

A Grammar of Italian Sequence of Tense

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1. Introduction

Sequence of Tense can be conceived of as the set of rules determining the appearance of a certain particular verbal form in a subordinate clause, depending on the form present in the superordinate one. Traditionally, languages have been divided into two groups: languages that have sequence of tense and languages that don't. For instance Latin and Italian are taken to belong to the former group, whereas Russian and Romanian to the latter. In this work, I will not follow this tradition and will assume that all languages have Sequence of Tense (henceforth SoT), because all languages seem to have rules determining the form and interpretation of an embedded verb, even if there might be significant differences between the two groups.

In this article I will discuss only Italian, but I will signal where the differences lie with respect to the languages belonging to the other group.

The properties of Italian verbal form have mostly been considered in isolation.¹ The discussion of Sequence of Tense in Italian has been addressed only recently –see Giorgi

¹. Among the works in a synchronic framework see Bertinetto (1986, 1997), Giorgi and Pianesi (1997), Delfitto and Bertinetto (2000) Bertinetto and Delfitto (2000), Ippolito (2004), Bianchi et Al. (1995), Zucchi (2001), Bonomi and Zucchi (2001). For an exhaustive list of references, see Binnick's web site, totally devoted to references on tense and aspect, updated 2006:
<http://www.uts.utoronto.ca/~binnick/TENSE/Bibliography.html>.

and Pianesi (2000, 2001a) and Giorgi (2010)– and almost exclusively with respect to complement clauses.²

This article is organized as follows: In section 2, I address the issues concerning indicative complement clauses. In section 3, I consider the distribution of embedded subjunctive. In section 4, I briefly outline a theoretical account for the observed phenomena, illustrating the main hypothesis of this article – namely, that the speaker’s temporal coordinate is represented in the left-most position in the C-layer and that its presence –or absence– is crucial in determining the distribution of embedded forms. In section 5, I take into account an apparent exception to the hypothesis, constituted by the temporal interpretation of complement clauses embedded under a main future verbal form. In section 6, I consider the temporal interpretation for both indicative and subjunctive verbal form in relative clauses and finally, in section 7, I draw some conclusions.

2. Indicative complement clauses

In Italian the verbal form of a complement clause can bear the indicative morphology, the subjunctive one –where both the indicative and the subjunctive are finite verbal forms, in that they show agreement with the subject, even if to a different extent– or can be expressed by means of an infinitive. In this work, I will not consider the infinitive option, but focus only on the finite ones. In particular, in this section I consider indicative forms under a past, whereas I will discuss the properties of clauses complement to a main future in section 5 below.³

The main clause can be past, present or future and the embedded one exhibits the same range of possibilities.

The most salient feature of SoT in indicative clauses is the existence of the Double Access Reading (henceforth, DAR), typically emerging when an (indicative) present tense is embedded under a past. Consider the following examples:

². With respect to the analysis of other languages, in particular English, see among the others, Zagana (1995), Schlenker (2003, 2005), Stowell (1996), Ogihara (1995, 1996), Higginbotham (1995, 2001).

³. For a discussion of indicative vs. subjunctive and infinitive embedded clauses, see Bianchi (2006).

- (1) Gianni ha detto che Maria è incinta
Gianni said that Maria is(PRES IND) pregnant

The main verb is a past verbal form and embedded one is a present indicative. The meaning of this sentence entails that the state of pregnancy attributed to Maria must hold at the time of the saying by Gianni, so that (1) is a faithful report of the following direct discourse by Gianni:

- (2) “Maria è incinta”
“Maria is pregnant”

Sentence (1) in Italian, however, also necessarily implies that at the time the speaker is uttering it, Maria is still pregnant. Hence, the following sentence is infelicitous:

- (3) #Due anni fa Gianni ha detto che Maria è incinta
Two years ago Gianni said that Maria is pregnant

Since we know about the timing of human pregnancy, we cannot conceive of Maria being pregnant at the time Gianni said it – two years ago – and *now* – i.e., at the time the speaker is speaking. This shows that the interpretation assigned to the embedded present tense is actually obligatory, to the extent of reducing the range of acceptable sentences. This phenomenon has been dubbed in the literature on the topic as *Double Access Reading*, because the embedded verbal form, in the language exhibiting this property, must access two different temporal points to be interpreted: the time of the event of the main clause – in this case the saying by Gianni – and the utterance time.

This is not a universal property. Some languages are like Italian –among the others, for instance, English, French, Spanish and Catalan– and some languages are not –for instance, Russian, Romanian, Chinese and Japanese.

Languages belonging to the latter group do not exhibit the second part of the interpretive rule described above. The embedded verbal form must only be interpreted with respect to the temporal location of the superordinate event. Consider for instance the following Romanian examples:⁴

⁴. I thank Iulia Zegrean, a PhD. student at Ca' Foscari, for the Romanian data.

- (4) Maria e insarcinata.
Maria is(PRES IND) pregnant
- (5) (Acum 2 ani) Gianni a spus ca Maria e insarcinata.
(Two years ago) Gianni said that Maria is(PRES IND) pregnant

The present tense is the form used in main sentences to express simultaneity with the utterance time. But in Romanian, the equivalent of sentence (1), i.e., (5), has the same meaning as sentence (6) in English, or (7) in Italian:

- (6) (Two years ago) John said Mary was pregnant
- (7) (Due anni fa) Gianni ha detto che Maria era(IMPF) incinta

In other words, in Romanian the embedded event does not have to be located with respect to the utterance time.⁵ The nature and the properties of the DAR have been variously considered in the literature on the topic. Here I will briefly summarize some of the most prominent positions.

2.1. The Double Access Reading

An important question with respect to the DAR concerns a typological observation. An *a priori* possible language type is missing in the inventory of the existing temporal interpretations of (1). In this sentence, as pointed out before, two different times can be considered as relevant to the interpretation of the embedded clause: The utterance time and the time of the event of the superordinate clause – i.e., the time of the saying. There

⁵. Note that the embedded event can be *persistent*, to the extent that the state *might*, but does not *have to*, still hold at utterance time. Consider for instance the following Romanian sentence:

- (i) Gianni a spus ca Maria e insarcinata.
Gianni said that Maria is(PRES IND) pregnant

Nothing prevents the state of pregnancy of Maria to hold *now*. Note however that this state of affair is different from the one described above for Italian, where this is an *obligatory* part of the interpretation, so that sentence (3) is infelicitous in Italian, and in English as well, but is fine in Romanian.

are languages that have to obligatorily consider both of them, as for instance English and Italian. There are languages for which only the time of the superordinate event is relevant, as for instance Romanian and Japanese.⁶

No language exists in which the only time to be considered for the interpretation of the embedded clause is the utterance time. In other words, in no language a clause embedded as a complement, has exactly the same interpretation it has in isolation. Namely, (1) cannot mean that Mary is pregnant *now* –which is meaning of the sentence “*Mary is pregnant*” used as a main clause– but that when John said it, she was not. In other words, the time of the embedded eventuality cannot be identified exclusively on the basis of the indexical reference and temporal anchoring to the main clause is obligatory. Why is this the case? The answer provided by Giorgi and Pianesi (2000, 2001a), following Higginbotham (1995), is that the anchoring to the main clause is obligatory because the superordinate attitude event is actually represented inside the embedded clause. Giorgi and Pianesi argue that from the syntactic point of view this proposal can be implemented by representing the subject’s –bearer of attitude’s– temporal coordinate in T.

It should be noticed that this restriction does not affect only DAR sentences, but seems to be a property of tenses in embedded contexts. Consider the following two sentences:

(8) John said that Mary was sleeping.

(9) Gianni ha detto che Maria dormiva (IMPF).

In both Italian and English, the sleeping time is perceived as being either past (backwards shifted reading), or simultaneous to the temporal location of the

⁶ Several questions arise in connection with this issue. The first one has to do with the precise meaning of sentences such as (1) in Italian-like languages. In particular, is the speaker asserting the embedded content? And if not, which are the conditions allowing the speaker to felicitously utter (1)? I will not enter in this discussion in this paper, and refer the reader to the relevant literature on the phenomenon. See, among the others, Ogihara (1996), Higginbotham (2001), Abush (1997), Schlenker (2003) and Giorgi and Pianesi (2001a).

superordinate subject.⁷ The Romanian or Russian counterpart of (8) or (9) only give a backward shifted reading. That is, we find again the situation found for sentence (1). In English and Italian both the utterance time and the time of the superordinate event must be taken into account, whereas only the latter matters for Romanian and Russian. Again, what is missing is a language in which the embedded past tense is interpreted as in a matrix clause – that is, as a mere indexical, allowing (8)-(9) to report about a dictum of John locating the sleeping in the subject's future, and in the speaker's past.

Before proceeding further, let me spend a few words on the *de-re* theory of the DAR. For this theory the DAR is just a property of the present tense; the past forms and the future are immune to the requirements posed by present tense forms.

Consider first Abusch' (1997) theory of *inherited temporal relations*. The present tense in her theory is licensed only if the local plus all the inherited temporal relations overlap. In a present-under-past context this is not the case. In her terminology, the present tense is a *de-re* form, hence the present tense is scoped out to an extensional position, leaving a trace. In other words: a present tense cannot be properly interpreted when appearing in the scope of a past verbal form. The scoped-out present tense is interpreted as one would expect –namely, as a present tense with respect to the utterance time. Moreover, under her theory it is required that the trace, which behaves as a free variable, have a reference that is not after the subject's time. She dubs this requirement *the upper limit constraint*. Hence, the internal time wither overlaps or precedes the time of the saying.

Schlenker (2003) theory of tenses is framed within a more general attempt towards a unified theory of all linguistic objects whose semantics counterpart is constituted by variables: pronouns, tenses, and mood. The starting point is that these objects are phenomenologically akin, so that one can speak of 'sequence of person', and 'sequence of mood', besides the more traditional 'sequence of tense'. Hence, one could also speak of Double Access Reading for mood, which complements the DAR for tenses. Another qualifying theme of Schlenker's work is the attempt of showing that the Kaplanian –see Kaplan (1989)– prohibition against (indexical) monsters is empirically and theoretically

⁷. Actually, as discussed at length in Giorgi and Pianesi (1997, 2000), the Italian example admits a backward shifted reading only when the contexts makes available a suitable temporal/eventive entity, as for instance in the following case:

(i) Gianni ha detto che *ieri alle 5* Maria dormiva

Gianni said that yesterday at five Maria was sleeping(IMPF)

unjustified. In Kaplan's terminology, monsters are operators that can shift indexical, that is, operators that, operating on the context, make it possible for an indexical (e.g., *I*, *now*, etc.) to draw its value from the coordinate of a context different from that of the actual speech (or thought) event. In particular, the absence of operators of this kind makes it impossible for an object such as *I* to refer to the agent of the reported speech act or thought. This appears correct, in view of examples such as the following:

(10) John thought that *I* was the culprit

There is no way for this sentence to mean that John thought 'I am the culprit', and this follows if the indexical *I* can only draw its reference from the agent of the actual speech act context, as it appears to be the case. Were monsters available, on the other hand, we should be able to attribute to John the first personal thought 'I am the culprit'. Schlenker argues that the fact that English *I* is an ordinary indexical –necessarily referring to the agent of the current speech act– does not prevent other languages from having objects that exhibit context-shift sensitivity. According to Schlenker's view, there might even be objects that are acceptable only if the relevant context is different from that of the actual speech act. Schlenker suggests that Amharic first person pronoun is such a case, in that it can be shifted in propositional attitude contexts to refer to the agent of the reported thought/speech act. Once these premises are accepted, verbs of propositional attitude can be construed as quantifiers over context, that is, as Kaplanian monsters.

As for the DAR, Schlenker maintains that the English present tense is an ordinary indexical. Hence the only way is to scope it out, as in Abusch, and resort to *de-re*.

These approaches might be taken to have two important shortcomings. The first one is that the present tense must be regarded as a *special* verbal form with respect to the other ones, in that it exhibits the DAR and is *de-re*, whereas the other tenses can be interpreted *in situ*. For instance according to Abusch (1997) in sentence (8) above the embedded past features can be deleted, so that the verbal form is interpreted as simultaneous to the superordinate event.

I'll discuss below with further details the issue concerning the interpretation of the other verbal forms. Let me point out here, however, that the claim according to which the other tenses such as past forms, can be interpreted *in situ*, in English is only true of statives and progressives, and in Italian of imperfect verbal forms. Consider for instance the following examples:⁸

⁸. On the imperfect, see Giorgi and Pianesi (2004b), Ippolito (2004), Delfitto and Bertinetto (2000).

(11) John said that Mary was sleeping.

(12) Gianni ha detto che Maria dormiva(IMPF).

Example (11) features a progressive verbal form. A non-progressive form could not be interpreted in the same way, forcing an interpretation where the embedded event precedes the main one:

(13) John said that Mary slept.

In other words, in this case the past features could not be *deleted*, as Abush proposes for past-under-past sentences. Furthermore, in example (12) the form *dormiva* (was sleeping) is an imperfect of the indicative –namely, a past form with a very peculiar status and distribution. Other past forms would not have the same interpretation:⁹

(14) Gianni ha detto che Maria ha dormito/ dormì
Gianni said that Maria slept(PAST)

Analogously to the English case, example (14) can only mean that the sleeping precedes the saying.

Giorgi and Pianesi' (2000, 2001a) propose that the DAR observed with the present tense is just one aspect of a much more complex phenomenon concerning the syntax and interpretation of indicative complement clauses. They claim that the present tense does not differ with respect to the other verbal forms, and that the properties of the DAR interpretation must be generalized to the whole indicative domain. This perspective has

⁹. In what follows I will consider the Italian present perfect as equivalent to the English simple past. In Italian there is however a simple past – in this case *dormì* (left). The distribution of the present perfect and the simple past in Italian is very different from the English one. In English they are really two different *tenses*, exhibiting different properties and obeying different constraints. In Italian, in many contexts, they seem to be largely equivalent forms –even if this is undoubtedly an oversimplification– and their distribution varies according to the dialectal and regional linguistic background of the speakers. Even if the two forms are not perfectly equivalent –see Giorgi & Pianesi (1997, ch. 3 and references cited there)– here I will abstract away from the differences, given that they do not seem to be relevant to the end of this discussion. In general, I will consider the Italian present perfect as corresponding to the English simple past, and will gloss it as (PAST).

been further elaborated by Giorgi (2008) and constitutes the basis of the analysis I'm going to present here.

The second shortcoming of the *de-re* approach is that there is no hint as to why languages differ. The only possibility for distinguishing Italian and English from Romanian and Russian would be to say that the present tense is *different*. This however sounds quite arbitrary and unjustified: Why should people categorize present tense differently? In the discussion provided here, I will not address the cross-linguistic issue, but will only consider the properties of Italian and I'll refer the reader to the references for further discussion.

2.2. Sequence of Tense (SoT) phenomena in Italian

In this section I present the main data concerning the distribution of the various verbal forms under a past tense and I will illustrate a possible theoretical account in the spirit of Giorgi and Pianesi (2000, 2001a) and Giorgi (2010). Consider the following sentences:

- (15) Gianni ha detto che Maria è partita
John said that Mary left
- (16) Gianni ha detto che Maria partirà
John said that Mary will leave
- (17) Gianni ha detto che Maria sarebbe partita
John said that Mary would leave

In sentence (15) the embedded past is interpreted as locating the eventuality of leaving before the saying. In (16) the embedded future locates the leaving after the utterance time, whereas in (17) the future-in-the-past locates it after the saying, but not necessarily after the utterance time.

The question to be considered at this point is whether the temporal location of the embedded event in (15)-(17) is ruled by the same principles ruling its location in sentences (1) and (2). The answer depends on the theory one develops for the DAR. If one wants to attribute the peculiar effect found in (1)-(2) to the properties of the present

tense as such, then the principles of SoT ruling (15)-(17), where other temporal forms appear, must be different ones.

According to this point of view, it could be claimed that the present tense obeys some specific principles yielding the DAR effects. The past tense, on its turn, obeys a general anchoring principle, to the effect that the anchoring point of the embedded past is not the utterance time –as in *Maria è partita* (Maria left) taken as a main clause– but the time of the main eventuality –i.e., of the saying. As for the embedded future, in the literature, mainly developed in Germanic-speaking areas, it is often regarded as a *modal* form, having a futurity interpretation, and therefore ruled by still different principles with respect to the ones ruling normal tenses. Such a view on the future cannot however be trivially generalized to (most) Romance languages, which, on the contrary, do have a morphological future. Therefore, some *ad hoc* hypothesis must be proposed to the effect that the morphological future of Italian can be considered equivalent to a modal form such as the one found in English –and in all Germanic languages.

The other possibility –the one discussed in Giorgi (2010) and which I adopt here– would be to argue that the effects found with the present tense in (1)-(2) are not due to some principles of grammar at work only with the verbal form. On the contrary, the principles of SoT are the same for all the verbal forms appearing in the complement clauses. The interaction between the morphosyntactic properties of the verb and the rules of grammar determines the temporal location of the embedded event, giving rise to the whole paradigm in (1)-(17). Such a hypothesis seems more appealing than the one proposing a different principle for each tense. Therefore, I pursue this line of reasoning and propose the *Generalized DAR theory*, as proposed in Giorgi and Pianesi (2002, 2001a) to emphasize the fact that no *ad hoc* principle is proposed for a specific verbal form.

The starting consideration is that the interpretation of the sentence in (1) –*Gianni said that Maria is pregnant*– in all DAR languages, as I discussed above, entails a double evaluation of the embedded event. It has to be located once with respect to the temporal location of the subject of the main clause –*Gianni*– and once with respect to the temporal location of the speaker –i.e. the utterance event. In both cases it counts as a *present*, yielding therefore a simultaneous interpretation with respect to both events.

The obvious move at this point would be to check whether this generalization can be maintained also with an embedded past and an embedded future. In other words: what interpretation would one obtain considering an embedded past as such both with respect to the main event of saying and with respect to the utterance event? And, analogously,

what interpretation would one obtain if an embedded future is considered as such with respect to both events?

Let me consider the past forms first. As I illustrated above, one would get a different grammatical status, both with respect to Italian and w.r.t. English, depending on the specific past form used. Here I reproduce the relevant examples:

(18) Gianni ha detto che Maria ha dormito
Gianni said that Maria slept(PAST)

(19) Gianni ha detto che Maria dormiva
Gianni said that Maria was sleeping(IMPF)

As pointed out above, in example (18) the embedded event expressed by means of *ha dormito*, is interpreted as a past w.r.t. the saying *and* as a past w.r.t. the utterance time. The embedded imperfect, instead, is interpreted as simultaneous to the saying event. Note however, that the imperfect, is not a straightforward past form, in that it can have several non-past interpretation, which are unavailable with the other forms of past. For instance it can be used as a *preludique* form: ¹⁰

(20) Facciamo che io ero il re e tu eri la regina
Let's do that I *was*(IMPF) the king and you *were*(IMPF) the queen

The embedded verbs in (20) do not convey a past meaning, but favor a *planning* interpretation. The eventuality they are referring to, lies in the future, as a planned event, and not in the past.

A non-imperfect past form is not available in this context:

(21) *Facciamo che io sono stato il re e tu sei stata la regina
Let's do that I *was*(PAST) the king and you *were*(PAST) the queen

Furthermore, the imperfect can be used in future conditionals:¹¹

¹⁰. Cf. Vet, (1985). For further discussion on non-temporal usages of the imperfect, see Bertinetto (1986), Giorgi and Pianesi (1997, 2001b), Ippolito (2004).

¹¹. For an analysis of the imperfect in *if*-clauses, cf. Ippolito (2004).

- (22) Se partivi domani, forse trovavi bel tempo
 If you *leave* (IMPF) tomorrow, maybe you *find*(IMPF) good weather
 ‘If you had left tomorrow, maybe you had found good weather’

Again a non-imperfect form would not be available in this case:

- (23) *Se sei partito domani, forse hai trovato bel tempo
 If you left tomorrow, maybe you found good weather

Going back to sentence (19), it seems possible to conclude for the time being that the imperfect is not a *real* past form –exhibiting a wide range of possible temporal interpretations, most notably future ones– whereas the past is. Under this perspective, therefore, the behavior of an embedded past is exactly analogous to that of the embedded present I illustrated above: an embedded past is interpreted as past both with respect to the superordinate event and w.r.t. the utterance time.

Consider now an embedded future. I repeat here the examples in (16)- (17) given above:

- (24) Gianni ha detto che Maria partirà
 John said that Mary will leave
- (25) Gianni ha detto che Maria sarebbe partita
 John said that Mary would leave

The form *partirà* (will leave) in Italian is a real morphological future. Etymologically, it is derived from the Latin infinitive form of the verb plus the infinitive of the auxiliary *have*. For instance, the future verbal form *amerò* (I will love) is derived by incorporating Latin auxiliary *habeo* (I have) in the infinitive *amare* (to love). This way of deriving the future –namely, by incorporating an auxiliary into the verb– is the usual way of deriving verbal forms in Latin and later in Romance languages. Hence, it seems legitimate to hypothesize that this form is on a par with the past and is not ‘a present tense in disguise’.

Analogously to what I proposed above for the present and the past, the embedded event in (24) must be located in the future both with respect the main event of saying and w.r.t. the utterance event. This is not the case for the *would-future* in (25), which locates the event after the superordinate event, but not necessarily after the utterance event.

Analogously to the imperfect, the verbal form used in the future-in-the-past –the perfect conditional– does not have a unique temporal value, being used in modal contexts, most typically in *if*-clauses:

- (26) *Maria sarebbe partita puntuale, se si fosse svegliata in tempo*
 Maria would have left punctually, if she had waken up on time

Note also that it is not possible to use a future with the meaning of a future-in-the-past. In other words, in (24) there is no way in which the embedded leaving event can be interpreted as future with respect to the saying, but as past with respect to the speaker's temporal location.

Hence, from this brief analysis it is possible to conclude that the following generalization holds:

- (27) Present, past and future indicative verbal forms in embedded contexts are temporally located twice: once with respect to the superordinate event and once with respect to the utterance time.

The generalization in (27) however, is exactly what was identified above as the Double Access Reading. Hence, it can be concluded that in Italian embedded indicative forms obligatorily have the DAR – with a special *proviso* for the imperfect, traditionally classified as an indicative verbal form.

2.3. A proposal

As I briefly discussed in section 2.1, following Higginbotham (1995) and Giorgi and Pianesi (2000, 2001a), I assume that the subject's –bearer of attitude's– temporal coordinate is represented in the T projection of the embedded clause. The existence of such a relation has the effect, on the interpretive side, of temporally locating the embedded event with respect to the superordinate one.

Furthermore, following Giorgi (2010), I propose that the DAR arises as the interpretive counterpart of the syntactic properties of the Complementizer-layer. The highest position in the C-layer is endowed with speaker-related features. In indicative clauses the embedded verb must necessarily relate to this position, much in the spirit of Pesetsky and Torrego (2004, 2006). As a consequence, an embedded event ends up

being evaluated with respect to the speaker's temporal location. These two syntactic relations therefore, are responsible for the DAR phenomena.

In the next section I'll develop this idea, by comparing the properties of embedded clauses with a subjunctive verbal forms with the indicative clauses I just illustrated. The differences between the interpretive properties of indicative and subjunctive clauses – roughly speaking, DAR vs. non-DAR interpretation– will be shown to correlate with syntactic differences in the C-layer, providing therefore an argument in favor of the proposal. In particular, I will propose that when there is no DAR interpretation, the highest position in the C-layer is not realized.

3. Subjunctive complement clauses

3.1. Sequence of Tense with the subjunctive

In Italian –and in other Romance languages as well– some verbs select in the subordinate clause a special verbal form, called *subjunctive*. The subjunctive cannot appear as the verbal form of a main assertion. If used in non-subordinate clauses, it always conveys a *nodal* meaning. Consider for instance the following example:

(28) Che il diavolo ti porti!

That the devil take(SUBJ PRES) you!

In this case for instance, the sentence is an *optative* one and could never be interpreted as an assertion.

In complement contexts, the choice between an embedded indicative and an embedded subjunctive is not free, but is due to the properties of the superordinate verb. In Italian for instance typically the subjunctive appears in subordinate contexts, under verbs of believing/ thinking/ wishing etc.¹²

Consider the following examples:

¹². See Giorgi & Pianesi (1997, ch.4) for an analysis of the contexts admitting an embedded subjunctive in Italian and for a cross-linguistic analysis across Romance and Germanic. The issue however has been widely addressed in the literature. For a most recent analysis, see Quer (to appear) and papers published there.

- (29) Gianni crede che Maria mangi un panino
Gianni believes(PRES) that Maria eats(pres SUBJ) a sandwich
- (30) Gianni credeva che Maria mangiasse un panino
Gianni believed(PAST) that Maria ate(past SUBJ) a sandwich¹³

In (29) a present subjunctive is embedded under a main present tense –*crede* (believes). In (30) a past subjunctive is embedded under a past main verb –*credeva* (believed). Note that in (30) the relation between the main event and the embedded one is not a precedence relation, as in the cases with the (non-imperfect) indicative illustrated above, but of simultaneity, similarly to the cases with the imperfect I briefly illustrated above. Moreover, the clause embedded under a subjunctive is compatible with any possible location with respect to the utterance time, as shown by the following example:

- (31) Gianni credeva che Maria partisse ieri/ domani
Gianni believed that Maria left (past subj) yesterday/ tomorrow

In (31) the temporal adverbial appearing in the embedded clause might locate the event in the future –tomorrow– or in the past –yesterday– but the verbal form does not vary. It seems therefore that the past morpheme appearing with the subjunctive is a sort of “temporal agreement” morpheme. This hypothesis is supported also by the following examples:

- (32) *Gianni credeva che Maria mangi un panino
Gianni believed(PAST) that Maria eats(PRES SUBJ) a sandwich
- (33) ??Gianni crede che Maria mangiasse un panino
Gianni believes(PRES) that Maria ate(PAST SUBJ) a sandwich

¹³. I'll not discuss here why the main verbal form –glossed with a past in English– is an indicative imperfect and not a past such *ho creduto* (lit: I have believed); this is due to aspectual reasons that lie outside the scope of this work. In Italian, in general, the present perfect/simple past with stative predicates are infelicitous options. See Giorgi and Pianesi (1997, 2001a) for an analysis of the aspectual properties of these forms.

In these cases the embedded clause contains a subjunctive in the non-agreeing form – namely, a present under a main past tense, and a past under a main present tense, respectively. Both sentences are bad, with a special proviso for example (33). The marginal status of the embedded clause in (33) can be explained by the fact that this sentence can be, at least partially, rescued if inserted in the right context, for instance by inserting a temporal adverb:¹⁴

- (34) Il testimone crede che ieri alle 5 l'accusato mangiasse/stesse mangiando un panino
The witness believes that yesterday at five the accused ate(PAST SUBJ) a sandwich

In this case, the temporal agreement relation is not instantiated with the superordinate verb, but with the past temporal adverb. Sentence (33) could be rescued, in an analogous way, if a past temporal topic is provided by the contexts, i.e., present in the previous discourse.

Note that this distribution of temporal forms is precisely what goes under the name of Sequence of Tense in traditional grammars. This kind of temporal agreement in fact is the basic rule in the Latin language concerning the distribution of non-infinitival verbal forms in embedded clauses.

Italian however allows the expression of anteriority in embedded clauses, with the subjunctive as well. In order to express it, a compound form must be used:

- (35) Gianni crede che Maria abbia mangiato un panino
Gianni believes that Maria has(PRES SUBJ) eaten a sandwich
- (36) Gianni credeva che Maria avesse mangiato un panino
Gianni believed that Maria had(PAST SUBJ) eaten a sandwich

In these cases, the past interpretation of the embedded event with respect to the main one is obtained derivatively, thanks to the presence of the resultant state, expressed by means of the past participle. This is so because the state, 'resultant' from a necessarily *anterior* event, must hold at the time identified by the computation of the temporal

¹⁴. For a discussion see Giorgi (2008) and Costantini (2008).

relations. Consequently, in this case it must hold at the time of the superordinate event. Hence, the eating ends up being past with respect to the believing.

Finally, in Italian there is no subjunctive future. The future-in-the-past –namely, the same form used with the verbs of saying selecting the indicative– expresses a future relation with respect to the superordinate clause:

- (37) Gianni credeva che Maria sarebbe partita
Gianni believed that Maria would leave

Interestingly, in the case of a main present tense, the embedded form for expressing futurity is preferentially a present subjunctive to which a future-like interpretation can be assigned, in a way analogous to the future interpretation of the present of the indicative. This interpretation is often induced by a temporal adverb, as in the following case:

- (38) Gianni crede che Maria parta domani
Gianni believes Maria leaves(PRES SUBJ) tomorrow

Both in the case of the embedded imperfect and in the case of the subjunctive there is no DAR.

This would be trivially true in a perspective that considers the DAR a phenomenon relevant only for a present tense embedded under a past. Even in the perspective considered here, however, the absence of DAR effects is expected: the subjunctive is considered functionally equivalent to an inflected infinitival, with no temporal interpretation of its own, given that tense morphology is a mere agreement phenomenon.

3.1.1. The analysis of *ipotizzare* (to hypothesize)

I proposed above the generalization that in subjunctive contexts there is no DAR, and that it could not be otherwise given that tenses seem only to satisfy an agreement condition. The DAR can only arise if the main and the embedded event have different locations in time, even if they might at least partially, overlap. There are however some exceptions. Consider for instance the following example:

- (39) Gianni ha ipotizzato che Maria fosse incinta
Gianni hypothesized that Maria is (PRES SUBJ) pregnant

In sentence (39), a past subjunctive is embedded under a past indicative, as illustrated in the previous section. However, independence of this predicate the following sentence is also possible:

- (40) Gianni ha ipotizzato che Maria sia incinta
Gianni hypothesized that Maria was(PAST SUBJ) pregnant.

The observation relevant for the present discussion is that in (40) the temporal interpretation of the embedded verbal form is analogous to the one illustrated above for the indicative clauses, in that the DAR is enforced. The following example is therefore odd, for the same reasons I gave above for example (3):¹⁵

- (41) #Due anni fa, Gianni ha ipotizzato che Maria sia incinta
Two years ago, Gianni hypothesized that Maria is(PRES SUBJ) pregnant

Sentence (40) (obligatorily) means that Maria's pregnancy holds at the time of the hypothesizing and at the time of the utterance. This piece of evidence therefore parallels the phenomena discussed in section 2.1.1 above.

On the basis of this piece of evidence, it can be concluded that in most cases subjunctive verbal forms do not enter in the establishing of temporal relations. They seem to be transparent, being only an instantiation of temporal agreement with a superordinate verbal form. At a closer look, however, the subjunctive morphology turns out to be in some cases endowed with temporal content, undergoing the same SOT rules which govern the indicative.

¹⁵. Consider also that the following sentence:

- (i) *Gianni credeva che Maria sia incinta
Gianni believed that Maria is(PRES SUBJ) pregnant

Even if ungrammatical, is interpreted. Interestingly, it has the DAR interpretation. This fact shows that the DAR is a property of a general syntactic configuration, given that in this case it seems independent both from the nature of the superordinate predicate and from the nature of the embedded verb – in this case a subjunctive, typically *not* exhibiting the DAR.

The question at this point is for what reason the DAR is obligatory in this structure and why a present subjunctive under a past is allowed in the case of *ipotizzare* (hypothesize), in example (40), but not with *credere* (believe) in example (32).

This question can be immediately answered in a somewhat informal way. The verb *hypothesize* in Italian can be used in two different situations. The speaker can be talking about Gianni's *mental* processes –in which case, the sentence concerns a particular thought that appeared in Gianni's mind in a hypothetical form– or she can be describing Gianni's *behavior*. If so, the speaker is reporting a *communication* –i.e., a speech act– made by Gianni in a hypothetical way.¹⁶

In sentence (40) only the latter possibility is available, whereas in sentence (39) both are possible. The verbs of communication in Italian in general select the indicative and exhibit the DAR, whereas mental states (mostly) select the subjunctive. Hence, *ipotizzare* (hypothesize) has an intermediate status: It selects the subjunctive, like mental state predicates, but when endorsed with a communicative meaning it permits a non-agreeing subjunctive and requires the DAR.¹⁷

In what follows, I'll address the following question: how can the *ipotizzare* examples be explained? And, more generally, what triggers indicative/ subjunctive morphology and DAR/ non-DAR interpretation? The answers to these questions will prove to be relevant not only to achieve a better characterization of the subjunctive in itself, but also to clarify what exactly determines the indicative/ subjunctive distinction.

¹⁶. J. Higginbotham pointed out to me that the verb *guess* in English seems to exhibit the same double meaning.

¹⁷. The fact that a verb such as *credere* (believe) selects the subjunctive is not a universal property, given that in many languages –as French and Spanish, among the others– verbs of *believing* select the indicative as well. Portuguese, on the contrary, is like Italian. However, the distinction between verb referring to speech act and those referring to mental states is relevant in Italian. Giorgi and Pianesi (1997) hypothesized a semantic parameter to account for this fact: Some languages, as Italian, are sensitive to the speech act/ mental state distinction, whereas other ones might be sensitive to peculiar modal properties of the contexts. See also Quer (to appear).

3.2. Complementizer Deletion

In section 2.3 I sketched the proposal that the DAR reading arises because the verb must enter a relation with the highest position in the C-layer. This position is endowed with the speaker's temporal (and spatial) coordinates. In this section I'll provide arguments in favor of this hypothesis.

In standard Italian the complementizer introducing indicative clauses cannot be deleted, contrasting with the complementizer introducing a clause containing a subjunctive verbal form:¹⁸

(42) Gianni ha detto *(che) è partita
Gianni said that (she) left

(43) Gianni credeva (che) partisse
Gianni believed (that) (she) left

Before analyzing these cases, let me point out that the contrast in (42) and (43) immediately shows that there is a difference between Italian and English, as far as the omission of the complementizer is concerned. In English the generalization is that so-called bridge verbs admit *that* deletion, including therefore also verbs of *saying*. Therefore, the translation of a sentence without the complementizer such as (43) would be perfectly fine in English, whereas it is ungrammatical in (standard) Italian.

Consider now what happens with the *ipotizzare* (hypothesize) examples illustrated above. The distribution of CD is the following:

(44) Gianni ha ipotizzato (che) fosse incinta
Gianni hypothesized (that) (she) was(PAST SUBJ) pregnant

(45) Gianni ha ipotizzato *(che) sia incinta
Gianni hypothesized (that) she is(PRES SUBJ) pregnant

The main verb is a past form in both examples (44) and (45). In (44), where the embedded verbal form is a past subjunctive –i.e., where the subjunctive form appears

¹⁸. A special proviso holds in *Fiorentino*, where the deletion seems to be possible even in the indicative contexts appearing under *dire* (say), at least in certain cases. I leave the issue open for further research.

according to the rules of the Latin-like *consecutio*– CD is optional, as in the other subjunctive cases discussed above. In the other case, where the embedded verbal form is a present subjunctive –i.e., the sequence of tenses is anomalous with respect to the normal subjunctive distribution– CD is impossible. Recall that sentence (45) is the one where the DAR is enforced – so that the sentence means that the pregnancy of Maria holds both at the time of the hypothesis and at the utterance time.

One might wonder whether this can be due to the presence of a present tense vs. a past *per se*. The following sentence, however, is possible with CD, as expected, showing that the present subjunctive in itself does not block CD:

- (46) Gianni ipotizza (che) sia incinta
Gianni hypothesizes (that) she is (PRES SUBJ) pregnant

From these examples it is possible to draw a further generalization. There is a relation between the DAR and CD: the DAR is enforced only when CD is not available. In other words: no context allows both the DAR and CD.

Notice that the other direction of the generalization does not hold: CD can be unavailable, for reasons that have nothing to do with the DAR. There are contexts allowing neither DAR nor CD, as for instance the contexts selected by factive verbs:

- (47) Gianni rimpiange *(che) sia partita
Gianni regrets *(that) she has (PRES SUBJ) left
- (48) Gianni rimpiangeva *(che) fosse partita
Gianni regretted *(that) she had (PAST SUBJ) left
- (49) *Gianni rimpiangeva *(che) sia partita
Gianni regretted (that) she has(PRES SUBJ) left
- (50) Gianni rimpiange *(che) fosse partita
Gianni regrets *(that) she had (PAST SUBJ) left

CD in this case is never allowed, even if the distribution of the subjunctive in the embedded clause is the canonical one: Past under past and present under present. The reason for the impossibility of CD –analyzed in Giorgi and Pianesi (2004a)– is not directly related to SoT properties, but to the characteristics specific of factive contexts. As shown in fact be the ungrammaticality of sentences (49) and (50), the temporal

interpretation is the one expected under normal conditions. In particular, note the DAR configuration given in (49) is unavailable; hence, the relation between DAR and CD is just one-way. In any case, as discussed below, this is sufficient for permitting the establishing of a correlation between the two.

At this point the following question must be addressed: What makes CD possible, or conversely what disallows the DAR? The superordinate predicate certainly has a role, because it is precisely the main verb, which selects an indicative –never admitting CD and always requiring the DAR– or a subjunctive –‘in many cases’ permitting CD and not requiring the DAR. Hence, one might propose that the DAR –and consequently absence of CD– is a property of verbs such as *dire*, or the speech act *ipotizzare*, whereas verbs like *credere* never permits it.

This hypothesis can be tested. Note that for some Italian speakers –even if not for the author of this article– *credere* (believe) can either select for a subjunctive or for an *imperfect* indicative verbal form, without changing its semantic interpretation. Only the subjunctive option however is compatible with CD. Consider for instance the following example:¹⁹

- (51) (*)Gianni credeva *(che) aveva telefonato Maria
 Gianni believed that had(IND IMP) called Maria
 ‘Gianni believes that Maria called’

even for the speakers who accept the imperfect, CD is impossible, on a par with the verbs of *saying* such as *dire* (say), as discussed above.

Given this piece of evidence, it follows that CD can neither be regarded exclusively as due to the main verb, nor to the subjunctive in itself, but must be investigated as a property stemming from the complex interaction between the two.

Giorgi and Pianesi (2004a) pointed out that in many languages, including some Italian dialects such as Salentinian, the complementizer introducing the indicative and the one introducing the subjunctive have different morphological forms.²⁰

¹⁹. Crucially the non-imperfect of the indicative is unacceptable for all speakers:

- (i) *Gianni credeva che Maria ha telefonato
 Gianni believed that Maria has(IND) called

²⁰. On complementizer deletion in Italian see also Scorretti (1994) and Poletto (2000, 2001). On Salentinian, see Calabrese (1984).

Moreover, in many languages, such as for instance Greek and Romanian, the particle introducing the subjunctive seems to share both the properties of a complementizer and the properties of a morphological specification of mood.

According to Giorgi and Pianesi (2004a) and Giorgi (2010), the particle introducing the subjunctive in Italian is, on one hand, part of the subjunctive morphology. On the other, it is selected by the main verb, hence it looks like a complementizer, even if it actually occupies a position lower than the ‘real’ indicative complementizer.²¹

In the following pages, I will keep to this hypothesis and develop a proposal to account for the distribution of embedded verbal forms in Italian.

4. The representation of the speaker’s coordinate in the C-layer

4.1. In indicative clauses

As illustrated in section 3.2, the indicative complementizer can never be deleted and always enforces the DAR. Therefore, it cannot be taken to be part of the morphology of the embedded verb –as I proposed elsewhere on the contrary for the subjunctive complementizer– but must be considered a lexical item endowed with its own properties. The obvious question is then the following: why is there a complementizer at all? What’s its function?

Note that the existence of complementizer deletion in many languages, even with verbs of saying, prevent us from proposing the trivial *functional* explanation –namely, that the role of the complementizer is that of signaling the beginning of an embedded clause. Many embedded clauses in fact are allowed to have no complementizer at all. Therefore, we must look elsewhere for an explanation.

Giorgi (2010) proposes that the function of the complementizer layer is to connect the clause to the context, hence it is the syntactic position where the syntax-contexts interface information is encoded.

Note that this consideration in a way is already implicit in Rizzi’s work (1997, 2001, 2002), given that in his articles he shows that the complementizer layer is the *locus*

²¹. By ‘selection’ I refer to the phenomenon according to which certain verbs require the indicative and other the subjunctive. The issue has been widely analyzed in the literature on the topic. I refer the reader to Quer (to appear) and references cited there and to Binnick’s bibliography (see fn.1).

where the Focus and Topic information is realized. Topic and Focus are exactly the sort of information one expects to find in a syntax-discourse interface.

Hence, the hypothesis of this article is that the speaker's temporal and spatial coordinates are always represented in the highest, leftmost, position in the Complementizer-layer. In the subjunctive clauses however, the speaker's coordinates might be present –as in the case of *ipotizzare* illustrated above– but in general they are not there. The distinction between the indicative and the subjunctive is exactly the one regarding the presence or absence of the speaker's coordinates.²²

The first important distinction among verbal forms is whether they express a *relational* tense, or not. Relational tenses are two-place predicates of the form *e R e'*, where R – relation– stands either for temporal *overlap* or for temporal *precedence*. In Giorgi (2010), it is argued that the present, the future and the past tenses of the indicative are relational verbal forms. The imperfect and the future-in-the-past are not, as well as the subjunctive. The relational forms must identify their temporal arguments, whereas the non-relational ones must be licensed by the morphosyntactic context. This difference is of primary importance in describing and accounting for the Italian verbal system and in the next pages I will illustrate some of the predictions following from such a bipartition. Let's go back to the indicative/subjunctive distinction: The indicative can be characterized as a relational tense, instantiating an overlapping or preceding relation between two events. Consider for instance a past-under-past indicative clause:²³

(52) Gianni ha detto che Maria ha telefonato
Gianni said(PAST) that Maria has(PAST IND) called

(53) [.....[v detto [C-speaker ... che ...[T-subject... T ... [... ha telefonato_{sp, sb} ...]]]]]

²². In this article I actually only consider the *temporal* speaker's coordinate, putting aside the *spatial* one. For the relevance of the spatial coordinate with respect to SoT phenomena, see however Ritter and Wiltchko (2008). See also the brief discussion in Giorgi (2008, ch.5).

²³. I put aside the questions arising with the indicative imperfect, as in the following sentence:

(i) Gianni ha detto che Maria dormiva
Gianni said that Maria slept(IMP IND)

This question has been considered in Giorgi and Pianesi (2004b). I'll not take it into account here, given that it is not crucial for the present analysis.

The embedded past verbal form, *called*, is a relational tense: $e R e'$. In this case, the relation in question is *precedence*. The event e is constituted by the calling event itself. The verbal form bears a pair of features: *sb* (subject) and *sp* (speaker). In Italian, the verb is (I-)merged with T and the feature *sb* is (E-)merged in T at the next step. The feature *sb* must agree with the feature *sb* of the bearer-of-attitude's –i.e., with the main subject's temporal coordinate. As I suggested above, in fact, the T-layer of indicative clauses contains the temporal (and spatial) coordinates of the attitude bearer in its left-most position. Hence, the second argument of the predicate R, e' , is identified with the superordinate *saying* event. The embedded event is therefore interpreted as past with respect to the temporal location of *Gianni*.²⁴

Then, the complementizer is (E-)merged and T-to-C movement takes place. In the framework developed by Chomsky (2002, 2005), we can say that T is copied in C, but pronounced in the lower position. The feature *sp* can be considered as a *pointer* to the context, interpreted at the interface as the speaker's temporal coordinate –i.e., the utterance time *now*. Its presence gives rise in this case to the past interpretation of the embedded event with respect to the temporal location of the speaker, i.e. past with respect to the utterance event.

Concluding, the embedded event ends up being doubly evaluated: once with respect to the subject's temporal coordinate, and once with respect to the speaker's coordinate. In this case the interpretive process gives as a final result the *calling* event as past with respect to the *saying*, and past with respect to the utterance.²⁵

Exactly the same reasoning can be applied in the case of an embedded present tense or of an embedded future. Consider for instance an embedded future:

- (54) Gianni ha detto che Maria telefonerà
Gianni said(PAST) that Maria will call (FUT IND)

- (55) [.....[v detto [C-sp ... che... [T-sb ... T ... [...telefonerà_{sp, sb} ...]]]]]

²⁴. On the reason why the notion *bearer-of-attitude* is more appropriate than the notion of superordinate *subject*, see Giorgi and Pianesi (2001) and Giorgi (2006, 2007). See also Costantini (2005).

²⁵. Which in sense is trivial. The purpose of the example however is to show how the system works to derive all the relevant cases.

The embedded future, *telefonerà* (will call), instantiates the relation $e' R e$, which is the reverse of the one attributed to the past form. The event e is calling event, bearing the features: *sp* and *sb*. The feature *sb* agrees with the feature *sb* of the bearer-of-attitude's – i.e., with the main subject's – temporal coordinate, with the consequence that the embedded event is interpreted as future with respect to the temporal location of *Gianni*. Then, T-to-C movement takes place, and T is copied in C. The feature *sp* in T gives rise to the future interpretation of the embedded event with respect to the temporal location of the speaker, i.e. future with respect to the utterance time.

4.2. In subjunctive clauses

The subjunctive, as discussed in the previous sections, is not a relational tense, in that it only instantiates a temporal agreement relation between the embedded and the superordinate form. The lexical item *che* introducing subjunctive clauses does not encode the speaker's coordinate. For this reason, it can be dispensed with, without losing crucial syntactic and semantic information. The temporal interpretation of the embedded event is therefore simultaneous with respect to the main one

As discussed above in section 3.2, however, even if *most* DAR contexts are realized by means of an indicative verbal form, *some* subjunctive embedded clauses do indeed exhibit the DAR, as the *ipotizzare* cases. The syntax of subjunctive clauses with DAR effects is indeed parallel to the one of embedded indicative clauses. More precisely, in these cases CD turns out to be impossible, as shown in (39), reproduced here for simplicity:

- (56) Gianni ha ipotizzato *(che) sia incinta
 Gianni hypothesized (that) she is(PRES SUBJ) pregnant

Hence, I propose that the syntax of the complementizer in this case is identical to that of an indicative clause. The differences between an indicative, for instance the one under a saying verb discussed above, and a subjunctive under *ipotizzare* lies in the fact that the subjunctive is still non-relational and can only be interpreted as simultaneous with the matrix predicate. Hence no past or future interpretation is possible – a derived past interpretation is available only with a compound form. The DAR arises from the necessity of evaluating the embedded event with respect to the speaker's coordinates, which are realized in the left-most position in the C-layer.

The hypothesis discussed by Giorgi and Pianesi (1997, 2004a), which I adopt here, is the following:

(57) [.....[_V hypothesized [_{C-sp} *che* [_{MOOD} *sia*_{pres} ...]]]]

The projection *MOOD* is the one instantiated by a subjunctive form. The complementizer *che*, projecting the left-most position in *C*, bears the feature *sp*, which points to the speaker's temporal coordinate. As a consequence, the embedded event must be interpreted with respect to it. Being tense-less it is interpreted as simultaneous, giving rise to the interpretation according to which the pregnancy overlaps with the time of the utterance. Given the necessity of tense agreement between the embedded verbal form –a subjunctive– and the main one, the embedded pregnancy is interpreted as being simultaneous to the main event as well. As a consequence, in these cases the DAR arises.

For completeness, consider the case of an intervening past topic.

(58) Il testimone crede che ieri alle 5 l'imputato fosse/*sia a casa

The witness believes that yesterday at five the defendant was(PAST SUBJ)/
*is(PRES SUBJ) at home

In this example the main verb appears in the present tense, whereas the embedded one carries the past morphology. In this case a temporal topic is obligatory and can either be provided overtly, or by the context. It can then license the temporal morphology of the embedded verb in a way analogous to the cases seen above:

(59) [.....[_V crede [_{MOOD} *che* [_{TOP} *ieri alle 5* [_T ... *fosse*_{past} ...]]]]

Ieri alle 5 (yesterday at five) is interpreted as a past temporal reference –by virtue of the meaning of *ieri* (yesterday)– and therefore licenses the past feature on the verb. The temporal morphology of the subjunctive therefore is licensed by means of temporal agreement not with the main verb, but with the intervening temporal topic. The usual simultaneous interpretation is provided, so that the event is located *yesterday at five*. Therefore, the past-ness interpretation is a derivative one, being due to the presence of the temporal adverbial. Recall finally that the speaker's coordinate in this case is not represented in *C*, because *credere* (believe) is not a communication verb, i.e., no *C*-

speaker appears. Hence, according to the hypothesis illustrated above, it selects a non-DAR subjunctive.

4.3. The imperfect and the future-in-the-past

As I briefly suggested above in section 2.2, the imperfect and the future-in-the-past are not relational verbal forms. The interesting fact is that they both appear in indicative contexts, hence, in contexts where in Italian normally the DAR is found. Let me consider the imperfect first.

When embedded, the imperfect is simultaneous with the superordinate event:

- (60) Gianni mi ha detto che Maria mangiava un panino
Gianni told me that Maria was eating(IMPF) a sandwich

If a temporal topic is inserted, the imperfect event is then understood as simultaneous with it:

- (61) Gianni mi ha detto che ieri alle 5 Maria mangiava un panino
Gianni told me that yesterday at five Maria was eating(IMPF) a sandwich

In this case the event of eating might precede the saying and takes place exactly *yesterday at five*. Note however that if a temporal topic is not provided, either overtly in the sentence, or by the context, in Italian it is impossible to understand the eating as preceding the saying.²⁶

Consider also that CD is impossible with the imperfect, showing that this verbal form actually patterns with the indicative and not with the subjunctive:

- (62) Gianni mi ha detto *(che) mangiava un panino
Gianni told me (that) she was eating(IMPF) a sandwich
- (63) Gianni credeva (che) mangiasse un panino
Gianni believed (that) she was eating(PAST SUBJ) a sandwich

²⁶. In this the Italian imperfect differs from English, in that the past progressive *was eating*, even without any expressed temporal adverb, at least for some speakers, can refer to an event preceding the saying.

Even if it is introduced by the left-most Complementizer, endowed with the speaker's features, no DAR could ever arise, exactly because it is a non-relational verbal form, hence licensed under purely syntactic conditions. In Giorgi (2010) I propose to identify the imperfect as an *anti-speaker* verbal form –i.e., a form which cannot take its reference directly from the speaker's temporal coordinate. This hypothesis explains why in main contexts the imperfect is an *anaphoric* verbal form, always requiring a temporal topic:

- (64) #Gianni mangiava un panino
Gianni was eating(IMPF) a sandwich
- (65) Ieri alle 5 Gianni mangiava un panino
Yesterday at five, Gianni was eating (IMPF) a sandwich

The absence of the temporal topic is not compatible with an imperfect in an out-of-the-blue sentence –i.e., a sentence with no previous background. This property follows from the hypothesis I suggested above: in main clauses the event must be anchored to the utterance event, but this would imply making reference to the speaker's temporal coordinate. The intervention of the temporal topic rescues the sentence, permitting a mediation between the *anti-speaker* property of the imperfect and the anchoring requirements.

The future-in-the-past in Italian is realized as the perfect conditional –i.e., the auxiliary bearing conditional mood morphology, plus the past participle of the verb. It is available both in contexts selecting the indicative and in contexts selecting the subjunctive. Consider for instance the following cases:

- (66) Gianni ha detto che Maria avrebbe mangiato un panino
Gianni said that Maria would eat a sandwich
- (67) Gianni credeva che Maria avrebbe mangiato un panino
Gianni believed that Maria would eat a sandwich

Recall that *dire* (say) selects an indicative, whereas *credere* (believe) selects a subjunctive. Interestingly, CD is acceptable in subjunctive contexts, and much less in indicative ones:

(68) ?*Gianni ha detto avrebbe mangiato un panino

Gianni said would eat a sandwich

(69) Gianni credeva avrebbe mangiato un panino

Gianni believed would eat a sandwich

The fact that CD is compatible with the future-in-the-past is a further argument in favor of its being non-relational: the presence or absence of the speaker's temporal location does not affect it, provided that it is syntactically licensed, because it must not identify the arguments of its two-place predicate.²⁷

5. Dependencies from a main future

In this section I will briefly consider some evidence which has always been quite a puzzle for the study of SoT, namely, the dependencies from a future temporal form. The interpretation of the verbal forms in the clauses embedded under a future does not follow the pattern illustrated above. In these contexts in fact, the coordinate of the speaker seems not to be relevant for the interpretation, in that the clauses complement to a future verbal form do not exhibit the DAR.

Compare for instance the interpretation of a present tense when embedded under a past verbal form –as seen so far– and under a future one:

(70) Gianni ha detto che c'è poco zucchero nel caffè

Gianni said(PAST) that there is(PRES IND) too little sugar in the coffee

(71) Domani, quando gli porterai il caffè, Gianni dirà che c'è poco zucchero

Tomorrow, when you will take him the coffee, Gianni will say(FUT) that there is(PRES IND) too little sugar

The interpretation of (70) is a DAR one. In uttering the sentence the speaker means that there is a single eventuality –*to be not enough sugar in the coffee*– holding both when Gianni said it and *now*. Recall furthermore that the DAR is obligatory. The DAR

²⁷ I will not consider here how come that in Italian the future-in-the-past is expressed precisely by means of the perfect conditional, since it would lead us far away from the main topic of discussion. See Giorgi (2008).

interpretation is however by no means the most natural one for (71). For this sentence to be felicitous there is no need for the sugar to be *already* in the coffee, when the speaker utters the sentence. According to the most natural interpretation, on the contrary, the embedded state does not hold at utterance time, but only at the time of the saying. Consequently, there is no DAR, contrasting with (70). Consider now an embedded past verbal form:

- (72) (Domani, quando gli porterai il caffè,) Gianni dirà che ci hai messo poco zucchero
 (Tomorrow, when you will take him the coffee,) Gianni will say that you put(PRES PERF) in it too little sugar.

Again in this case as well, the most obvious interpretation is that the sugar is *not* in the coffee at the time of the utterance, but that it will be by the time the coffee will be given to Gianni. I.e., the embedded event is interpreted as a past only with respect to Gianni's saying, but not with respect to the utterance time. In this case as well, therefore, there is no DAR interpretation.

For completeness, consider also an example with an embedded future:

- (73) Gianni dirà che Maria telefonerà presto
 Gianni will say(FUT) that Maria will(FUT) call soon

In this case, the calling by Maria is located in the future with respect to Gianni's saying, hence, after the utterance event. Note that, as expected, it is not possible to locate the embedded event only with respect to the utterance time –i.e., in between the utterance event and the main event of saying, as if it were a future with respect to the speaker's temporal location.

Concluding, in the context created by a future –differently from those created by a past– the embedded eventuality has to be located only with respect to the main event and not with respect to the utterance event. In other words, apparently, in these cases there is no DAR.

Note that as far as Complementizer Deletion is concerned, the future-depending contexts pattern with indicative contexts and not with subjunctive ones:

- (74) Gianni credeva (che) tu fossi partito ieri
 Gianni believed (that) you had(SUBJ) left yesterday

(75) Gianni ha detto *(che) tu sei partito ieri
Gianni said (that) you left yesterday

(76) Gianni dirà *(che) sei partito ieri
Gianni will say that you left yesterday

The complementizer can be deleted in sentence (74), but not in (75) and (76). This fact makes the absence of the DAR still more puzzling, given that according to the present analysis the speaker's temporal coordinate is represented in C.

Here I will briefly summarize the solution proposed in Giorgi (2010). I argue that these contexts are actually DAR ones, even if this claim seems to be contradicted by the data I just presented. The temporal reading of the embedded eventuality does not look like a DAR one because the speaker has *relocated* herself in the position of the subject. Hence, the embedded eventuality is indeed evaluated twice –once with respect to the speaker's temporal coordinate and once with respect to the subject's temporal coordinates– but on both occurrences the temporal coordinate is the one of the subject's. In other words: the speaker in these cases takes over the subject's perspective on events and the utterance time is not relevant anymore.

The arguments in favor of this proposal come from the distribution of temporal locutions. Temporal locutions in these sentences exhibit in fact several anomalies, which can be easily explained under the hypothesis that the speaker's temporal coordinate is indeed represented in the embedded clause, and that its value has been shifted from the utterance time to the subject's temporal location.

I distinguish here three types of temporal locutions: the *referential* ones –i.e., the 24th of May, June 2006, etc– the *indexical* ones –yesterday, last week, tomorrow morning, etc– and the *anaphoric* ones –the day before, the day after, etc.²⁸

Normally, both referential and indexical temporal locutions are compatible with whatever embedded clause:

(77) Gianni ha detto che Maria partirà il 28 agosto
Gianni said that Maria will leave(FUT IND) on the 28th of August

(78) Gianni ha detto che Maria partirà domani
Gianni said that Maria will tomorrow

²⁸. For an analysis of temporal locutions, see Giorgi and Pianesi (2003), Schlenker (2003).

In other words, it is always possible to use either the *proper name* of the relevant time, or the corresponding indexical, for instance *yesterday* or *tomorrow*.

Consider now the following sentence with a main future:

- (79) Gianni dirà che Maria è partita
Gianni will say that Maria left

As pointed out above, the following reading is possible:

- (80) *now*____leaving____saying

Let's suppose that *now* is located at the 27th of August, the leaving is placed on the 28th and that Gianni will talk on the 29th, as in the following example:

- (81) (Oggi è il 27 agosto) il 29 Gianni dirà che Maria è partita il 28
(Today is the 27th of August) on the 29th Gianni will say that Maria left on the 28th

In this case, however it is not possible to substitute the referential expression with the corresponding indexical –namely *tomorrow*:

- (82) *Il 29 agosto Gianni dirà che Maria è partita domani
On the 29th of August Gianni will say that Maria left tomorrow²⁹

The day of the leaving is indeed *tomorrow* with respect to the utterance time. Furthermore, indexicals are taken to be *rigid*, hence they should not be sensitive to the specific context in which they appear. Therefore the ungrammaticality of (82) is unexpected and calls for an explanation.

Consider the 'normal' ungrammatical case:

²⁹. It is indeed possible to use indexical temporal locutions corresponding to the following interpretation:

- (i) Leaving____*now*____saying
(ii) Gianni ha detto che Maria è partita ieri
Gianni said that Maria left yesterday

- (83) **Maria è partita domani*
 Maria left tomorrow

This sentence is ungrammatical because *tomorrow* places its argument, in this case the leaving event, in the future of the speaker, whereas the past tense places it in her past. Hence, the two cannot coexist.

My proposal is that *tomorrow* cannot be used in example (82) exactly for the same reason. We know that in clauses embedded under a future the embedded event is located with respect to the subject's coordinate, that is, with respect to the main event. Hence, the leaving is past with respect to the saying. Let's also suppose that the context is indeed a DAR one. Therefore, the embedded event should undergo a second evaluation with respect to the speaker's coordinate. Note that the indexical adverb already placed the event in the future of the speaker, a perfectly plausible option considering the speaker's actual temporal location.

But what if the speaker's temporal location in the embedded clause is not provided by the utterance time, *now*, anymore, but is made to coincide with the subject's one? In that case we would obtain a situation analogous to (83): The past tense on the verb locates the event in the past with respect to the subject's temporal location –by my hypothesis the speaker's temporal location as well– whereas the indexical *tomorrow* places the leaving in the speaker's future. Therefore, it gives rise to ungrammaticality in example (82), exactly as in example (83).

In what follows I will show that the speaker's temporal coordinate is indeed presented in C, even if it is not distinguishable from the subject's. It gives rise in fact to DAR effects detectable with anaphoric temporal locutions.

Giorgi and Pianesi's (2003) observed that anaphoric temporal locutions cannot occur in DAR contexts, and formulated the following generalization:

- (84) Anaphoric temporal locutions cannot be used for locating events that are in a direct relation R with the utterance event

This generalization, among other things, captures the following contrast:

- (85) *Questa mattina Gianni ha detto che Maria è partita ieri / ?* il giorno prima*
 This morning Gianni said that Maria left(PAST) yesterday / the day before
- (86) *Questa mattina Gianni ha detto che Maria era partita ieri /il giorno prima*
 This morning Gianni said that Maria had left(IMPF) tomorrow/ the day before

A past such as *è partita* in Italian is a DAR verbal form, whereas the corresponding imperfect one in (86) is not. The anaphoric temporal locution *il giorno dopo* (the day after) is not compatible with the former, but only with the latter.

One might expect the anaphoric locution to be available, contrary to facts:

- (87) Gianni dirà che Maria è partita ieri/ ?*il giorno prima
Gianni will say that Maria left(PAST) yesterday/ the day before
- (88) Gianni dirà che Maria era partita ieri/ il giorno prima
Gianni will say that Maria left(IMPF) yesterday/ the day before

If the embedded verbal form is an imperfect, then the anaphoric locution becomes available. This contrast can be explained under the hypothesis proposed above, according to which the contexts depending from a future are DAR ones, even if the speaker's temporal location is not different from the subject's one. Hence, an anaphoric temporal locution, which can never be placed with respect to the speaker is not available here.³⁰

6. Relative clauses

6.1. The issue

In this section I'll consider the distribution of temporal forms in relative clauses. I will not give an explanation as for why an indicative or a subjunctive appear, and will focus only on the temporal interpretation obtained in these cases.³¹

The hypothesis developed so far is that indicative embedded contexts are introduced by the left-most complementizer in the C-layer. The presence of this complementizer forces the embedded eventuality to be interpreted with respect to the speaker's temporal coordinate. Recall also that in the case of complement clauses, the main verb 'selects' the embedded verbal form –i.e., the embedded verbal form is realized as an indicative or a subjunctive, according to the nature of the main verb.

³⁰. Giorgi (to appear) considers the shifting of the speaker's coordinate part of the *meaning* of the future, similarly to counterfactual contexts.

³¹. For the subjunctive or relative clauses, see among the others Quer (1998, to appear).

As I illustrated above, the presence of the high C-projection plus the obligatory relation between the main verb and the embedded one gives rise to the DAR. This has been shown to take place in the case of indicative complement clauses, and in some cases of subjunctive clauses.

What prediction can be made at this point with respect to relative clauses? Note that relative clause can appear both with an indicative and with a subjunctive verbal form.³²

- (89) Gianni vuole sposare una donna che ha più di 40 anni
 Gianni wants to marry a woman who is(IND PRES) older than 40
 ‘Gianni wants to marry a certain woman who is older than 40’
- (90) Gianni vuole sposare una donna che abbia più di 40 anni
 Gianni wants to marry a woman who is(SUBJ PRES) older than 40
 ‘Gianni wants to marry any woman who is older than 40’

The difference between the sentence with the indicative relative clause and the one with the subjunctive one is the following: in the first case Gianni wants to marry a *certain*, specific, woman, who has the property of being older than 40. In the second case, Gianni wants to marry one non-specific woman, *whatever woman*, having the property of being older than 40. The difference in meaning is obviously connected to the difference in the mood selection, as discussed in the literature on the topic. Here I will take for granted the selection issue and consider the temporal interpretation in particular.

Given the framework above, in indicative clauses the presence of the left-most complementizer in the C-layer forces the interpretation of the embedded eventuality with respect to the speaker’s temporal coordinate. Hence, the prediction is that this will be true also of indicative relative clauses. Conversely, the presence of the subject’s temporal coordinate is not required in subjunctive contexts – because they are not complements of attitude predicates – hence, no subject-related temporal interpretation is predicted to arise (obligatorily) in subjunctive clauses.

³². In Italian the complementizer cannot be deleted in either case, presumably because it bears the *wh*-features of the clause.

6.2. Sequence of Tense in indicative relative clauses

It is well-known that relative clauses differ from complement clauses as far as their temporal interpretation is concerned. In particular, relative clauses can undergo the so-called *independent reading*. Consider for instance the following example:

- (91) Gianni ha invitato la donna che ha comprato il vestito rosso
Gianni invited the woman who bought(PAST IND) the red dress

The embedded verbal form is a past of the indicative. Compare it with the following sentence:

- (92) Gianni ha detto che Maria ha dormito
Gianni said that Maria slept(PAST IND)

The embedded event in this example had to be interpreted as preceding the superordinate one. A reading under which the saying event precedes that sleeping event is impossible, even if the sleeping is itself located in the past:

- (93) ____ sleeping ____ saying ____ now
(94) * ____ saying ____ sleeping ____ now

As I discussed above in section 2, the reason of such ungrammaticality across languages. Even in non-DAR languages such as Russian and Romanian – stems from the fact that SoT is obligatory, in the sense that the embedded event *must* be temporally located with respect to the subject's coordinate of the superordinate event. Being a past, it must be located in the past with respect to the saying, hence the interpretation in (94) is impossible.³³

No such requirement is at work with respect to sentence (91). It could very well be the case, therefore, that an interpretation of the kind given in (95) arises. As a matter of fact, the following interpretations are both possible:

³³. That interpretation would be equivalent to a *pure indexical* reading of the embedded verbal form, which is *a priori* excluded as discussed in section 2.

(95) ____ buy ____ invite ____ *now*

(96) ____ invite ____ buy ____ *now*

In other words, the only certain temporal relation that can be inferred from (91) is that the buying event occurred in the past with respect to the utterance event, i.e., to *now*. There is no ordering provided by the sentence between the event in the main clause and that in the relative clause, that is between the *inviting* and the *buying*.

Summarizing, this interpretation is due to the fact that in a relative clause the temporal coordinates of the attitude bearer are not represented in the T projection. In other words, the contrast between example (91) and example (92) arises from the fact that a sentence complement of an attitude predicate includes the syntactic representation of the bearer of the attitude, as originally proposed by Higginbotham (1995) and further elaborated by Giorgi and Pianesi (2000, 2001a). Conversely, a relative clause does not include the representation of the subject's attitude in T, because the main predicate does not express an attitude of the subject toward the content of the relative clause.

On the other hand, however, the embedded verbal form is an indicative one and, as such, it is introduced by the indicative-like complementizer, endowed with the speaker's temporal coordinate. Therefore, the embedded event undergoes the same mechanism illustrated above and ends up being temporally located with respect to the utterance event. Furthermore, the prediction following from the proposal illustrated so far is that this must be obligatory. This prediction seems to be borne out. Consider the following example:

(97) Gianni ha invitato una donna che comprerà un vestito rosso
Gianni invited a woman who will buy a red dress

Contrast it with the following one:

(98) Gianni ha invitato una donna che avrebbe comprato un vestito rosso
Gianni invited a woman who would buy a red dress

In example (97) the embedded event must obligatorily follow the utterance time, contrasting in this with the example (98), where, on the contrary, the future-in-the-past must follow only the event in the main clause. Again, this is what is expected under the hypothesis proposed above.

The interpretation of a present tense proceeds along a similar pattern:

- (99) Gianni ha invitato la donna che mangia un gelato
 Gianni invited the woman who eats (PRES IND) an ice-cream
 ‘Gianni invited the woman who is eating an ice-cream’

In this case, similarly to what illustrated above, the present tense event is interpreted as simultaneous with the utterance event –i.e., it is located with respect to the speaker’s temporal coordinate. It cannot be interpreted as simultaneous with the temporal location of Gianni. To express this meaning the imperfect of the indicative must be used. Consider for instance the following example:

- (100) Gianni ha invitato la donna che mangiava un gelato
 Gianni invited the woman who was eating (IMPF) an ice-cream

In this case, the imperfect follows the same rules I discussed above in section 4.3. Being an anti-speaker verbal form, the interpretation in (100) follows trivially. The embedded event is simultaneous only with respect to the main one and it is not ordered with respect to the speaker’s temporal coordinate.

Note however that the judgement concerning the interpretation of the relative clause event in (101) is quite subtle. Consider the following example:

- (101) Gianni ha invitato la donna che mangiava un gelato un momento fa
 Gianni invited the woman who was eating (IMPF) an ice-cream a moment ago

In this case the imperfect event is not located relatively to Gianni’s temporal coordinate, but to the speaker’s. *Un momento fa* (a moment ago) in fact is indexically interpreted, in the sense that it is computed starting from the speaker’s temporal coordinate, and the eating event is located accordingly. This case must be considered on a par with the canonical imperfect clauses:

- (102) #Gianni mangiava un gelato
 Gianni was eating(IMPF) an ice-cream
- (103) Un momento fa, Gianni mangiava un gelato
 A moment ago Gianni was eating(IMPF) an ice-cream

As I discussed above, a main sentence with an imperfect verbal form obligatorily requires a temporal topic. According to the hypothesis I developed in section 4.3, this effect stems from the anti-speaker requirement of the imperfect. The imperfect can never be directly related to the speaker's temporal coordinate, and when this is unavoidable, as in a main clause such as (102), the relation must be mediated by a temporal adverb. Note that example (102) could be acceptable as is, provided that a temporal topic is *understood*, because given in the preceding discourse.

Hence, in example (101), where the temporal topic is overtly provided, the imperfect can be temporally located with respect to it, in a way analogous to sentence (103). In example (100) this could still be possible, if the discourse provides for such a temporal topic, paralleling in this case the status of sentence (102).

Consider finally the future-in-the-past. An event in a complement clause, endowed with future-in-the-past morphology, is not evaluated against the speaker's temporal coordinate, but only with respect to the subject's. However, if an indexical temporal adverb appears, then the future-in-the-past event can be located accordingly:

(104) Gianni ha detto che Maria sarebbe partita domani

Gianni said that Maria would leave tomorrow

In sentence (104) the leaving event is located by means of the indexical temporal adverb *tomorrow*. In a relative clause, however, the future-in-the-past is not compatible with future oriented indexical adverbs:

(105) Gianni ha invitato la donna che avrebbe comprato un vestito rosso *domani

Gianni invited the woman who would buy a red dress *tomorrow

The only possible temporal locutions in this case are the anaphoric ones:

(106) Gianni ha invitato la donna che avrebbe comprato un vestito rosso il giorno dopo

Gianni invited the woman who would buy a red dress the next day

I propose that this different distribution of temporal locutions with the future-in-the-past can be explained by means of the consideration that this verbal form, contrary to the imperfect, is not available in main assertions, independently of the temporal locution:

(107) *Gianni avrebbe telefonato (domani/ il giorno dopo)

*Gianni would call (tomorrow/ the next day)

The sentence in (107) is never acceptable, not even with an indexical or anaphoric temporal locution.³⁴

Given this piece of evidence, it is possible to say that the future-in-the-past necessarily qualifies as an embedded verbal form. As such, it must be interpreted with respect to the superordinate one. The grammaticality of example (104), however, shows that the interpreting of the future-in-the-past event with respect to the subject is compatible with locating it with respect to the speaker as well.

In relative clauses however, the future-in-the-past event can only be interpreted with respect to the main event, because interpreting it with respect to the speaker's temporal coordinate would be equivalent to interpreting it as in isolation, which is impossible.

Summarizing so far: a relative clause with a past, a present or a future indicative form must obligatorily locate the embedded event with respect to the speaker's temporal coordinate. In an imperfect relative clause it is possible to locate it with respect to the speaker, provided that a suitable temporal topic is given, much as in main assertions. With the future-in-the-past this is impossible, because this verbal form can never be evaluated in main clauses against the speaker's temporal coordinate, neither directly – like the past, present and future of the indicative– or indirectly –like the imperfect.

From these considerations it follows that the event in indicative relative clauses is interpreted independently –i.e., as if it were a main clause– when it is a past, present or future. When it is an imperfect it is either interpreted as a dependent verbal form – analogously to the subjunctive, as I will illustrate in a while– or as an independent one. The imperfect in fact admits of both possibilities. The future-in-the-past only has the former possibility and can never locate the event with respect to the speaker's coordinate, unless derivatively. The different behavior of these forms with respect to the (other) indicative ones is to trace back to their non-relational status. They do not have to locate an event with respect to another one –as happens when the verbal form is a two-place predicate, *e R e'*– but must only be licensed in the proper way. The imperfect can

³⁴. The only possibility would be for it to be part of an *if*-clause:

- (i) Gianni avrebbe telefonato, se avesse potuto
Gianni would (have) called, if he could.

be licensed by a non-speaker temporal reference, and the future-in-the-past only by a superordinate event.³⁵

6.3. Subjunctive relative clauses

Consider now subjunctive relative clauses. Independently of what determines the presence of a subjunctive vs. an indicative, it is possible to see that the distribution of the verbal form is as expected, given the discussion so far. Consider for instance the following examples:

(108) Gianni vuole vedere un film che lo diverta/ *divertisse

Gianni wants(PRES) to watch a movie which amuses(PRES SUBJ/ *PAST SUBJ) him

(109) Gianni voleva vedere un film che lo divertisse/ *diverta

Gianni wanted(PAST) to watch a movie which amused(PAST SUBJ/ *PRES SUBJ) him

If the verb of the main clause is a present tense, then the embedded subjunctive form is a present. Conversely, if it is a past, then the embedded verbal form is a past. As expected, the past subjunctive under a present tense, and the present subjunctive under a past tense are not acceptable. Again, this pattern is expected under the tense agreement hypothesis: the subjunctive does not express a temporal relation, but only a morphological relation.

7. Concluding remarks

In this article I discussed the properties of complement and relative clauses in Italian with respect to Sequence of Tense. I proposed a unified account, able to distinguish between DAR contexts and non-DAR ones. The DAR effect arises as a double evaluation of the time of the embedded event. In DAR clauses the embedded event ends up being evaluated once with respect to the subject's coordinates –and this is obligatory

³⁵. Here I will only address the issue descriptively and will not discuss here why the future-in-the-past has precisely this property. For further discussion, I refer the reader to Giorgi (2008, ch. 4).

for all complement clauses in every language— and once with respect to the speaker’s temporal coordinate. The speaker’s temporal coordinate is represented in the left-most position of the C-layer.

By means of this very simple machinery, it is possible to handle the complex syntactic and interpretive distinctions between indicative and subjective clauses –including the anomalous cases in dependence of a predicate such as *ipotizzare* (hypothesize)— and to account for the properties of the imperfect and the future-in-the-past. Moreover, I also accounted for a *prima facie* exception to this picture –i.e., the apparent lack of DAR effects in the clauses embedded under a future verbal form.

Finally, I also show that it is possible to describe and explain the various readings of embedded verbal forms in relative clauses, without the necessity of a *special proviso* for their so-called *independent* reading.

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