentence **F**(p) is true at a certain time t if and only if p turns out to be true at some time $t_1 > t$ in all courses of events compatible with the state of the world at t, i.e. no matter what the future at t is like. Assuming a representation of time as branching towards the future but

not towards the past, the Priorian notion of settledness can be considered as a universal quantification over the set of all possible futures, assuming the present state of the world.

Bonomi and del Prete argue that the notion of settledness must be relativized to the *context of use*, and to a limited set of assumptions that are relevant to the evaluation of the sentence. Having said this, the 'wait and see' and the 'modalist' interpretation go as follows.

> (i) 'wait and see' : "… focus on the unique state of the world that happens to be actualized. From this point of view, settledness only obtains at the crucial time at which the relevant event occurs (or has no chance to occur anymore). This fact accounts for the intuition that, on its actualist interpretation, a future contingent has no truth value before this crucial time".

> (ii) 'modalist': "… in order to obtain the modalist interpretation, we stick to the current assumptions, and check whether the truth or falsehood if the statement at issue is already settled with respect to them[3] …".

There are two major problems. Firstly, like (9b), (9a) cannot be valuated as true or false until the moment when the train leaves. Compared to (9b), the prediction is based on 'objective' evidence, but the issue is also not settled until departure time of the train.

Secondly, using (9b) speakers show a certain degree of confidence on what the future will be like. Following Condoravdi (2001), we recognize that, as for the use of the English *will*, when using the Italian future, speakers behave like antactualists. In particular, (9b) cannot be continued with 'but I am not sure'.

(10)   Il dado cadrà sul 6 #ma non ne sono sicuro

   The die will come up six, #but I am not sure

In the lack of objective evidence, speakers commit themselves to the truth of their assertion on the basis of 'subjective' evidence (see von Fintel and Gillies, 2008)[4].

Together these two observations lead us to the following conclusion. The difference between (9a) and (9b) is not between two uses of the future. They only appeal to two different types of evidence. The 'modalist' and the 'wait and see' interpretation of Bonomi and del Prete illustrated in (9) are two cases of the temporal use of the future.

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[3] Note that contrary to the deterministic view *à la* Lewis, the 'modalist' interpretation does not leave any room to epistemic uncertainty.

[4] Note that one can felicitously utter : *According to the schedule the train will leave at 4 but I am not sure*. This is because two sources of evidences are being contrasted.

2.3 Condoravdi's view

While Condoravdi (2001) recognizes that English speakers behave like antactualist, she spouses the non-deterministic view to start with. She crucially integrates information coming from the predicate in an interesting way.

Building on the assumption that future *will* has a modal and a temporal interpretation, she argues that either one is selected according as to whether reference to a future time is made possible by the semantics of the predicate. Condoravdi explicitly proposes the correlation in (3).

In order to derive the predictions, the author needs to state a *diversity condition*.

(10)   Diversity condition: the modal basis must contain *p* and *not p*

If the event is located at a time $t_1 > t_0$, since time metaphysically branches at t_0, the diversity condition is metaphysically satisfied. In this case, different branches host *p* and *not p*. Moreover, the author assumes that metaphysical diversity is also epistemic diversity (a claim that we are going to challenge). Consequently, if the event is located at $t_1 > t_0$, metaphysical and epistemic diversity are met. On the other hand, if the event is located at the utterance time, only the epistemic reading is allowed. In this case one considers the multiplication of worlds at the utterance time, hosting *p* and *not p*.

Since eventive predicates, by assumption, forward-shift the event description, they allow metaphysiscal and epistemic diversity (temporal reading of the future). Since, by assumption, stative predicates locate the event at the utterance time, the metaphysical possibilities are closed and the epistemic reading is the only one available.

The generalization goes beyond the future tense and Condoravdi states that modals for the present (like, eg *may*, *might*, ….) have a future orientation optionally with stative predicates and obligatorily with eventive predicates.

This is certainly the most comprehensive account of the interaction between the meaning of the future (and existential modals) and the stative vs. eventive nature of the properties. The major shortcoming for applying it to the Italian future is presented by an unexplained set of data that will be discussed in the next section. The main conclusion we draw from this set of data is that the distinction at play for fixing the time of the event is not simply between eventive and non-eventive predicates, and that this distinction only reveals a preference (which we are going to explain). We are going to show, in fact, that both eventive and non-eventive predicates can have a modal and

a temporal interpretation, and that the two interpretations are triggered on the basis of an evidential mechanism.

3. New pieces of evidence.

The assumption that the modal interpretation is facultative with stative predicates (see the pattern in (1)), whereas the temporal reading is mandatory with eventives, must be refined (a different view has also been presented by Laca (2008), to which we return in Section 5.2).

There are at least two contexts in which an eventive predicate can be used in the future tense with a modal interpretation and without forward-shifting.

1. *Habitual contexts*. Assume a scenario in which my husband and I are talking about our son who is at school, where activities are carefully scheduled. The meal, in particular is always at 11:30 am. At 11:30 am, I ask (12A)

(11) A Che cosa farà?

What will he do?

B: Mangerà   (MODAL)

He will eat

(11B) is a modal use of the future, which is perfectly allowed. Note that the time is not fixed by an adverb.

2. A second context in which the modal use of eventive predicates is allowed, is in the presence of *clues*. Consider a scenario in which there is noise outside. To the question (12A), B can reply (12B).

(12) A: Che cosa succede?

What is going on?

B: Arriverà Giovanni

Giovanni might arrive

This example has been independently noted by Rocci (forthcoming). However, the way he interprets it is that the modal interpretation is allowed if one can recover the preparatory phase of the accomplishment. This is going to become relevant in some respect. However, what seems to be crucial is the presence of clues in the context.

A general observation that it is important to emphasize is that the future tense is compatible with interpretations as describing events both at the time of utterance and at a time in the future w.r.t. the utterance time. While in the second case (13b) only forward-shifting is trivially made available by the

adverb, in the first case, if is there is evidence available (or the context is habitual in the sense described above), the modal reading can be obtained. In the absence of such evidence, forward shifting in the very immediate future is obtained in (13a).

(13)   a. Piero arriverà ora

   Piero will arrive now

   b. Piero arriverà domani

   Piero will arrive tomorrow

When the event description coincides with the utterance time, no matter whether the predicate is eventive or stative, the only reading is epistemic.

This observation leads us to revise (3). Eventive predicates do not necessarily forward shift the event description.

To conclude, there is nothing in the future tense that locates the event at a time in the future w.r.t. the utterance time (this is a general property of modals for the future (see *e.g.* Condoravdi, 2001)). The questions to be answered are (i) why the modal (epistemic) reading obtains when the event description is located at t_0 (the time of utterance) while it does not when it is located at $t_1 > t_0$, (ii) under what conditions t_0 or t_1 is chosen.

Our claim is that synchronically, the future contributes a modal (evidential) meaning and locates the event at a time coincident with or later than the utterance time (it is essentially a non-past tense).

Our answer to the question of the conditions under which event descriptions are forward-shifted is that this is observed when the basic evidential mechanism has to be saved (unless explicit temporal adverbs are present, locating the event at a $t_1 > t_0$).

The next section is dedicated to our analysis.

4. Towards a new analysis

This section is dedicated to the presentation of a new analysis of the future in Italian. We consider two issues in turn: its evidential meaning component (Section 4.1) and then a strategy for fixing the time of the event (Section 4.2) starting from the unspecified instruction that the reference is non-past.

4.1. Future as evidential (but what is an evidential?)

The idea that the future is a modal is generally accompanied by the assumption that it is a special type of modal, namely an *evidential*. Assuming that an expression of evidentiality specifies the sources that the speaker relies on to make his assertion reliably, the future is generally taken to mark some kind of inference. This was also the main insight in the work of Bertinetto

(1979), and I think this is correct (see for recent work in the same direction, Matthewson, Rullman and Davis, forthcoming; Rocci, forthcoming).

It is much less clear, however, whether evidentials are ordinary epistemics or a special kind of epistemics and, in the latter case, what the difference is (see von Fintel and Gillies, 2007; de Haan, 1998; Matthewson et al. forthcoming, among many others). Here we start with the view of Matthewson *et al.*, also focusing on the so-called *disparity principle* (Condoravdi, 2001; Werner, 2006) and *normalcy conditions* (Dowty, 1979; Copley, 2002 for old and new discussions, among many others). The major point of the revision is to reintroduce a notion of stereotypicality and to relativize it to a judge (Stephenson, 2006) in order to capture the "(un)certainty" associated with evidential claims. The understanding that we propose is different from the standard view (Kratzer, 1991) and its extension to future modal sentences (Werner, 2006).

In Section 4.1.1 we consider the semantics and pragmatics concerning the sources of the (alleged) weakness of epistemic modals. Our purpose in the subsequent sections is to recast the pragmatic view in semantic terms. To achieve this we present the analysis of Matthewson et al. of evidentials in Section 4.1.2, and then our own account, in which we elaborate on the standard notion of normalcy conditions, in Section 4.1.3.

4.1.1 The diversity principle and evidentiality

Following Condoravdi (2001), Werner (2006) has explicitly argued that modals come in the language with a diversity principle (which can be blocked under specific constraints, which are not relevant here). There is a long standing debate, though, on the sources of this diversity, and whether there is really a diversity condition at play.

The idea though goes back to Kartunnen (1972), who writes that when uttering a modalized statement the speaker is making a claim weaker than that he would make with a non modalized one. Uttering (17), the speaker does not know whether John is asleep. In order to obtain this, Werner elaborates on a notion that was already present in Kratzer's (1981) account. The idea is that the meaning of (14) is that John is asleep in the worlds closer to the ideal, but not in all worlds of the modal basis.

(14)   John must be asleep

Werner argues in favor of a semantic view, and elaborates a diversity condition stating that (i) the intersection between the modal basis and the proposition that John is asleep is not empty, but that (ii) the intersection between the modal basis and the proposition that John is asleep is also different from the modal basis itself.

A counterargument to Kartunnen's view has been recently proposed by von Fintel and Gillies (2007), who propose a pragmatic view. The authors argue that the apparent weakness of the modal (epistemic) is due to its evidential nature: the utterance is not based on direct observation/experience but on deduction. The author's claim is based on (15), which shows that there is no weakness in the conclusion (15c).

(15)   a. The ball is in A, in B or in C

       b. It neither in A nor in B

       c. It must be in C

They choose a speech act analysis based on parentheticals, which also echoes typological findings presented and discussed in de Haan (1998). If any, the uncertainty flavor of the modal derives from the fact that the statement is based on a deduction and not on direct evidence.

As a further example let us consider the case in which one is about to eat a kiwi. It is green and of a good consistency. (16) can be uttered felicitously. This sentence is no longer felicitous after the person has eaten the kiwi, that is to say, once she has acquired direct (relevant) evidence for asserting that it tastes good.

(16)   The kiwi must be good (Fabienne Martin, p.c.)

In what follows, we try to cast this view into a semantic framework, elaborating on the notion of stereotypicality conditions. In particular, what we want to code in the semantics is that the worlds in which the evidence leads to the conclusion that the proposition expressed by the future sentence is true, are normal for a judge. The evidence could also have led to a different conclusion. However, the worlds where this happens are less normal worlds for that judge. This translates the idea that the evidence is not direct, and contains in itself a certain degree of uncertainty (since it does not necessarily lead to the conclusion that p).

To conclude the discussion, we motivate the diversity principle in evidential terms.

(17)   The future as evidential requires that the modal base contains p and *not p* since the evidence on which it relies is not sufficient to ascertain p with certainty.

In other terms there are worlds in which the evidence v holds and p holds, and there are other worlds in which the evidence v holds but p does not.

Anticipating what is to come, let us briefly state our position. Common wisdom about epistemic modals (Kratzer, 1991) is that one must distinguish between two ingredients: the modal base and the ordering source.

Epistemic modals are defined for (i) a modal base that contains all those worlds in which the speaker's beliefs hold ('in view of the available evidence') and (ii) an ordering source that induces an order over the worlds of the modal base according to stereotypicality ('in view of the normal course of events').

The now classical view of existential / universal epistemic modality tell us that a proposition p is true in w if and only if it is true in some / all worlds accessible from w in the modal base in which the 'available evidence' holds. The stereotypicality condition adds that this is the case in the worlds that are the most similar to w (in essence this remains the view of Werner, 2006).

In a recent work, Matthewson Rullman and Davis (forthcoming) have shown major similarities between evidentials and modals, and also adapt Kratzer's view for the analysis of St'at'imcet modals (and evidentials).

We add a constraint on the stereotypicality conditions that we relativize to the evidence and to a judge. We want to capture in fact that the claim is not certain because the evidence is indirect, that is to say, it can be interpreted in different ways. Uncertainty is not due to the fact that some worlds are less stereotypical, but to the fact that the same evidence can lead different judges to different conclusions. This is particularly salient for the future which prefers not only indirect but non-authoritative evidence (see discussion in Section 5).

4.1.2 Future as evidential: previous accounts of evidentiality

In this section, we are going to present our analysis, starting with the work of Matthewson *et al.* Since the theoretical choices are important for our own account, let us recall the steps of their analysis.

Matthewson *et al.* adopt Klinedinst's view that possibility modals existentially quantify over pluralities of worlds (in the same way as plural indefinites quantify over pluralities of entities). The individual worlds that belong to the existentially quantified plurality of worlds are then universally quantified. Under this assumption, the analysis is as follows:

(18) Modal p is true with respect to a modal base B and a possible world w iff

$\exists W [W{\subseteq}B(w) \land W \neq \varnothing \land (\forall w' \in W \rightarrow p(w'))$

The modal base is contextually provided in view of the 'available evidence,' and contains all worlds accessible from w in which p is true.

Matthewson *et al.* extend this analysis to *all* evidential modals, and restate it as follows. Interpreted with respect to an context of utterance c and a world w:

(19) $[[Modal]]^{c,w}$ is only defined if c provides a modal base B.

   If defined, $[[Modal]]^{c,w} = \lambda f_{<st,st>}.\lambda p_{<s,t>}.\forall w'[w' \in f(B(w)) \rightarrow p(w')]$

The modal base B maps the evaluation world w into the set of worlds that are accessible from it. The choice function f picks a subset of B. f is a free variable whose value is determined by the context. Specific lexical items impose specific restrictions on the modal base. A restricted modal basis cut off by hearsay, for instance, contains all those worlds in which what is hearsaid holds.

In what follows, we will stick to (18), also using it for evidentials like the Italian future. Let us emphasize from the outset that (18) allows the existence of worlds of the modal base in which the evidence holds but *p* is not true.

4.1.3 Future as evidential: refining the account

Assume that we paraphrase a modal future sentence as in (20), where the inference is based on the evidence that Mario is not at the location where the utterance takes place. As starting hypothesis, we consider rewriting the future sentence as a sentence in the present tense plus an evidential marker.

(20) Mario sarà malato → Marion è INF malato

   Mario might be sick (paraphrased as) Mario is INF sick

Applied to (20), the analysis of evidential INF in (18) implies that the proposition that Mario is ill is true in w, iff there is a subset of worlds of the modal basis accessible from w such that the proposition that Mario is ill is true.

Note that it is not determined whether the world w is or is not in this set of worlds.

We want to capture the fact that the worlds in which the evidence that a person is absent means, to a particular judge, that the person is ill, are more normal than those in which the evidence that a person is absent means something else (in particular, that he is not ill).

This, according to our view, is the source of the high degree of certainty (because the worlds in which being absent means being ill are more normal to a judge), but also the weakness of the statement (since there are less normal worlds in which being absent does not mean being ill).

Our purpose is to translate this into a semantic notion, a task that we can achieve if we slightly modify the classical claim about stereotypicality conditions and introduce a notion of *reliability on the basis of the evidence for a judge*.

Assume that the context provides the modal basis W' which contains all accessible worlds in which the evidence holds (Mario is absent). What we want to state is that in these worlds where Mario is observed not to be there, the proposition that Mario is ill is true and this is the case because the evidence is reliable for this conclusion for a particular judge.

The analysis is the following. For a set of worlds W in which the evidence holds, a judge i and an accessibility relation R, at the utterance time t_0, a future sentence is true at w in context c iff[5]

(21) $\exists W' \subset W \exists t ((t \in [t_0, \infty[) \wedge \forall w' \in W', w'Rw$ & w' are the most normal according to the sources of evidence available to i) $p(w', t)$

Here, the normality conditions *force one to consider the set of worlds quantified over as being more normal than its complement in the modal basis, which can also contain the propositions associated to the evidence.*

Let us come back to the case of Mario whose absence leads to the conclusion that he is ill. There are (at least) two subsets of worlds in the modal basis: one set such that it is true both that Mario is absent and that he is ill, and another set in which Mario is absent but he is not ill (*e.g.* he is at the bar). In all worlds in the first subset, Mario is absent and he is sick. Note that the two sets of worlds are equally normal, 'objectively speaking'. However, a certain conclusion (*i.e.* that p is the case) is 'more normal' for a given judge (the judge knows Mario's habits, character and so on ...).

Under this view, we can capture at the same time the fact that the speaker reliably ascertains that Mario is sick (because he knows his own normality conditions associated to the evidence), while being aware that the evidence does not incontestably lead to this conclusion, *i.e.* the evidence is not direct.

The *judge parameter* then plays a major role in relativizing the normality of the evidence, and also plays a role in explaining synchronically a variety of uses of the future.

It is a very well described fact (see, in particular, Berretta, 1997) that the Italian future has a wide variety of modal interpretations. In particular it has a concessive and a performative use.

(22) a. Saro stupido, ma non capisco questa teoria

I will be stupid, but I do not understand this theory

b. Questa funzione si chiamerà crescente

This function will be called increasing

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[5] We denote by $[t_0, \infty[$ an interval that starts at the utterance time t_0 and is unbounded in the forward direction.

These uses can be uniformly captured if one explicitly integrates the judge parameter into the analysis. While by default the parameter is linked to the speaker, the concessive reading can be obtained if it is linked to the hearer, and the performative if the judge is the audience (including the speaker and the hearer). Different meanings then turn out to be variations of a unique schema rather than derived from each other (*contra* Berretta, 1997).

Before concluding the section, and in order to further spell out the claim, a comparison with the recent work of Copley (2008) on the futurate in English might be useful. In her account of the futurate in English (see (23a); this construction is lacking in Italian), the author has argued that the futurate event is realized in the metaphysical modal base if the speaker is committed to its realization at a future time $t_1 > t_0$ in a subset of the worlds of the metaphysical modal base (namely a subset of worlds in which his commitment holds), *ceteris paribus*.

This view resembles Bertinetto's account of the future under commitment, and the notion of commitment has also been defended by Kissine (2008).

However, the notion of commitment seems too strong to be adopted here. The notion of commitment has been arguably used by Copley to tease apart cases in which the agent can control and cannot control the action.

(23)   a. The Yankees are playing the Reds tomorrow

        b. ?? The Yankees are defeating the Reds tomorrow

Commitment is a sub-ingredient of a plan. Since the Italian future version of (23b) is perfectly fine (*Gli Yankees batteranno i Red, domani*), in which a plan is lacking, a weaker notion is needed. As all the above mentioned examples show, there is not necessarily a plan involved in the use of the future and the notion of commitment turns out to be too strong. '*inference according to one's own interpretation of the evidence*' seems sufficient.

A second difference between the two accounts lies in the notion of normalcy conditions. Copley's view is that speaker commitment holds insofar as the circumstances are as usual (*i.e.* in the absence of a meteorite falling on earth, or similar improbable circumstances). Our account states instead that 'normality' is to relativize to the way a judge interprets the evidence. Being normal according to a judge in view of a certain set of evidence means that a world in which the evidence holds and which satisfies the proposition p is more normal for that judge than the other worlds, in which the evidence holds and p is not verified.

Finally, The account we have provided of the future does not involve explicit reference to a future time, but, in view of the data discussed in

Section 3, we have considered that the future marks the event as non-past, and that forward-shifting obtains in particular circumstances.

Up to this point, the account predicts that when the valuation of a future sentence is carried out at the utterance time, only the modal interpretation is available. In the next section we consider the mechanisms that lead to forward-shifting and to the temporal reading of the future.

4.2. Setting the time

Now that we have explored the evidential nature of the future, we must come back to the issue of the time at which the event occurs. We have noted that the initial generalization in (3) is not faithful to the data, since there are cases in which the predicate is eventive but its description is not forward-shifted. There are three options. To begin with, the difference between (24a) and (24b) argues in favor of the fact that the event is forward-shifted thanks to the adverb that locates the event description in one of the branches dividing at t_0.

(24) a. Arriverà ora   (MODAL/TEMPORAL)
         He will arrive now
      b. Arriverà domani   (TEMPORAL)
         He will arrive tomorrow
      c. Arriverà   (MODAL/TEMPORAL)
         He will arrive

The analysis obtained for (24b) is given in (25). For a modal base W in which evidence holds, a future sentence is true at an utterance time t_0 and with respect to a judge i iff

(25) $\exists W' \subset W \exists t_0 < t_1$ ($\forall w' \in W'$, w'Rw & w' are the most normal for a judge according to the evidence) $p(w', t_1)$

(25) states that in some of the worlds in which the evidence holds, and which are considered as the most normal by the judge, there is a time $t_1 > t_0$ at which the event is realized (namely tomorrow). Without further exploring the issue of time adverbials, we want to suggest, contrary to what determinists would claim and also differently from *e.g.* Condoravdi (2003), that a future sentence with forward-shifting time adverbs *presents the options as epistemically closed, but metaphysically open*.

In essence, this analysis applies the temporal reading of (24c), and we now consider the conditions for setting the event description at t_0 or at $t_1 > t_0$ when an overt adverbial is lacking.

Our claim is that in the absence of an overt adverbial, the description of an eventive predicate can be set at t_0 if and only if there is evidence for doing so.

Starting with **non-statives**, two options must be distinguished: (i) cases in which evidence is available, and (ii) those in which it is not.

Under the first option, one can include cases (11B) and (12B). As discussed above, there is some evidence that allows the speaker to reliably predict that the person in question is having lunch (11B) or is arriving (12B). In the case of habituals (11B), the indirect evidence is provided by knowing a schedule. Knowing at what times the activities take place, and knowing what the time of the utterance is, it is possible to conclude that a certain activity is very likely taking place. Similarly, recognizing some noise in the entry (12B), allows one to reliably conclude that somebody is arriving. Again, the evidence is considered to be reliable for a judge, that is to say, the worlds in which the evidence is the noise in the entry, and which behave normally w.r.t. the evidence for a judge, are also worlds in which that judge can conclude that somebody is entering.

Why should evidence play any role in determining the time to which the description is located? Or, why, in (24c), does the lack of evidence only lead to a temporal interpretation?

Our answer is that since by using the future the speaker asserts that a certain event is (very) likely to occur (according to a source of evidence), she can reliably guarantee that a punctual event occurs *exactly at the time of the utterance* only if she has evidence for this, as when talking about habits (11B) and when clues are available (the noise justifies (12B)).

Forward-shifting the event description thus becomes a reinforcement of evidential strategy. The speaker can guarantee with a higher degree of reliability the occurrence of the event by placing it in the future and quantifying over normal futures, rather than betting that a punctual, unscheduled, time-undetermined event is taking place exactly at the time of the assertion.

Interestingly for our purpose, Laca (2008) has argued that in Romance languages forward-shifting is obtained with telic events, and can be obtained with atelic ones. Provided that the evidentiality conditions are satisfied, the same holds in Italian.

Stretching the unbounded end so as to cover the utterance time, allows the speaker to guarantee more reliably that the event might take place at t_u. With a bounded event, s/he should make sure that the utterance time is strictly contained within the boundaries. Postponing the description of the events leaves the options open.

Again, since it is unlikely that a bounded, unscheduled event occurs exactly at the utterance time, forward-shifting allows the speaker to guarantee its realization with a higher degree of certainty: if located at a future time t_1,

it is still an option at t_0 that the event is realized, and the most normal set of possible futures for i is the one in which it is realized.

As for **statives**, the situation is different. Since statives and more generally predicates denoting an unbounded interval describe an event which presumably covers the utterance time, the modal interpretation is favored.

Note though that contextual information or a time adverb can set the beginning of a state at a time $t_1 > t_0$. In this case the interpretation is temporal.

In conclusion, there is then no reason to distinguish between eventive and stative predicates. Both can have a temporal and a modal interpretation, provided that evidence is available to the judge to guarantee that the event takes place exactly at the utterance time. In the lack of any overt specification, statives have a preference for the modal interpretation since the event description presumably holds at the utterance time; non-statives favor a temporal interpretation since, in the lack of any evidence, it is *a priori* unlikely that an unscheduled bounded event occurs at the utterance time. Note that no diversity condition is needed since diversity follows from the evidential analysis.

5. Conclusion

In this paper, we have presented a view in which the future contributes (i) non-past and (ii) evidential meaning components. We have argued that while the nature of the predicate contributes to fixing the temporal reference, the generalization in (3) only reveals a preference, since in some conditions eventive predicates (and, more precisely, bounded events) are not forward-shifted. Instead, we have proposed that, in the lack of overt temporal adverbials, the evidential mechanism is responsible for the forward-shifting, and that this occurs when one has no reason to believe that a bounded, unscheduled event takes place exactly at the utterance time. We would like to suggest that the same view can be held for (at least) attitude verbs.

A question that remains open at this point is the nature of the inference involved in the use of the future. In particular, it is not clear why we cannot get an epistemic reading for (26), with the event description set at the utterance time.

(26)   Secondo la tabella il treno partirà (*MODAL EPISTEMIC)
       According to the schedule the train will leave

Our suggestion is that the epistemic future is incompatible with non-inferential evidence, and is independent of the eventive/stative nature of the predicate.

(27) Secondo il dottore, Mario sarà malato (*MODAL EPISTEMIC)
       According to the doctor, Mario will be sick

The investigation of the sources allowing the inference to be drawn remains to be undertaken.

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