1. Introduction

Subjunctive tenses have often been considered ‘anaphoric tenses’\(^1\) and Sequence of Tenses (henceforth, SOT) has often been considered the morphological expression of their anaphoric nature. Recent discussions on this topic have shown that in some cases subjunctive tenses appear to be referentially independent and apparently SOT rules can be violated in some contexts, namely when an imperfect subjunctive, locating an eventuality prior to the speech time, is embedded under a present attitude predicate. The question is not devoid of interest, since the claim that SOT is the morphological expression of a tense anaphor has been maintained since at least the last thirty years.

In explaining the apparent violation of this claim, it has been observed that an implicit or explicit past time location is always present in these cases and it has been proposed that a past location is necessary to trigger imperfect subjunctive morphology. However, a future location is not able to trigger the appropriate morphology – present subjunctive – if the matrix verb is past. Moreover, according to current hypotheses on the imperfect, an explicit or implicit past time location is required by the semantics of the imperfect itself.

Some alternative hypotheses will be explored to understand whether the subjunctive can be considered anaphoric or whether it may sometimes take an autonomous time reference. The second alternative will be shown to be preferable given the available evidence. Two more hypotheses will be then compared, concerning the question whether anaphoricity and SOT are strictly connected as generally assumed. It will be

---

\(^1\) The term ‘anaphoric’ is here employed as in Picallo (1985) and Rizzi (1991), and not as in Landau (2004). It corresponds to Landau’s ‘dependent’ tense.
shown that current theories on the morpho-syntax of agreement, such as the minimalist notion of Agree (which may not require the ‘probe’ to c-command the ‘goal’ – a theoretical question which will be briefly explored) do not prevent from keeping the long-standing view according to which SOT is the morphological expression of a tense anaphor. As it will turn out, this claim implies that from a lexical and semantic viewpoint, imperfect subjunctive morphology is ambiguous between a pure occurrence of morphological features triggered through Agree and a morphological mark of anteriority and imperfectivity (or non-terminativity).

2. Subjunctive tenses are tense anaphors

Subjunctive tenses in some Romance languages are often claimed to be anaphoric. Bresnan (1972) and Bouchard (1982) claim that the subjunctive morphology indicates an ‘unrealized tense’. The main evidence in favor of this claim is that subjunctive clauses do not seem to have a time reference of their own. This claim has been re-proposed several times. Following previous analyses and comparing the indicative and the subjunctive mood in Catalan, Picallo (1985) claims that indicative clauses are autonomous in their tense marking, whereas subjunctive are not. The main argument to show this comes from the tense of an embedded verb. She observes that the tense specification of the matrix does not affect the tense specification of the embedded verb if the embedded verb is in the indicative, but it does if the embedded verb is in the subjunctive – the tense specification of a subjunctive clause depends on the tense specification of the matrix verb. She finally claims that the relation between the tense morphology of a subjunctive verb and the matrix verb may be compared to the relation between an antecedent and an anaphor. As an ‘anaphor’, a subjunctive verb is supposed to take a reference from its ‘antecedent’, the matrix verb. In support of this view, a subjunctive verb cannot appear in a matrix clause having affirmative illocutionary force, since in this case there is no antecedent that can ‘bind’ the embedded subjunctive verb. In this view, SOT, a morphological agreement relation between two tenses, is the morphological expression of tense anaphoricity. Present morphology on the matrix verb

2. The term ‘anaphor’ referred to subjunctive tenses will be currently employed here. The nature of subjunctive forms as tense anaphors may be reformulated in the sense of Giorgi and Pianesi (2001): in subjunctive clauses the speech temporal coordinate is not represented; only the attitude episode coordinate is represented.
is claimed to trigger present morphology on the embedded subjunctive verb; past morphology on the matrix verb is claimed to trigger past morphology on the embedded subjunctive verb, which may be an auxiliary, depending on the aspectual values – perfective or imperfective – expressed by the embedded predicate, and the time relations between the matrix and the embedded event – anteriority, simultaneity, posteriority. In a series of article this view has been extended to other Romance languages. Raposo (1985) puts forward the same proposal analyzing data from Portuguese, Rizzi (1991) and Manzini (2000) analyzing data from Italian: subjunctive tenses are tense anaphors and they are accordingly ruled by SOT mechanisms. Giorgi has recently (2006) discussed some data that apparently contradict the standard view according to which a subjunctive tense morphology is a function of the superordinate tense morphology (Giorgi 2006, ex. (46)):

(1)  Il testimone crede che ieri alle 5 l’imputato fosse a casa.
     The witness believes that yesterday at 5 the defendant was.SUBJ at home
     ‘The witness thinks that yesterday at 5 the defendant was at home’

In the example above the matrix verb is present indicative, the embedded verb is imperfect subjunctive, a tense denoting a past time. This shows – she argues – that sometimes a subjunctive verb seems to have an autonomous time reference, that is, a non-strict dependence on the matrix predicate. She observes that in such sentences a past time adverbial must provide a temporal anchor to the embedded predicate. Without an appropriate adverbial or a conversational background providing the appropriate temporal coordinates of the embedded event, sentence (1) is ungrammatical:

(2)  *Il testimone crede che l’imputato fosse a casa.
     The witness believes that the defendant was.SUBJ at home

If no time adverbial occurs, or if the conversational background does not provide a time framework for the embedded event, the only available morphological form on the embedded verb is the present:

(3)  Il testimone crede che l’imputato sia a casa.
     The witness believes that the defendant is.SUBJ at home
     ‘The witness thinks that the defendant is at home’.
Giorgi proposes that in (3) the tense of the matrix is an adequate ‘antecedent’ for the embedded tense. Both matrix and embedded predicates carry present morphology. In (2) an appropriate antecedent for the embedded verb is missing. The matrix and the embedded predicate do not share the same morphological features. This gives rise to ungrammaticality. In sentence (1) the past time adverbial is claimed to be able to license the imperfect morphology, which has a past time reference as well, independently from the temporal value of the main predicate. According to this view, some feature must trigger the embedded subjunctive morphology – Picallo’s (1985) and others’ proposal shares this view. Furthermore, Giorgi shows that the matrix verb morphology may trigger the embedded subjunctive morphology. Taking SOT as the morphological expression of ‘anaphoric’ anchoring, the event denoted by a subjunctive predicate may be anchored to the attitude event or to the temporal reference denoted by the adverbial. Interestingly, this hypothesis cannot be extended straightforwardly to other cases of mismatch between matrix and embedded verb morphology. A present subjunctive verb cannot occur within the clausal argument of an imperfect – hence, past – verb\(^3\), even if a future temporal adverbial occurs within the argument clause (it must be noticed that present subjunctive morphology may denote a future event, since it is compatible with future-oriented time adverbs, as shown in example (5)):

(4) *Il testimone credeva che entro un mese l’imputato venga processato.

*The witness thought that in a month the defendant is SUBJ tried

In this case the future time adverbial is not able to trigger present morphology. A strict SOT rescues the sentence. Hence, either the matrix verb os present, or the embedded verb is imperfect subjunctive\(^4\):

(5) Il testimone crede che entro un mese l’imputato venga processato.

*The witness thinks that in a month the defendant is SUBJ tried

‘The witness thinks that the defendant will be on trial in a month’.

---

\(^3\) On this restriction, see Giorgi and Pianesi (1998) and Higginbotham (2001).

\(^4\) Notice that the adverbial *entro un mese* ‘in a month’ is anaphoric and may denote either a past time interval or a future time interval.
(6) Il testimone credeva che entro un mese l’imputato venisse processato.

*The witness thought that in a month the defendant was* SUBJ tried

‘The witness thought that the defendant would be on trial in a month’.

Example (4) suggests that the time feature on a temporal adverbial may not instantiate the morphology on the embedded verb. Only past time adverbials may instantiate subjunctive morphology – typically, the imperfect subjunctive morphology. The co-occurrence of a past time adverbial and the imperfect tense in the examples at issue recalls a property of the imperfect tense that has been recently investigated in a series of studies on the imperfect indicative – that is, the so-called ‘familiar’ interpretation of the time to which reference is made by means of an imperfect tense (Bertinetto and Delfitto 1995). This interpretation of the imperfect requires the occurrence of a time adverbial, denoting the so-called ‘focalization time’. If this property can be extended to the imperfect subjunctive, as it will be claimed to be the case in the next section, the proposal according to which a past time adverbial is able to trigger imperfect morphology would turn out to be ‘circular’ someway, since it states that the time adverbial triggers the imperfect morphology, which in its turn requires a time adverbial.

This would give rise to the following question. Data like (1) have been claimed to show that the subjunctive morphology is triggered either by the matrix tense morphology or by a time adverbial. The trigger is due to the fact that the subjunctive morphology is an expression of anaphoricity. But if the time adverbial cannot instantiate the subjunctive morphology, only the matrix tense morphology can. Hence, there would be cases, like (1), in which there is no trigger to the subjunctive morphology. In these cases here is no SOT despite the presence of a subjunctive verb. This is in contrast with the idea that SOT is the morphological expression of tense anaphor, provided that subjunctive tenses are tense anaphors. A solution to this puzzle will be explored in what follows.

### 3. Imperfect indicative and imperfect subjunctive

#### 3.1. Imperfect indicative

A series of articles have recently paid attention to the properties of the imperfect (more precisely, the imperfect indicative): its temporal and the aspectual interpretations and their syntactic implications.
The imperfect has often be claimed to be an ‘anaphoric’ or dependent tense, in that it is unable to supply an event with a indexical anchoring (Bertinetto and Delfitto 1995, Giorgi and Pianesi 1995, 2004). This property has been supposed to explain the contrast of status between sentences in which the predicate is in the imperfective and sentences in which the predicate is in the present perfect (‘passato prossimo’) or in the simple past (‘passato remoto’), both indexical tenses. The sentence with the predicate in the imperfect is generally uninterpretable if a different temporal location from the speech time – a ‘focalization time’ (see Bertinetto and Delfitto 1995) – is not provided from the conversational background; the sentence with an indexical tense (present, present perfect and future) is instead perfectly interpretable even without a specified time framework, being indexical tenses able in themselves to locate an event prior, after, or in simultaneity with the speech time. The same contrast holds in English between the indexical tenses and the simple past progressive:

(7) a. Mangio/ho mangiato/mangerò una mela.  
   b. I am eating/have eaten/will eat an apple.

(8) a. #Mangiavo una mela. 
   b. #I was eating an apple

(9) a. Ieri alle 5 mangiavo una mela. 
   b. Yesterday at 5 I was eating an apple.

The above examples involve an imperfect with a progressive interpretation. This is not the only aspectual value the imperfect may have. Depending on the interval that the time adverbial denotes, it may also have a habitual reading, or an ‘intention-in-thepast’ reading (Cipria and Roberts 2000), also known as ‘modal’ reading (Giorgi and Pianesi 2004), which conveys a past expectation towards an event to come. These different interpretations may be achieved in different ways: through the illocutionary context, through time adverbials, or through anchoring to another event. The time adverbial conveys a progressive reading in (9)a, a habitual reading in the following example, taken from Bertinetto and Delfitto (1995):

(10) L’anno scorso alle 6 Gianni beveva il tè. 
    Last year at 6 Gianni drank.IMPF the tea  
    ‘Last year Gianni used to drink a cup of tea at 6’
The context conveys an intention-in-the-past reading in the following example, taken from Giorgi and Pianesi (2004):

(11) A: Domani Domingo canterà alla Scala.
     Tomorrow Domingo is going to sing at Scala
     ‘Tomorrow Domingo is going to sing at Scala’
B: Veramente, domani cantava Pavarotti.
     Actually, tomorrow Pavarotti is going to sing
     ‘Tomorrow Pavarotti is going to sing, actually’

Finally, the embedded event is anchored to the time framework of the matrix event in the following example (Giorgi and Pianesi 1995):

(12) Mario mi ha detto che Gianni mangiava una mela.
     Mario told me that Gianni ate an apple
     ‘Mario told me Gianni was eating an apple’

In sentences like (12) the embedded event is interpreted as progressive, simultaneous with respect to the matrix event (‘present-in-the-past’ or ‘simultaneous’ interpretation). A habitual time adverbial may turn the progressive interpretation into a habitual interpretation, simultaneous with respect to the matrix event:

(13) Mario mi ha detto che Gianni mangiava una mela ogni giorno.
     Mario told me that Gianni ate an apple every day
     ‘Mario told me Gianni used to eat an apple every day’

Given the appropriate context the ‘modal’ reading is available as well:

(14) A: Mario mi ha detto che domani Domingo canterà alla Scala
     Mario has said that tomorrow Domingo is going to sing at Scala
     ‘Mario has said that tomorrow Domingo is going to sing at Scala’
B: Veramente, Mario ha detto che domani cantava Pavarotti.
     Actually, Mario has said that tomorrow sang an apple
     ‘Mario has said that Pavarotti was going to sing tomorrow, actually’
In embedded contexts adverbial modification may ‘shift’ the embedded event in a time prior the matrix event time. The aspectual interpretation of the embedded imperfect may be progressive ((15)a), habitual ((15)b) or modal ((15)c):

(15) a. Mario mi ha detto che ieri alle 5 Gianni beveva il tè.  
    Mario me has told that yesteryay at 5 Gianni drank.IMPF the tea  
    ‘Mario told me that yesterday at 5 Gianni was having a cup of tea’

b. Mario mi ha detto che l’anno scorso alle 5 Gianni beveva il tè.  
    Mario me has told that last year at 5 Gianni drank.IMPF the tea  
    ‘Mario told me that last year at 5 Gianni used to have a cup of tea’

c. A: Mario ha detto che il giorno dopo Domingo avrebbe cantato alla Scala.  
    Mario has said that the next day Domingo was going to sing at Scala  
    ‘Mario has said that the next day Domingo was going to sing at Scala’

B: Veramente, Mario ha detto che il giorno dopo cantava Pavarotti.  
    Actually, Mario has said that the next day sang.IMPF Pavarotti  
    ‘Mario has said that Pavarotti was going to sing the next day, actually’

The above examples show that an imperfect predicate of an embedded clause shows up the same syntactic and semantic properties of an imperfect predicate of a matrix clause. It is a dependent tense, in the sense that it needs a past temporal anchoring in order to be elicited.

In example (12) the matrix tense provides the temporal anchoring to the embedded imperfect. The matrix tense is past and provides and appropriate temporal anchoring. If it were present, the anchoring would not take place, and the sentence would turn out to be uninterpretable:

(16) a. #Il testimone afferma che l’imputato era a casa.  
    b. #The witness claims that the defendant was at home.

A time adverbial denoting a ‘focalization time’ would rescue the sentence:

(17) a. Il testimone afferma che ieri alle 5 l’imputato era a casa.  
    b. The witness claims that yesterday at 5 the defendant was at home.
The status of these sentences parallels the status of sentences (1) and (2). This suggests that whatever properties the imperfect indicative might have, the imperfect subjunctive might have the same properties.

In order to account for the syntactic and semantic paradigm of the imperfect illustrated above, Bertinetto and Delfitto claim that the imperfect morphology corresponds to the introduction of a ‘strong’ quantifier over times and events. They argue that the imperfect morphology contributes the following semantics:

(18) \( (\forall t: \text{contextually relevant}(t)) \ (\text{One e: } P(e) \ at(e, t)) \)

In their view, the time adverbial (but the matrix tense, in examples involving embedding, may be add as well) denoting the ‘focalization time’ is needed in order to provide the set of contextually relevant times that represents the domain of quantification of the strong quantifier. Hence, in their view, the imperfect morphology requires a time adverbial or, more generally, a contextually available focalization time, in order to be interpretable, and not vice versa. They also claim that by implicature the semantics given in (18) presupposes the existence of at least another event of P’ing distinct form the one taking place at the focalization time, giving rise to the peculiar progressive and habitual reading, which share the property of having atelic akontsart and of being non-terminative.\(^5\)

### 3.2. Imperfect subjunctive

In this section evidence will be reported to claim that the imperfect subjunctive has analogous temporal and aspektual properties as the imperfect indicative.

The imperfect indicative can occur both in matrix and in embedded clauses. The imperfect subjunctive, as well as the other subjunctive tenses, has both dependent and independent employments. The independent uses are constrained to sentences having imperative and interrogative illocutionary force, or in exclamations. A subjunctive verb cannot be the predicate of a sentence having affirmative illocutionary force (see Piccallo 1985, Giorgi and Pianesi 1997, Portner 1997, Schlenker 2005, among the others). The

---

dependent uses of the imperfect subjunctive parallel the dependent uses of the imperfect indicative. The imperfect subjunctive may have a ‘simultaneous’ reading, which may be progressive or habitual, depending on the presence of adverbial modification:

(19) a. Gianni pensava che Maria leggesse il giornale.
   Gianni thought that Maria read.IMPF.SUBJ the newspaper
   ‘Gianni thought Maria was reading the newspaper’.

   b. Gianni pensava che Maria leggesse il giornale ogni giorno.
   Gianni thought that Maria read.IMPF.SUBJ the newspaper every day
   ‘Gianni thought Maria used to read the newspaper every day’

It may have a ‘shifted’ interpretation, which in its turn may be progressive or habitual:

(20) a. Gianni pensava che il giorno prima alle 5 Maria leggesse il giornale.
   Gianni thought that the day before at 5 Maria read.IMPF.SUBJ. the newspaper
   ‘Gianni thought that the day before at 5 Maria was reading the newspaper’
   b. Gianni pensava che l’anno prima Maria leggesse il giornale ogni giorno.
   Gianni thought that the year before Maria read.IMPF.SUBJ. the newspaper every day.
   ‘Gianni thought that the year before Maria used to read the newspaper every day’

It may have a ‘future-in-the-past’ reading, which recalls the ‘intention-in-the-past’ reading:

(21) Gianni pensava che Maria partisse il giorno dopo.
   Gianni thought Maria left.IMPF.SUBJ the next day
   ‘Gianni thought that Maria was going to leave the day after’

The hypothesis that the indicative and the subjunctive imperfect have the same temporal and aspectual properties (not of course the same mood ones) seems to follow quite naturally from these data. This hypothesis does not require that the indicative and the subjunctive imperfect have all and only the same features. They do not indeed, since – quite trivially – they differ at least with respect to mood. However, they might share the properties that are needed to account for their syntactic and semantic properties.
4. The asymmetry in the SOT pattern

The fact that the imperfect indicative and the imperfect subjunctive behave alike suggest that the idea that the temporal topic triggers the imperfect morphology in an embedded predicate in spite of the fact that the main predicate has present morphology, may be revised. According to this theory, the morphology of the embedded predicate may be triggered either by the morphology of the matrix predicate or by the features of the time adverbial. However, the latter possibility must be excluded, since the presence of a time adverbial is needed by the presence of imperfect morphology itself. Hence, while strict SOT rules seem to constrain the embedded morphology when the matrix verb is imperfect (see examples (4) and (6)), no such rules seem to hold when the matrix verb is present (see example (1))\(^6\). The following table sums up this generalization\(^7\):

(22) \(\text{SOT}\)

<table>
<thead>
<tr>
<th>Indicative tenses</th>
<th>Subjunctive tenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>Present ‘\textit{Presente}’</td>
</tr>
<tr>
<td>Present</td>
<td>√</td>
</tr>
<tr>
<td>Imperfect</td>
<td>*</td>
</tr>
</tbody>
</table>

---

\(^6\). It did not escape our notice that the same generalization hold for Catalan – see Bonet 2002), examples (154a and b).

\(^7\). The table is in fact simplified, since it does not include some matrix indicative tenses – the present perfect (‘passato prossimo’), the simple past (‘passato remoto’), and the future, the matrix conditional tenses, and the embedded composite subjunctive tenses, which will be introduced in a second step. The SOT of present perfect and of the future patterns like the one of the present, whereas the SOT of the simple past and of the conditional patterns like the imperfect. In the Northern variety of spoken Italian, the present perfect (‘passato prossimo’) is the only form of indexical past tense, corresponding both to the English present perfect and to the simple past. Attitude predicates in the present perfect and in the simple past have a punctual/aoristic and incohesive interpretation, which is someway a marked interpretation for an attitude predicate.

Moreover, the table does not take into account all the verb classes selecting for subjunctive argument clauses. For instance, present volitional verbs do not allow a past subjunctive predicate (excluding fictional contexts). Volitional predicates are sometimes claimed to require a ‘future-oriented’ interpretation of the embedded proposition.
This empirical framework may challenge the traditional idea that SOT and tense anaphors (such have the subjunctive tenses been considered) go hand in hand. Three hypotheses may be explored to explain this asymmetry. The first two hypotheses (H1, and H2) state that we can get rid of SOT mechanisms, at least in some contexts of embedding. H1 and H2 claim that the contexts in which SOT does not occur are the clausal arguments of present predicates. Moreover, since SOT and anaphoricity have been claimed to be strictly linked, two possible consequences follow from H1, H2: the first, expressed by H1, is that in the contexts in which SOT does not occur, subjunctive is not anaphoric; the second, stated by H2, keeps the idea that subjunctive is anaphoric even though SOT may not occur. Evidence will be shown that H2 is preferable to H1, keeping the claim that subjunctive is anaphoric. The focus turns then to the mechanisms of SOT – when are they required, when are they not? The third hypothesis (H3) keeps the traditional idea that subjunctive is anaphoric and that SOT is the morphological expression of anaphoricity; the asymmetry in the paradigm in table 1 is independent from SOT and anaphoricity.

4.1. H1 and H2

According to H1 and H2, since the embedded predicate can be whatever subjunctive tense under a present main predicate, if the matrix predicate is present then SOT does not take place. If it is past – that is, morphologically marked by an imperfect – SOT does take place, since it is not possible to embed a present predicate under an imperfect matrix predicate. We have seen that according to a traditional view SOT is the morphological expression of tense ‘anaphoricity’. This may lead to two alternative implications, carried respectively by H1 and H2.

---

Another hypothesis may be conceived, stating that the instantiation of the imperfect and the pluperfect is not constrained by the matrix predicate. More in detail, it states that the instantiation of present morphology in the embedded predicate is ruled by the matrix predicate, imperfect morphology in the embedded predicate is not. Hence, SOT holds only if the embedded morphology is present. However, there is a logical reason to immediately exclude this hypothesis. SOT may be restated as a function mapping the domain of matrix tenses to the co-domain of the embedded tenses. In a way, this hypothesis reverts the mapping relation, since it states that the embedded morphology shows up SOT effects only under some circumstances – but by SOT the embedded morphology is constrained by the matrix morphology.
4.1.1. H1

H1 states that since SOT does not take place when the matrix predicate is present, a subjunctive predicate is not anaphoric when it is embedded under a present predicate. H1 may then be formulated as follows:

(23) **Hypothesis 1**

a. SOT takes place iff the attitude predicate is past;

b. SOT obtains iff a tense is anaphoric.

H1 implies that when embedded under a present attitude, subjunctive tenses may not be anaphoric. They may not be anchored to the attitude event time, but rather to the speech time – that is, they may be indexical, contrary to what has been generally assumed. Hence, subjunctive tenses may not be anaphoric in themselves – it is the context that determines whether a subjunctive is anaphoric or not. They are anaphoric when they are embedded under past predicates, they are indexical when they are embedded under present predicates. In other terms, they are anaphoric when the temporal anchoring does not coincide with the speech act, they are indexical when it does.

A series of independent facts seems to cast doubts on this hypothesis. In a series of articles, building on data concerning complementizer deletion (CD), double access reading (DAR), and long-distance anaphors (LDA) binding, Giorgi and Pianesi (2001, 2004) and Giorgi (2006b, 2007) have shown that a subjunctive clause – be it in the present subjunctive or in the other subjunctive tenses – lacks the temporal coordinates of the speech, the fundamental property of an ‘indexical’ tense. They show that embedded indicative predicates differ from embedded subjunctive predicates with respect to a series of syntactic and interpretative properties. Indicative predicates show up DAR (as it is generally the case in English for finite verbs in an embedded clause – see (24)a) (24)a is appropriate in a scenario in which Maria was ill when Gianni spoke and is still so now; they do not allow for CD⁹ ((24)b, b’) and for LDA binding ((24)c):

(24) a. Gianni ha detto che Maria è ammalata.
   Gianni has said that Maria is ill
   ‘Gianni said Maria is ill’

---

b. Ho detto che è ammalata.
    Have said that is ill
    ‘I said that she is ill’

b’. *Ho detto è ammalata.

c. *Gianni ha detto che i telegiornali hanno parlato della propria impresa.
    Gianni has said that the TV news have talked about his(SELF deed
    ‘Gianni said that the TV news talked about his deed’

Conversely, subjunctive predicates do not show up DAR ((25)a), since there is no presupposition that Maria is still ill now – it may be, it may be not; they do allow for CD ((25)b, b’) and LDA binding ((25)c):

(25) a. Gianni pensava che Maria fosse ammalata.
    Gianni thought that Maria was ill
    ‘Gianni thought Maria was ill’

b. Pensava che fosse ammalata.
    Thought that was ill
    ‘I thought that she was ill’

b’. Pensavo fosse ammalata.

c. Gianni pensava che i telegiornali avessero parlato della propria impresa.
    Gianni thought that the TV news had talked about his(SELF deed
    ‘Gianni thought that the TV news had talked about his deed’

Building on these data Giorgi and Pianesi argues that the indicative morphology introduce the temporal coordinate of the speech, thus anchoring an event to the speech time. In an embedded clause, however, the temporal coordinate of the attitude must be present as well. They hypothesize that the presence of both coordinates gives rise to DAR. Furthermore, they claim that the unavailability of CD and of LDA binding follows from this property\(^{10}\).

On the other hand, subjunctive predicates are devoid of the temporal coordinate of the speech, which is claimed to explain the unavailability of DAR and the availability of CD and LDA binding. Since CD and LDA binding are available in subjunctive clauses embedded under present predicates, the hypothesis that such subjunctive predicates are indexical can be excluded.

\(^{10}\) I refer to the mentioned articles for a detailed argumentation in favor of this hypothesis.
(26) a. Penso sia ammalata.
   Think is ill
   ‘I think she is ill’
b. Gianni pensa che i telegiornali parlino della propria impresa.
   Gianni thinks that the TV news talk about his deed
   ‘Gianni thinks that the TV news have been talking about his deed’

Hence, H1 seems to be unlikely to be adequate.

4.1.2. H2

H2 states that anaphoricity always obtains and there is not such a strict connection between SOT and tense anaphoricity as it has been claimed in the literature – there may be anaphoricity even without SOT. Let us consider this question more in detail. It has been assumed that the traditional claim that SOT is the morphological expression of tense anaphoricity may be reformulated through the biconditional form ‘SOT occurs if and only if there is an anaphoric time relation’ (see (23)). However, the conditional form may be more adequate: ‘SOT occurs if the embedded tense is anaphoric’. This form states that there may be tense anaphors that are not morphologically marked through SOT. H2 may then be formulated as follows:

(27) **Hypothesis 2**
   a. SOT takes place iff the attitude predicate is past;
   b. SOT obtains if a tense is anaphoric.

According to this hypothesis, subjunctive tenses may be anaphoric even if no SOT holds. Hence, subjunctive tenses embedded under a present predicate may be tense anaphors in spite of the absence of SOT – and despite the anaphoric interpretation is ‘hidden’ since the temporal anchoring is provided by the speech time. Cases in which anaphoricity and SOT do not occur together may support this hypothesis. For instance, subjunctive tenses in spoken French are anaphoric despite there is no SOT\(^\text{11}\).

\(^{11}\) The examples are taken from Grevisse (1993): 1268-1269.
(28)  a. Je veux qu’il vienne. 
    I want that he comes.SUBJ. 
    ‘I want him to come’
  
b. Je voulais qu’il vienne. 
    I wanted that he comes.SUBJ 
    ‘I wanted him to come’

(29)  a. Je doute qu’il ait écrit hier. 
    I doubt that he has.SUBJ written yesterday 
    ‘I doubt he has written yesterday’
  
b. Je doutais qu’il ait écrit la veille. 
    I doubted that he has.SUBJ written the day before  
    ‘I doubted that he had written the day before’

The anaphoric nature of the subjunctive tenses in French may be shown through the standard diagnostic methods such as indexical adverbial modification. Giorgi and Pianes (2003) show that if a tense is indexical it is compatible only with time adverbials denoting the same time as the tense itself. For instance, a present perfect indicative, denoting a past time interval, is incompatible with future adverbials:

(30)  *Gianni ha detto che Maria è partita domani.
    Gianni has said that Maria has left tomorrow

If a tense is anaphoric, however, it is compatible with any indexical adverbials. Thus, for instance, the imperfect subjunctive is compatible with past, present or future adverbials:

(31)  Pensavo che Maria partisse ieri/oggi/domani.
    I-thought that Maria left.SUBJ yesterday/today/tomorrow 
    ‘I thought Maria would leave yesterday/today/tomorrow’

This test can be employed to show the anaphoric nature of French present subjunctive, which is compatible even with past indexical adverbials\footnote{I am thankful to Vincent Homer for this example.}. 
(32) Marie regretta que Jean arrive tard hier.
Marie regretted that Jean arrives. [SBJ] late yesterday
‘Marie regretted that Jean would arrive late yesterday’

Although the embedded subjunctive carries present morphology, it is compatible with a past indexical adverb such as ‘yesterday’. Such compatibility shows that the embedded predicate is not anchored to the speech time in spite of its present tense morphology. Some facts in Italian may support this hypothesis as well. It is indeed possible to construct some examples hinting to this solution. What is needed is a main predicate tense that does not provide a temporal anchoring to the speech time and that does not show up SOT. Such a tense may be the future indicative. A predicate in the present perfect subjunctive, or in the imperfect subjunctive, or in the pluperfect subjunctive, may be interpreted as prior, simultaneous or posterior to the speech time – and, of course, prior to the attitude time\textsuperscript{13}:

(33) Il testimone penserà che l’imputato abbia confessato il crimine.
The witness thinks. [FUT] that the defendant has. [SBJ] confessed the crime
‘The witness will think that the defendant has confessed the crime’

The event of confessing the crime by the defendant may have already taken place at the speech time, or it may not – it may take place in a moment posterior to the speech time. The same holds when the embedded predicate is imperfect or pluperfect subjunctive:

(34) a. Il testimone penserà che alcuni giorni prima l’imputato fosse nel luogo del delitto.
The witness thinks. [FUT] that some days before the defendant was. [SBJ] in the place of the crime
‘The witness will think that some days before the defendant was in the place of the crime’

\textsuperscript{13}. The diagnostics exploiting indexical adverbials does not work when the matrix predicate has future morphology – this is due to independent reasons (Alessandra Giorgi, p.c.). However, the intuitions of the native speakers are quite clear.
b, Il testimone penserà che cinque giorni prima l’imputato avesse già commesso il delitto. The witness thinks. FUT that five days before the defendant had. SUBJ already committed the crime ‘The witness will think that five days before the defendant had already committed the crime’

The time adverbial in the embedded clause does not specify the time location with respect to the speech time. It may denote the day in which the speech act takes place ((35)a), a day prior to it ((35)b), or posterior to it ((35)c), as shown by the following diagrams:

(35) a. ———|———|———> ‘now’  s  
            e

b. ———|———|———|———>  
  e  ‘now’  s

c. ———|———|———|———>  
‘now’  e  s

‘s’ = think  ‘e’ = commit the crime

Hence, in the latter examples the embedded tense is anaphoric despite the absence of SOT.

4.2. H3

H3 states that SOT mechanisms should operate when a tense is anaphoric despite the existence of apparent counterexamples, which should be accounted for invoking independent reasons. This hypothesis is in line with the ‘traditional’ view according to which whenever a tense anaphor occurs, SOT occurs as well, and vice versa:
(36) **Hypothesis 3**
SOT takes place iff a tense is anaphoric.

Since the subjunctive mood is anaphoric, SOT always occurs when an embedded predicate is subjunctive. Given H3, a matrix present tense instantiates present subjunctive morphology, a matrix past tense instantiates imperfect tense morphology. In both cases the temporal location of the matrix event provides the temporal anchor for the embedded event. Hence, no time adverbial is required to license the imperfect.

(37) ‘Strict’ SOT

<table>
<thead>
<tr>
<th>Indicative tenses</th>
<th>Subjunctive tenses</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Present ‘Presente’</td>
<td>Imperfect ‘Imperfetto’</td>
<td></td>
</tr>
<tr>
<td>Present</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Imperfect</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

Given (36), no other possibilities are contemplated.\(^\text{14}\) The fact that apparently SOT does not hold when the matrix is present and the embedded predicate is imperfect remains unexplained. However, a possible solution of this puzzle comes from the analysis of the definition of SOT given in section 2. SOT has been defined as a morphological agreement between two tenses. This definition implies the existence of a series of

\(^{14}\) A possible evidence in favor of this ‘division of labor’ is that the apparent cases of violation of SOT concern stative predicates within the embedded clause. Eventive predicates in the subjunctive under a present tense attitude are ungrammatical:

(i) *Gianni pensa che Mario partisse.*

Gianni thinks that Mario left.SUBJ

However, if one forces a habitual reading of the predicate by adjoining a habitual adverbial – say, *ogni giorno alle cinque* ‘every day at seven’ – and an adverbial denoting a ‘focalization time’, the sentence turns out to be grammatical:

(ii) Gianni pensa che nel 1985 Mario partisse ogni giorno alle sette.

Gianni thinks that in 1985 Mario left.SUBJ every day at seven

‘Gianni thinks that in 1985 Mario left every day at seven’
morphological endings matching with some morphological endings but not with some others. For instance, an imperfect indicative ending agrees with an imperfect subjunctive ending, but it cannot agree with a present subjunctive ending. In other words, given a matrix, the morphology provides two competing possible endings for the embedded verb, one and only one of which agrees with the matrix. If the morphology provides only one possible ending, no choice has to be made about which ending agrees with a given matrix. Hence, no agreement relation is needed – no SOT. This is what happens in spoken French, where the subjunctive mood has only two tenses, each expressing a different time relation – the present locates an event simultaneously or after the attitude event, the present perfect locates an event prior to the attitude event (see examples (28) and (29)). Noticing that the apparent violations of SOT illustrated in (1) tipically involves predicates having a stative aktionsart – be it lexical or be it due to the imperfect morphology\(^{15}\) – in the embedded clause, let us suppose that in Italian the set of competing morphological alternatives is supplied only if the embedded verb has to locate an event with respect to the attitude eventuality, and that if the time relation to express is anteriority of a state with respect to the attitude eventuality, no such a set of alternatives is available. Hence, no SOT would be needed: both a present and a past attitude predicate would allow for one and the same ending:

(38) ‘Shifted’ reading

<table>
<thead>
<tr>
<th>Subjunctive tenses</th>
<th>Indicative tenses</th>
<th>Imperfect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>Imperfect</td>
<td>‘Imperfetto’</td>
</tr>
<tr>
<td>Imperfect</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>

In a way, then, table (22) is the result of overlapping two different morphological patterns: the one given in table (37), which instantiates SOT, and the one given in table (38). In the former case SOT is needed by the existence of two morphological relevant alternatives, one anchoring the embedded event to a present attitude, the other anchoring the embedded event to a past attitude. In the latter case SOT is not needed, since there are no morphological alternatives to express anteriority of a state: the imperfect is able

---

15. On the relations between the aktionsart of a predicate and the aspect of imperfect tense, see Cipria and Roberts (2000).
to anchor the embedded event both to a present and to a past attitude. If this reasoning is correct, H3 holds provided that SOT is conceived as an abstract agreement relation, taking place even without any morphological marking – the morphological marking is indeed a property of the lexicon, independent form the syntactic mechanism instantiating the relation of agreement.

These considerations also imply that in Italian while the present subjunctive morphology is unambiguous, since it can only anchor an event to a present attitude, the imperfect morphology is ambiguous. In some contexts it represents the morphological marking of an anaphor bound by a past anchor (see example (2)). In some other cases – when the time adverbial occurs, it does not specify whether the anchor must be present or past\textsuperscript{16}.

Building on these considerations, a formal device for SOT will now be drawn in order to establish which of the two hypotheses, H2 and H3, is more likely to account for the data.

5. SOT as Agree

5.1. Agree

In the late 1980s and early 1990s the idea was put forward that agreement relations are instantiated by raising to a Specifier position (Kayne 1989). The early minimalist idea of Case and agreement was based on the idea that agreement consists in a spec-head relation, under the notion of ‘feature checking’ (Chomsky 1995). However, building on data from raising and the existential construction in English, Chomsky (2000, 2001) proposed another type of agreement relation, named ‘Agreement at a distance’ or ‘Agree’ for short. According to this idea, an agreement relation may take place even without any movement to a specifier. Moreover, Chomsky argues that all instances of

\textsuperscript{16} An illustrative parallelism within the nominal domain may be given by the anaphoric system in languages like Italian, in which there are three types of third person anaphors (see Giorgi 1989): \textit{se stesso/stessa}, \textit{sè} and the clitic \textit{si}. \textit{Se stesso/stessa} needs an antecedent matching its gender and number features. \textit{Sè} and \textit{si} are underspecified as for gender and number and their antecedent is not constrained as for these features. Similar considerations may be extended to the distinction between SELF and SE anaphors (Reuland 2001).
agreement checking are realized through Agree, whereas movement to a specifier is conceived as an independent requirement due to EPP.

Agree is claimed to establish ‘a relation (agreement, Case checking) between an LI [Lexical Item] α and a feature F in some restricted search space (its domain)’ (Chomsky 2000: 101). Agree obtains when an uninterpretable feature – that is, a feature legible at LF – in a lexical item, which may be metaphorically thought of as a probe, seeks a goal matching its features in its c-commanding domain, where matching is identity of features (Chomsky 2000: 122, 124). Once matched, the uninterpretable features of the probe are erased.

Chomsky (2001) claims that whether features in a lexical item are interpretable or not is specified in the lexicon. Since only interpretable features are sent to LF, the distinction between interpretable and uninterpretable features must be indicated throughout the derivation, so that at spell-out interpretable features can be sent to LF and uninterpretable features are deleted. In order for this property to be visible in narrow syntax, interpretable features are claimed to enter the derivation valued, uninterpretable features without values. The value of an uninterpretable feature is determined through Agree with an interpretable valued feature. Agree deletes the uninterpretable features, which cannot be available for LF, while leaving available the valued features for PF.

Pesetsky and Torrego (2001, 2004, 2006) point out that the definition of interpretable and uninterpretable features concerns the semantic contribution some features give to the interpretation of a lexical item; the definition of valued and unvalued feature concerns instead the morphological content of a certain feature. They propose that interpretability and valuation are independent. Accordingly, features may be interpretable valued, interpretable unvalued, uninterpretable valued and uninterpretable unvalued. In their view, interpretable unvalued features probe their domain to get valued, and uninterpretable unvalued features do so as well17 - once valued, the uninterpretable features are deleted while the valued features are sent to PF.

The distinction between interpretability, a semantic notion, and valuation, a morpho-syntactic notion, fits well the problem faced here, since the question is whether SOT, a morpho-syntactic notion pertaining valuation, and anaphorictly, a semantic notion concerning interpretability, are interdependent or not.

5.2. SOT

The hypothesis will be here pursued that SOT may be conceived as an instantiation of Agree between some feature of the matrix predicate and some feature of the embedded predicate. The tense feature may be the feature under Agree. According to standard hypotheses within the minimalist framework, tense features are generally interpretable in I and valued in V\(^{18}\). Agree matches the tense features in I and V. EPP properties of I trigger the internal merge of V into I. According to the hypothesis under investigation, Agree is triggered between the tense features of the matrix, which are interpretable and valued through Agree, and the tense features of the embedded predicate, which must be interpretable (as anaphoric) and unvalued – the hypothesis states that anaphoric tenses must get valued under Agree with the matrix tense features.

This reasoning applies to subjunctive clauses selected for by past matrixes according to H2, to all subjunctive clauses according to H3. However, since anaphoricity is the trigger for the entire mechanism, there seems to be no principled way to hold H2: why should only past matrixes trigger Agree? H3 does not need to face this problem. The fact that SOT does not seem to hold when the matrix is present, is instead an epiphenomenon, being SOT hidden by the present anchoring. The anaphoric nature of the subjunctive mood may provide the trigger for the Agree operation: matrix V selects for a subjunctive CP\(^{19}\); subjunctive I is anaphoric ([+A]), hence it needs a non-anaphoric ([−A]) antecedent in order to refer to a temporal location

---


19. On the nature of subjunctive CP, see Giorgi and Pianesi (1997, 2004), Landau (2005), Shlonsky (2006). Landau and Shlonsky claim that selection involves intermediate steps involving C, where the mood feature is uninterpretable and unvalued (at least in Italian) and the embedded I head, where the mood feature is interpretable and valued, possibly through Agree with V, where the mood feature is valued – this would be consistent with the idea that tense features are valued in V.

Following Chomsky (2000, 2001) selection itself may perhaps be conceived as an instantiation of Agree between an uninterpretable selectional feature of a lexical item and the kind of category matching them. This idea may have relevant implication from a theoretical viewpoint: Agree would play a crucial role even in the mapping from the lexicon to the computational system, the Projection Principle, not only within the computational system, matching features between lexical items.
– it must be bound. Agree matches the subjunctive tense features and the matrix tense features, so that the subjunctive tense features can get a value.

\[
(39) \quad [\text{IP} \ldots I_{[-A]} [\text{VP} \ldots V \text{[CP} \ldots C \text{IP} \ldots I_{[+A]} [\text{VP} \ldots V \ldots \text{]] }] ]
\]

\[
\begin{array}{ccc}
\text{Agree} & \text{Selection} & \text{Agree} \\
\end{array}
\]

\text{Binding/Agree}

Notice that according to Chomsky (2000, 2001) a probe scans its \textit{c-command domain} to search for a probe matching some of its features. Accordingly, the following assumptions holds for Agree (Chomsky 2000: 122):

\begin{enumerate}
  \item a. Matching is feature identity.
  \item b. The domain of the probe is the sister of the probe.
  \item c. Locality reduces to “closest c-command”.
\end{enumerate}

In (39), however, the embedded I, which is unvalued according to the hypothesis under investigation does not c-command the ‘goal’ – the matrix I/V. Vice versa, the ‘evaluator’, the matrix I/V, c-commands the embedded I. Hence, either c-command is not a condition for the Agree operation to be performed in the example at issue, or there must be a phase in which embedded I/V c-commands matrix I/V. The latter option seems to be improbable, given standard assumptions on clausal complementation. As for the former option, if feasible, another principle is to be restated. This option indeed contradicts the principle stating that ‘properties of the probe/selector α must be satisfied before new elements of the lexical subarray are accessed to drive further operations’ (Chomsky 2000: 132). According to this principle, an unvalued feature must get matched with a valued feature before new elements are merged. If this were not the case, unvalued features could match and be valued by features on lexical items c-commanding them – exactly what seems to be needed in the case at issue. Consequently, uninterpretable and unvalued features should be ‘active’ for operations involving elements introduced in the next phase. This may be permitted by the following principle (Chomsky 2001: 13):

\begin{enumerate}
  \item (41) Phase 1 is interpreted/valued at the next relevant Phase 2.
\end{enumerate}
Moreover, to be available to further operations, by the Phase-Impenetrability Condition (PIC, Chomsky 2000, 2001), uninterpretable/unvalued features should be at the head or at the edge of the phase preceding the introduction of elements matching them:

(42) **Phase-Impenetrability Condition (PIC)**

The domain of H is not accessible to operations outside HP; only H and its edge are accessible to such operations.

I-to-C features movement, as proposed by Giorgi and Pianesi (2004), may make tense features raised to C available for matching with the tense features in matrix V:

(43) \[ [\text{VP} [\text{CP} [\text{C I-C}] \text{IP} ]] \]

For (41), CP is interpreted and valued at VP. For PIC, I \( \rightarrow \) raised to C \( \rightarrow \) is accessible to operation outside CP. Consequently, assumption (40)b may not be needed to allow Agree in the sentence discussed, while assumption (40)c may be ‘weakened’ stating that locality is defined by principle (41) and PIC.

A third possibility, preserving the c-command requirement on Agree, may be based on the claim put forward by Giorgi and Pianesi (2001) (among the others), that the temporal coordinates of the attitude event are represented within the embedded clause \( \rightarrow \) in I, according to them. Building the sentence bottom-up, the temporal coordinates of the attitude predicate may be first introduced within the embedded clause. The embedded I would then be interpretable and valued. Matrix V may be then introduced, having uninterpretable, unvalued tense features. The tense features of matrix V may then probe their domain, find a goal in embedded I and get valued through Agree with embedded I. Matrix I, having interpretable unvalued tense features, may finally be introduced, getting valued by Agree with matrix V.

I will leave for further research the question which of the two solutions is more appropriate and I will turn back to the original question concerning SOT.

6. **SOT paradigms**

The mechanism illustrated here allows establishing the values of the embedded I/V. At the end of section 4 it has been claimed that the present subjunctive morphology is unambiguous, whereas the imperfect subjunctive morphology is ambiguous. Present
subjunctive morphology requires a temporal anchor to a present attitude (which I dub ‘[+A[pres]]’); imperfect subjunctive morphology either requires anchoring the embedded event to a past attitude (‘[+A[past]]’). When a ‘focalization’ time occurs, which does not overlap with the attitude eventuality, giving rise to ‘shifted’ readings, the imperfect morphology does not specify whether the anchor should be present or past (‘[+A[∅]]’). Hence, if the matrix verb is present, through Agree the embedded verb gets present value (‘strict’ SOT) or imperfect value (‘shifted’ reading).

(44) a. \[ [I_P \ldots I_{[pres]}] [VP \ldots V_{[CP]} C [I_P \ldots I_{[+A[pres]]}] [VP \ldots V]]] \]
\[ \text{Agree} \quad \text{Selection} \quad \text{Agree} \quad \text{Agree} \]
\[ \text{Binding}/\text{Agree} \]

b. \[ [I_P \ldots I_{[pres]}] [VP \ldots V_{[CP]} C [I_P \ldots I_{[+A[∅]]}] [VP \ldots V]]] \]
\[ \text{Agree} \quad \text{Selection} \quad \text{Agree} \quad \text{Agree} \]
\[ \text{Binding}/\text{Agree} \]

If the matrix verb is past, such as imperfect tense is, through Agree the embedded verb gets past (imperfect) value as a ‘strict’ SOT effect or as a ‘shifted’ reading effect:

(45) a. \[ [I_P \ldots I_{[past]}] [VP \ldots V_{[CP]} C [I_P \ldots I_{[+A[past]]}] [VP \ldots V]]] \]
\[ \text{Agree} \quad \text{Selection} \quad \text{Agree} \quad \text{Agree} \]
\[ \text{Binding}/\text{Agree} \]

b. \[ [I_P \ldots I_{[past]}] [VP \ldots V_{[CP]} C [I_P \ldots I_{[+A[∅]]}] [VP \ldots V]]] \]
\[ \text{Agree} \quad \text{Selection} \quad \text{Agree} \quad \text{Agree} \]
\[ \text{Binding}/\text{Agree} \]

---

20. Actually, the notation ‘[+A[-past]]’ would be probably more appropriate, since future matrixes have the same SOT rules as a present matrix, as examples (33)-(34) show. In any case, for simplicity I will keep the label ‘[+A[pres]]’.
Given present subjunctive morphology unambiguity, a present subjunctive verb cannot be embedded under a past tense attitude predicate, since no feature matching, that is, Agree, could take place.

\[(46) \quad * \quad [\text{IP} \ldots I_{[\text{past}]} [\text{VP} \ldots V [\text{CP} \ldots C [\text{IP} \ldots I_{[\%A{[\text{pres}]}} [\text{VP} \ldots V \ldots ]]]]]
\]

\[
\begin{array}{ccc}
\text{Agree} & \text{Selection} & \text{Agree} \\
\text{Binding/Agree} & & \text{Agree}
\end{array}
\]

Notice that the properties of the subjunctive tenses are lexically determined and may vary cross-linguistically. In French subjunctive morphology appears to be underspecified \((+{A}[\emptyset])\), explaining examples (28):

\[(47)\]

\[a. \quad [\text{IP} \ldots I_{[\text{pres}]} [\text{VP} \ldots V [\text{CP} \ldots C [\text{IP} \ldots I_{[\%A{[\emptyset}]} [\text{VP} \ldots V \ldots ]]]]] \quad (=28)a\]

\[
\begin{array}{ccc}
\text{Agree} & \text{Selection} & \text{Agree} \\
\text{Binding/Agree} & & \text{Agree}
\end{array}
\]

\[b. \quad [\text{IP} \ldots I_{[\text{past}]} [\text{VP} \ldots V [\text{CP} \ldots C [\text{IP} \ldots I_{[\%A{[\emptyset}]} [\text{VP} \ldots V \ldots ]]]]] \quad (=28)b\]

\[
\begin{array}{ccc}
\text{Agree} & \text{Selection} & \text{Agree} \\
\text{Binding/Agree} & & \text{Agree}
\end{array}
\]

The SOT rules proposed here may be finally extended to the complete paradigm of tense agreement between the matrix verb and each of the subjunctive tenses. In Italian there are four tenses having subjunctive mood: beyond the present and the imperfect, there are the present perfect (‘passato’) and the pluperfect (‘trapassato’). The present perfect and the pluperfect are periphrastic perfective form, made up by an auxiliary carrying respectively present and imperfect subjunctive morphology and by the past participle. Paralleling the paradigm already seen, the morphology of the auxiliary establishes which are the appropriate contexts for a present perfect or a pluperfect to occur. A present perfect may appear in a clause selected for by a present matrix:
(48) a. Il testimone crede che l’imputato abbia confessato.
   The witness thinks that the accused has.SUBJ confessed
   ‘The witness thinks that the accused has confessed’

b. *Il testimone credeva che l’imputato abbia confessato.
   The witness thinks that the accused has.SUBJ confessed

A pluperfect may appear in a clause selected for either by a present matrix or by a past matrix – as a strict SOT effect\(^1\), or giving rise to a ‘shifted’ reading:

(49) a. Il testimone crede che ieri alle 5 l’imputato avesse già confessato.
   The witness thinks that yesterday at 5 the accused had.SUBJ already confessed
   ‘The witness thinks that yesterday at 5 the accused had already confessed’

b. Il testimone credeva che l’imputato avesse confessato.
   The witness thought that the accused had.SUBJ confessed
   ‘The witness thought that the accused had confessed’

c. Il testimone credeva che il giorno prima alle 5 l’imputato avesse già confessato.
   The witness thought that the day before at 5 the accused had.SUBJ already confessed
   ‘The witness thought that the day before at 5 the accused had already confessed’

This is the complete paradigm involving SOT and subjunctive tenses:

(50) \textit{SOT}

<table>
<thead>
<tr>
<th>Indicative tenses</th>
<th>Subjunctive tenses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Present</td>
</tr>
<tr>
<td>Present</td>
<td>✓</td>
</tr>
<tr>
<td>Imperfect</td>
<td>*</td>
</tr>
</tbody>
</table>

To account for this paradigm, it would be sufficient to include the aspeccual properties within the mechanism of SOT proposed above, with no need for further assumptions concerning subjunctive morphology. What is needed are rather standard assumptions on periphrastic verbal forms. Tense projections are generally taken to dominate aspect

\(^{21}\) In the present discussion I will abstract away from the presence of the adverb \textit{già} ‘already’.
projections\textsuperscript{22}. The SOT mechanism may be taken to involve the T projections, since subjunctive is temporally anaphoric. If the subjunctive form is not periphrastic, V has both tense and aspectual features valued, Asp having interpretable aspectual features, and T interpretable anaphoric tense features. Agree obtains between Asp and V and between T and V. EPP features of Asp and T finally attract V.

\[\text{(51)} \quad \ldots [\text{TP} \ldots T_{\text{\[A\]}} [\text{VP} \ldots V [\text{CP} \ldots \text{TP} \ldots T_{\text{\[A\]}} [\text{Asp} \text{ Asp} [\text{VP} \ldots V \ldots \text{]]}]]])\]

As shown above, if the matrix verb is present, embedded T may be [+A[pres]] (present subjunctive morphology) or [+A[\emptyset]] (imperfect subjunctive morphology). If it is past, embedded T may be [+A[past]] or [+A[\emptyset]], both corresponding to imperfect subjunctive morphology. [+A[pres]] – that is, present subjunctive morphology – is instead unavailable. If the subjunctive form is periphrastic, the auxiliary has valued tense features\textsuperscript{23}, the participle valued aspectual (perfective or terminative\textsuperscript{24}) features. Since SOT involves embedded T, when the subjunctive form is periphrastic, the tense morphology of the embedded subjunctive auxiliary enters SOT – binding and Agree – relations with the matrix verb.

\[\text{(52)} \quad \ldots [\text{TP} \ldots T_{\text{\[A\]}} [\text{VP} \ldots V [\text{CP} \ldots \text{TP} \ldots T_{\text{\[A\]}} [\text{Asp} \text{ Asp} [\text{VP} \ldots V \ldots \text{]]}]]]])\]

\textsuperscript{22} Among the others, see Belletti (1990), Giorgi and Pianesi (1997), Cinque (1999).

\textsuperscript{23} Following Cinque (1999), auxiliaries are merged directly in a functional projection – here labelled ‘T’ for simplicity.

\textsuperscript{24} See Giorgi and Pianesi (2004). According to Cinque’s hierarchy, the relevant functional head may even be ‘T(Anterior)’, as suggested by the obligatory presence of the adverb \textit{già} ‘already’. T(Anterior) is a distinct, lower tense functional head than those anchoring an eventuality to the speech time.
Subjunctive and SOT

If the matrix verb is present, embedded T may be [+A[_pres]] or [+A[∅]], corresponding to a present perfect subjunctive or to a pluperfect subjunctive. In the latter case a time adverbial is independently required to provide a time anchor to the embedded eventuality. If the matrix is past, embedded T may be [+A[past]] or [+A[∅]], both corresponding to a pluperfect subjunctive. [+A[pres]] is again unavailable in this syntactic context, which explains why example (48)b is ungrammatical. An analogous reasoning may explain the French data in (29), provided that subjunctive morphology in French is underspecified:

(53) a. ... [TP T[pres] [VP V [CP C [TP ... T[+A[∅]] [AspP Asp [VP ... V ... ]]]]]]
   Agree Selection Agree
   Binding/Agree
   (=29)a

b. ... [TP T[past] [VP ... V [CP C ... [TP T[+A[∅]] [AspP Asp [VP ... V ... ]]]]]]
   Agree Selection Agree
   Binding/Agree
   (=29)b

7. Conclusions

Starting from a puzzle raised by some apparent violations of the SOT paradigm in Italian, in this article the question has been discussed whether tense agreement is the morphological marking of tense anaphors – a claim apparently challenged by some violations to SOT. The available evidence and the formal device here developed to explain the facts concerning the instantiation of subjunctive tenses does not seem to falsify this claim. It has been shown that the puzzle concerning SOT – the occurrence of an imperfect subjunctive in a clause selected by a present matrix and the unavailability of a present subjunctive under an imperfect matrix – may be explained hypothesizing that present subjunctive morphology obligatorily requires a present (or more generally a non-past) tense anchor, while imperfect subjunctive morphology does not impose any restriction on the ‘antecedent’ apparently. It has been hypothesized that this property of the imperfect subjunctive morphology is due to its lexical and semantic ambiguity. Whether this ambiguity may be solved into a unique semantics for the imperfect subjunctive (as it has been done in the past fifteen years with respect to the imperfect indicative) is a major topic for further research.
The precise mechanism of Agree between the matrix and the embedded tense may be an important topic for further research as well. Two alternative hypotheses have been drawn. One of them, if not falsified, may have relevant theoretical consequences on the theory of Agree, since it states that Agree may occur even when a probe does not c-command its goal and defines the domain of Agree in terms of general phase interpretability/valuation conditions and of PIC.

References


Portner, Carmen, 1997


