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REFLECTIONS ON THE *OPTIMAL SOLUTION*:

On the syntactic representation of indexicality

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1   Introduction

In his paper *Three Factors in Language Design* (2005), mostly devoted to the definition and the scope of the biolinguistic program, Chomsky points out that (p.4): "A core problem of the study of the faculty of language is to discover the mechanisms that limit outcomes to optimal types." According to the *Strong Minimalist Thesis* (Chomsky 2001, 2005), the Faculty of Language (FL) is *perfectly* designed. Language is an *optimal* solution to the interface conditions that it must satisfy.

One of the issues arising in this framework concerns the nature of language variation, a traditional domain of inquiry in linguistics. Language variation – whatever its origin might be, lexical, syntactical or phonological – is one of the most popular area of investigation by linguists from all backgrounds, generative ones included. In the minimalist perspective, however, it ends up being considered as a *residue*, as an *imperfection* of the optimal system, lying outside Narrow Syntax.

On the other hand, exactly under this very same perspective, one is also forced to assume that no particular language is, generally speaking, *more* optimal than any other, and that therefore each language expresses a different optimal way to satisfy the interface conditions: those imposed by the sensori-motor system SM and by the conceptual-intentional system C-I.

These considerations might be particularly relevant when applied to those categories that are central to the computational system, as for instance the category Tense (T). T plays an important role at both interfaces, triggering agreement with the subject in many languages – at the S-M interface – and being the crucial locus for the temporal interpretation of the utterance – at the C-I interface. Note that, in both cases, T functions as a bridge toward the *context*. On one hand, it identifies the subject, which, roughly speaking, can be the speaker, the hearer or neither one. Hence, it locates the event with respect to the speech act participants. On the other hand, at C-I, it locates the events with respect to each other and, in particular, with respect to the *utterance event*.

In this work I will consider this issue, analyzing some cases having to do with the interpretation of tenses, or, better to say, with the temporal location of events. Typologically, languages differ widely as to the way of expressing temporal relations. Some languages – as for instance Italian and Romanian, to mention just two – have a rich and complex morphological system encoding various temporal relations. Others – such as English – have quite a simpler system, explicitly encoding only a subset of the distinctions encoded in Italian or Romanian. Finally, some languages – such as for instance Chinese – have no temporal morphemes at all.[1]

On the other hand, however, in all languages – independently of the existence of temporal morphemes – sentences express a temporal ordering of events. Events *must* be located along the temporal dimension, be the language Italian, Romanian, English or Chinese, as remarked by many scholars.[2] Hence, languages behave uniformly as far as the requirements they satisfy, even if they accomplish this in very different ways. Here I will address the question more closely, trying to better define the *optimal solution* for the temporal interpretation of utterances.[3]

2   The role of indexicality: Temporal relations in English

In a grammatical sentence, the eventuality – where this term refers to both processes and states – must be temporally located, or, using a more technical term, *anchored*. The default *anchor* of the main clause eventuality is the utterance event, i.e., the *here and now* defined on the basis of the temporal and spatial coordinates of the speaker.[4]

In this section I will consider the distribution of finite verbal forms in English. In this language the main clause obligatorily expresses tense:[5]

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[1] On Chinese, see among the others Smith and Erbaugh (2005), Smith (2007) and Lin (2003, 2006).

[2] In the syntactic domain the first scholar who presumably formally addressed this question was Enç (1987).

[3] In some languages, such as Latin, it is possible to have main clauses without a morphological verbal form. Still, they are temporally interpreted, and the value assigned to them is *present*. Consider for instance sentence (i):

i.   Caesar imperator
         Lit: Cesar emperor

This sentence expresses the meaning *Cesar is the emperor*. In this paper, I'll also leave aside the discussion concerning the so-called a-temporal sentences, such as for instance *two plus two is four*. Let me only point out that a literal notion of a-temporality, however, is highly questionable and that these sentences are obviously temporally anchored as any other. See for instance Barwise and Perry (1982).

[4] On the relevance of the spatial coordinate of the speaker for the temporal location of events, see Ritter and Wiltschko (2005; 2008). They show that in some Salish languages the relevant notion to this end is spatial, in terms of *here* and *there*, and not of *now* and *then*. In what follows, however, I will only consider systems based on the temporal location of the speaker.

[5] I will not consider here the distribution of the English subjunctive, on the basis that it is a non-productive form, appearing in quite learned language in very few contexts. See Portner (1997) for an interesting discussion of such cases.

(1) John is happy

      BE-pres

(2) John ate a sandwich

      EAT-past

(3) John will call Mary tomorrow

      Modal(fut) CALL

The morphological tense, realized on the verb is interpreted as locating the event in the present, in the past or in the future with respect to the utterance event itself – i.e., with respect to the temporal location of the speaker.[6]

In English, the temporal location of the speaker is relevant for the temporal location of events embedded in complement clauses as well. Consider for instance the following sentence:

(4) John said that Mary is pregnant

For this sentence to be felicitous, the embedded state must hold at the time John spoke and at the time of the utterance. In other words: the embedded present tense must be located twice: once with respect to the main clause subject's—John – temporal location and once with respect to the speaker's temporal location, i.e., *now*. This property goes under the name of *Double Access Reading* and is obligatory in English to the extent that the following sentence is infelicitous:

(5) #Two years ago, John said that Mary is pregnant

Since we know that human pregnancy lasts much less than two years, in this case it is not possible for Mary to be pregnant both at the time John spoke and at the time of the utterance.[7]

If the embedded form is a past, English exhibits two different patterns, one for stative predicates and progressive verbal forms, and one for eventive predicates. Consider the following cases:

(6) John said that Mary was pregnant

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[6] Several scholars addressed this point adopting slightly different perspectives. See among the others Stowell (1996), Guéron (2004), Zagona (1999), Higginbotham (2001), Schlenker (1993), Giorgi and Pianesi (2001), Ogihara (1996).

(7) John said that Mary was eating a sandwich

(8) John said that Mary ate a sandwich

In examples (6) and (7), the embedded state/event can be taken to be ongoing at the time of the saying by John, in that it is interpreted as simultaneous with the main event. In example (8), the embedded event is interpreted as preceding the saying. In all tree cases, the eating is located before the utterance time. The difference between (6) and (7) on one side, and (9) on the other, is due to aspectual properties. I come back to these distinctions when I address the properties of the Italian temporal system.[8]

Note also that in no case, included example (4) above, can the embedded event be interpreted as a pure indexical. In other words, in (4) the pregnancy cannot be ongoing *now*, while lying in the future with respect to the main predicate. Analogously, in (6)-(8) the eating cannot be past only with respect to *now*, while future with respect to the saying. In other words, sentence (4) cannot be a faithful report of the following discourse by John:

(9) "Mary will be pregnant"

Similarly, sentences (6)-(8) cannot be a faithful report of the following one:

(10)   "Mary will eat a sandwich"

If the events in question are located with respect to each other as in (11), then the only verbal form available in English is the so-called future-in-the-past, as shown in examples (12) and (13):

(11)   saying_____state/event_____*now*

(12)   John said that Mary would be pregnant

(13)   John said that Mary would eat a sandwich

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[7] There are in the literature two main accounts for this phenomenon. The *de re* approach, originally developed by Abush (1987), and the *Generalized DAR* proposal, discussed in Giorgi and Pianesi (2000, 2001) and Higginbotham (1995, 2001). Here I will not provide a discussion of the various theoretical proposals, but see sect. 3 for further details.
[8] For a discussion, see Giorgi and Pianesi (1997, 2001).

By means of this periphrasis, the speaker is allowed to locate the embedded event in the future with respect to the saying, but not necessarily in the future with respect to *now*, i.e., with respect to her own temporal location.

On the other hand, an event, or a state, expressed by means of the English *will*-future is obligatorily located both in the future of the subject – i.e., *John* – and in the future of the speaker as well:

(14)   John said that Mary will be pregnant

(15)   John said that Mary will eat a sandwich

Interestingly, both the *would* and the *will* future forms might be a faithful report of the future oriented discourse by John mentioned above in (9) and (10). This consideration is important because it shows that indirect discourse – the reporting of somebody else's speech – cannot be thought of as something merely derivable from the direct speech by means of grammatical *conversion* rules. The choice between the *would* and the *will* future, in fact, depends not only on John's original speech, but also on the speaker's temporal location with respect to the reported state/event. Therefore, the material circumstances of the reporting itself – i.e., the context of the specific utterance – are relevant for the choice of the embedded morphosyntactic form.

Note also that the *would*-future verbal form is not available in main assertions *qua* future. Consider the following example:

(16)   #Mary would eat a sandwich

This sentence can only convey a *modal* meaning – something like: Mary would eat a sandwich *if she could* – and cannot be used to express the meaning that in the future Mary is going to eat a sandwich, as, on the contrary, is possible in the following case:

(17)   Mary will eat a sandwich

Concluding these brief remarks about English, it is possible to say that embedded verbal forms do not have the same meaning they have in main clauses. The lack of the mere indexical reading is an argument in this direction, as shown by the interpretation of the embedded present tense and of the embedded past forms. Moreover, the properties of the embedded future forms show that the location

of the speaker is a necessary ingredient in the choice of the subordinate verbal form and that even in English there is at least one verbal form – the *would* future – that can only appear in embedded contexts.

3   A theoretical proposal

Giorgi and Pianesi (2001) and Giorgi (2008) proposed an account for this paradigm, dubbed *Generalized Double Access Reading*. According to this perspective, all verbal forms appearing in embedded contexts – with the exception of the *would*-future, which I discuss below – must be evaluated twice: once with respect to the main event, and once with respect to the utterance event. Both the temporal location of the superordinate subject and the location of the speaker are relevant to the interpretation.

The anchoring of the embedded event to the superordinate predicate is taken to be universally obligatory, as already proposed for instance in Enç (1987) and Higginbotham (1995). In main clauses the *superordinate* event is the utterance event itself.

The novel idea by Giorgi and Pianesi is the proposal concerning the anchoring to the speaker's temporal coordinate, giving rise to the DAR. This anchoring is obligatory, with certain verbal forms, in languages like English and Italian, whereas it is not in languages like Romanian and Chinese. In what follows, I'll discuss these languages in turn, showing in what way they differ.

3.1   A brief overview of Italian Sequence of Tense

3.1.1   The imperfect

Italian indicative verbal forms are like the corresponding English ones with respect to the enforcing of the DAR:[9]

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[9] In examples (18) and (19) the main past form – *ha detto* -- is translated in English as a simple past. The form in question is literally a present perfect, being formed by the present tense of auxiliary *avere* (have) and the past participle of the verb. The simple past is *disse* (said), but this form is only very rarely used in spoken language in Central and Northern Italy. In Southern Italy, the situation is exactly the opposite, the simple past being the form of choice in most cases. Here I adopt my own variant of Italian, and will not discuss the matter any further, even if the subject is not as simple as it might seems at first sight. See also Giorgi and Pianesi (1997, ch. 3).

(18)   Gianni ha detto che Maria è incinta

        Gianni said that Maria is pregnant

(19)   #Due anni fa, Gianni ha detto che Maria è incinta

        Two years ago, Gianni said that Maria is pregnant

The discussion of sentences (18) and (19) is analogous to the one given above for the corresponding English ones. The DAR is obligatory in Italian, to the extent of ruling out (19), on the basis of what we know about human pregnancy.

Analogously, the embedded past and future forms do not exhibit significant differences with respect to the English ones:

(20)   Gianni ha detto che Maria ha mangiato un panino

        Gianni said that Maria ate(PAST IND) a sandwich

(21)   Gianni ha detto che Maria mangerà un panino

        Gianni said that Maria will eat(FUT IND) a sandwich

In sentence (20) the embedded event must be interpreted as preceding both the saying and the utterance time, and the embedded event in sentence (21) must be understood as following both the saying and the utterance time. Finally, even in Italian, it is impossible to have a purely indexical interpretation for embedded tenses, as discussed above with respect to English.

An interesting difference between Italian and English concerns stative predicates. The Italian equivalent of example (6) is the following:

(22)   Gianni ha detto che Maria era incinta

        Gianni said that Maria was(IMP) pregnant

In this case, the embedded verbal form is an imperfect indicative. A simple past, or a present perfect – according to the variant of Italian adopted by the speakers – would sound 'odd':[10]

(23)   #Gianni ha detto che Maria fu/ è stata incinta

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[10] On regional variation in Italian concerning the use of the past tenses, see fn. 9.

Gianni said that Maria was(SIMPLE PAST/ PRES PERF) pregnant

The reason of the oddness is mostly due to the aspectual properties of the imperfect verbal form.[11] I will not go here into this discussion, because it lies too far away from the central topic of this work. The important point to be stressed here is that the simultaneity of the embedded state with the main predicate, expressed by means of the English verbal form *was,* must be rendered in Italian with the imperfect *era* and cannot correspond to the past forms *fu* or *è stato.* Analogously, the progressive periphrasis appearing in the English example (7) corresponds to the Italian progressive periphrasis with imperfect morphology:

(24)   Gianni ha detto che Maria stava magiando un panino
        Gianni said that Maria was(IMPF) eating a sandwich

The past morphology would be totally unavailable, as is in general the case with the progressive periphrasis in Italian:[12]

(25)   Gianni ha detto che Maria *stette/ *è stata mangiando un panino
        Gianni said that Maria was(PAST/ PRES PERF) eating a sandwich

Again, the presence of the imperfect in Italian enables the embedded state/event to be interpreted as simultaneous with the main one, whereas this option is not available with the simple past/ present perfect, as happens with the English example (8).

A first conclusion might therefore be that the English past collapses both 'functions' – i.e., the past and the imperfect – and that aspectual properties of the event to which they are attached select then for the one or for the other. Only the imperfect function, however, is able to give rise to the simultaneous reading of the embedded event. Consider in fact the following additional piece of evidence:

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[11] As discussed at length in Giorgi and Pianesi (1997, 2001, 2004a), aspectual properties deeply affect the anchoring procedures. Note also that the simple past and the present perfect are aspectually perfective. Perfectivity can sometimes be combined with stativity, as for instance in the following case, yielding however the so called life-time effect (Mittwoch, 1982):
i.   Napoleone fu/ è stato un grand'uomo
          Napoleon was(SIMPLE PAST/ PRESENT PERFECT) a great man
The implication conveyed by this sentence, because of the presence of a perfective, is that the subject is dead.
[12] On the progressive in Italian see among the others Bertinetto (2000), Zucchi (1997), Bonomi (1997).

(26)   Gianni ha detto che Maria mangiava un panino

        Gianni said that Maria ate(IMPF) a sandwich

In example (26) the embedded event appears with imperfect morphology – in this case I intentionally did not use a progressive periphrasis – and is interpreted as temporally simultaneous with the superordinate predicate.

The proposal could therefore be that the English past tense is ambiguous between a perfective past and an imperfective – Italian-like one – but the latter is only available with stative and stative-like (progressive) predicates.

3.1.2   The subjunctive

In Italian the embedded verbal forms – in finite clauses – come in two varieties: indicative mood and subjunctive mood. The bipartition of the embedded verbal forms is common to many Romance and non-Romance languages, such as Spanish, Catalan, Romanian, Portuguese, Greek, Icelandic, German etc. In all the Romance languages, (one form or the other of) the indicative appears embedded under (non-negated) verbs of *saying*, whereas the subjunctive typically appears under verb of *wishing*, even if with some exceptions.[13] But beside these core cases, even among Romance languages there are several differences as far as the contexts requiring one mood or the other are concerned. In Germanic languages, for instance, the subjunctive appears also under verbs of *saying*, making the general picture even more complex.[14]

In this work I do not describe or discuss the reasons why the indicative or the subjunctive mood must or can appear in the various contexts. I will propose the following generalization:

(27)   In complement clauses of Italian the indicative appears if the superordinate verb is a *speech act* verb.

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[13] For instance in Romanian, the subjunctive does not appear with factive-emotive predicates. See among the others, Farkas (2003), Terzi (1992), Quer (1998).

[14] For a discussion of the indicative/ subjunctive alternation, see among the others, Giorgi and Pianesi (1997), Schlenker (2005), Roussou (1999), Manzini (2000). See also fn.13 above.

As far as complement clauses go, this generalization works quite well for Italian. Psychological predicates such as *pensare* (think), *credere* (believe), *sperare* (hope), *desiderare* (wish) etc, select an embedded subjunctive, whereas predicates such as *dire* (say), *affermare* (affirm), *dichiarare* (declare) etc, select an indicative. Consider the basic distribution and interpretation of the subjunctive verbal forms in Italian:

(28)   Gianni crede che Maria sia/*fosse felice

          Gianni believes that Maria is(PRES SUBJ/*PAST SUBJ) happy

(29)   Gianni credeva che Maria fosse/*sia felice

          Gianni believed that Maria was(PAST SUBJ/*PRES SUBJ) happy

The embedded verbal form in examples (28) and (29) is interpreted as simultaneous with the main one. Note that in (28) the main verb appears in the present tense, and the embedded verb has present subjunctive morphology. Analogously, in example (29) the main verb has past tense morphology and the embedded one features a past subjunctive. The opposite choices would not be possible, as shown by the ungrammatical options given above.

Subjunctive morphology, in other words, manifest itself as an agreement phenomenon between the morphological tense of the superordinate verb and the embedded one. As an argument in favor of this hypothesis, consider the following example:

(30)   Gianni pensava che Maria partisse ieri/ oggi/ domani

          Gianni thought that Maria left(PAST SUBJ) yesterday/ today/ tomorrow

The embedded verbal form is a past subjunctive. The example shows that the temporal interpretation of the leaving event is not constrained by any indexical adverb. All indexical expressions are in fact compatible with it, so that the leaving can actually be located either in the past, in the present, or in the future with respect to the utterance event. The only requirement to be satisfied is *temporal* agreement with the main verbal form – present under present and past under past – as shown in the examples given above.

It is possible to express anteriority with respect to the main predicate, but this is obtained derivatively, by means of the compound subjunctive forms:

(31)   Gianni crede che Maria abbia telefonato

       Gianni believes that Maria has(PRES SUBJ) called

(32)   Gianni credeva che Maria avesse telefonato

       Gianni believed that Maria had(PAST SUBJ) called

The past participle *telefonato* (called), expressing the resultant state – that is, the state resulting from a preceding event – is taken to hold at the time of the believing. This confuiguration yields as a result a past interpretation without the intervention of a past morpheme. Note again that the auxiliary agrees with the main verbal form: present subjunctive under a present, past subjunctive under a past. Naturally enough, no DAR arises with the subjunctive, given the purely morphological nature of the temporal morphemes.

Consider however the following case, discussed in Giorgi and Pianesi (2004b) and Giorgi (2008):

(33)   Gianni ha ipotizzato che Maria fosse incinta

       Gianni hypothesized that Maria were(PAST SUBJ) pregnant

(34)   Gianni ha ipotizzato che Maria sia incinta

       Gianni hypothesized that Maria is(PRES SUBJ) pregnant

Ipotizzare (hypothesize) is a predicate which can be interpreted either as a purely psychological predicate, or as a communication one, similarly to the English *guess*.[15]

As a psychological predicate, it selects the subjunctive, but it is anomalous, permitting a non-agreeing configuration – present under past – as the one in (34). Interestingly, the configuration in (34) forces the DAR interpretation, analogously to the indicative cases analyzed above. Sentence (34) in fact crucially implies that the pregnancy of Maria both held in the past, at the time Gianni hypothesized about it, and *now*.

The presence of the DAR effect in (34) shows that the DAR cannot be simply due to the presence of a certain verbal form in the embedded clause – i.e., the indicative. In the next section I address this issue, which is central to the point investigated in this paper.

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[15] Thanks to J. Higginbotham for pointing this out to me.

3.2 Toward a syntax of indexicality

3.2.1 The Complementizer and the DAR

As well-known – see among the others Scorretti (1994), Poletto (1995, 2000, 2001) – in Italian the complementizer can be omitted when introducing (certain) subjunctive clauses, but it can never be deleted when introducing indicative ones.[16]

Giorgi and Pianesi (2004) and Giorgi (2008) observed that the possibility of deleting the complementizer correlates with the cases in which the DAR is enforced. This generalization can be stated as follows:

(35)   In Italian the DAR interpretation and Complementizer Deletion never co-occur

This proposal accounts for the following contrast:

(36)   Gianni ha detto *(che) Maria è incinta

     Gianni said (that) Maria is(IND) pregnant (DAR)

(37)   Gianni credeva (che) Maria fosse incinta

     Gianni believed (that) Maria was(SUBJ) pregnant (non-DAR)

More interestingly, it also accounts for the contrast found with *ipotizzare* (hypothesize): [17]

(38)   Gianni ha ipotizzato (che) Maria fosse incinta

     Gianni hypothesized (that) Maria were(PAST SUBJ) pregnant (non-DAR)

(39)   Gianni ha ipotizzato *(che) Maria sia incinta

     Gianni hypothesized (that) Maria is(PRES SUBJ) pregnant (DAR)

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[16] The Florentine dialect seems to admit CD even in certain indicative contexts, such as those embedded under the predicate *dire* (say). According to my informants, however, it seems that there are some usage restrictions, rendering the phenomenon not totally identical to the other CD cases – recall in fact that CD in Italian is totally optional. These properties of the Florentine dialect require therefore further study.

[17] Sentence (39) therefore, seems to violate the generalization according to which the subjunctive morpheme does not express tense, but only morphological agreement. It can be showed however that the violation is only apparent. In this case, the present tense is not licensed by the superordinate verbal form, but by the speaker's coordinate itself, hence *now*. On the precise working out of this proposal, see Giorgi (2008).

As illustrated above, when the verb *ipotizzare* selects a subordinate subjunctive, it permits CD – ex. (38). On the contrary, in the DAR case – i.e., the present under past configuration in example (39) – the complementizer must obligatorily appear.

Giorgi (2008) proposed that the non-deletable C position is the locus for the realization in the syntax of the speaker's temporal coordinate. The complementizer introducing the subjunctive has different properties and does not occupy the same position in the projection. It does not bear any reference to the speaker and can be omitted. To put it intuitively: it does not convey any information relevant to the interpretation and therefore, in a way, it can be *dispensed with*.

In this perspective, the absence of the complementizer in English is to be considered as the realization of a null-complementizer, exhibiting the properties of the indicative-like complementizer in Italian. Notice in fact that the presence or absence of *that* does not have any effect on the DAR non-DAR interpretation of the following sentences:

(40)   John said (that) Mary is pregnant

In example (40), the complementizer can be omitted, even if the sentence is interpreted according to the DAR. This result actually fits with what is already known on the subject. As pointed out originally by Kayne (1981), in fact, the null complementizer is not an available option in Italian.[18]

So far, therefore, it can be said that in Italian the DAR is enforced due to the presence of a high complementizer position, constituting the *trait d'union* between the syntax and the context. In this Italian and English are identical – modulo the existence of the null complementizer in English. In Italian there is also a further option, due to the presence in the system of the subjunctive, a form resistant to the DAR interpretation, unless appearing in a communication context, such as the one created by *ipotizzare* (hypothesize).

3.2.2   The Italian imperfect and the English past

What about the Italian imperfect and the English (stative) past? We saw above, in fact, that these forms are immune from the DAR. Note also that the Italian imperfect, with respect to C, patterns with the indicative and not with the subjunctive:

(41)   Gianni ha detto *(che) Maria era incinta

Gianni said (that) Maria was(IMPF) pregnant

Giorgi (2008) proposed that the 'normal' indicative verbal forms – present, past and future – always enforce the DAR, being introduced by the leftmost complementizer in the C-layer, containing the representation of the speaker's temporal coordinate. The subjunctive does so only when it co-occurs with communication predicates – such as *ipotizzare* (hypothesize). In all the other cases, the subjunctive complementizer does not contain any reference to the speaker's temporal coordinate. Finally, the imperfect is an indicative form, and is introduced by the leftmost undeletable complementizer. Hence, it should exhibit DAR effects, contrary to facts.

Note that the imperfect, in general across Romance languages, has often been dubbed as an *anaphoric* temporal form. This is so because it can appear in main assertions, but it must be introduced by some temporal topic. In other words: it cannot be used *out of the blue*, and a temporal reference must be given in the previous discourse or in the context. Consider for instance the following examples:

(42)   #Gianni mangiava un panino

          Gianni was eating(IMPF) a sandwich

(43)   Ieri alle 5, Gianni mangiava un panino

          Yesterday at 5, Gianni was eating(IMPF) a sandwich

In order to be acceptable, the sentence must be introduced by a temporal topic, as in (43). Looking at the facts from an another perspective, discussed in Giorgi (2008), the imperfect cannot be anchored to the utterance time as the indicative past, as opposed to the indicative past forms. One way of capturing this observation could be to say that the imperfect cannot be anchored to the utterance event because it bears the feature [*anti-speaker*]. For this reason, it cannot be directly anchored to the speaker's temporal coordinate, but can be located with respect to it only *indirectly*, as happens when a temporal locution such as *yesterday at 5* appears.

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[18] For a recent account in the minimalist framework, see Boskovic and Lasnik (2003) and references cited there.

By virtue of its anti-feature, the imperfect, even if it appears in clauses introduced by the high indicative-like complementizer, does not locate the event with respect to the speaker's coordinate, but only with respect to the superordinate event, yielding a simultaneous reading.[19]

Interestingly, it is exactly because of this property that the imperfect appears in the contexts embedded under *dream* predicates, as discussed in Giorgi and Pianesi (2001b; 2004). Giorgi and Pianesi argued that dreams contexts are special, because the tense is not anchored. The clause embedded under the *dream* predicate expresses the content of the dream without locating it in the past, present or future of the speaker (nor is the embedded event located with respect the subject either). Other verbal forms of the indicative, such as the present perfect or the simple past do not yield grammatical results. Consider the following examples:

(44)   Gianni ha sognato che c'era un terremoto

   Gianni dreamed that there was(IMPF) an earthquake

(45)   *Gianni ha sognato che c'è stato/ ci fu un terremoto

   Gianni dreamed that there has been(PRES PERF/ PAST) an earthquake (ok if *evidential*

   dream)

The imperfect is the form used to express the content of the dream. If some other indicative form is used, the result is – at best – that of *evidential dream*, a dream in other words, which, according to the speaker, reveals reality, as pointed out in the gloss.

The point of interest here is that the form appearing in *dream* contexts in English is the simple past. Consider the following examples:

(46)   John said that Mary left

   (the leaving is located in John's past and in the speaker's past)

(47)   John dreamed that Mary left

   (*the leaving is located in John's past and in the speaker's past. The leaving is just the

   content of the dream)

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[19] When the embedded clause is introduced by a temporal topic, as might be expected, the imperfect gives rise to a simultaneous interpretation with respect to the temporal topic:
i.   Gianni ha detto che ieri alle 5 Maria mangiava un panino
   Gianni said that *yesterday at five* Maria was eating a sandwich.
For further discussion, see Giorgi (2008).

There is a contrast between the ordinary subordinate contexts, for instance those embedded under a verb of *saying* as in (46), and the contexts created by *dream*. In the former case, the temporal interpretation of the embedded event must be past both with respect to the subject of the superordinate verb and with respect to the speaker's temporal location. This does not make any sense inside a *dream* context: there is no way in which the leaving event in example (47) might be said to be located in the past with respect to the dreaming event and in the past of the speaker.

With respect to the phenomena illustrate here, it can be concluded therefore that the English past 'corresponds' both to the Italian simple past and to the Italian imperfect. Hence it can be said to be a *real* past tense, instantiating a preceding relation between two arguments. In some contexts, however, it behaves as an *anti-speaker* form, corresponding to the Italian imperfect. Which of the two values will be selected depends on two factors: the nature of the superordinate predicate – for instance, *say* vs. *dream* – and the aspectual value of the embedded predicate – namely, stative vs. eventive.[20]

Concluding this discussion, it is possible to say that English and Italian are both DAR languages. In Italian the clauses exhibiting the DAR are always introduced by the left-most undeletable Complementizer. Subjunctive clauses are usually introduced by a lower, deletable, complementizer. The indicative/ subjunctive distinction mostly coincides with the DAR/ non-DAR interpretation of embedded clauses. In some cases, the presence of the left-most high complementizer does not give rise to the DAR; in these cases, an imperfect verbal form appears. The proposal is that the imperfect, due to its anti-speaker feature, neutralizes the effect of the presence of the speaker's temporal coordinate in C.[21]

In English there is no indicative/ subjunctive distinction, but the past tense collapses both the function of a 'real' past form, and that of an Italian-like imperfect. I have argued that the absence of DAR effects with statives and progressives is due to the possibility for statives to select this option, whereas this is not possible, for independent reasons, with eventive predicates.[22]

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[20] In Giorgi (2008 ch. 5) the same hypothesis is proposed to explain the verbal pattern in Free Indirect Discourse in Italian and English. In English, in literary FID contexts we find an overwhelming presence of past forms, whereas in Italian these are almost always corresponding to imperfect verbal forms. The idea would be that even in this case, the English past is an *imperfect in disguise*. Note also that in the literature on the topic, mostly about the English texts, the presence of a past form creates considerable problems. The proposal developed here, therefore, also solves a problem in that domain.

[21] For a detailed discussion, see Giorgi and Pianesi (2004b) and Giorgi (2008).

[22] Giorgi and Pianesi (2001) argue that English statives can be made simultaneous with a superordinate event. Due to the *punctuality constraint*, English eventives, on the contrary, cannot. Simplifying, the reasoning runs as follows: English eventive predicates are always inherently *perfective* – i.e., the are bounded eventive sequences. The superordinate, anchoring event is seen as a (mereological) point. A perfective verbal form can never be made

Hence, it looks like languages have two ways to encode the DAR/ non-DAR dimension: a) presence of the left-most C-position vs. its absence – basically, encoded in the indicative/ subjunctive distinction b) the past/ imperfective distinction, where both tenses are introduced by the left-most C position. Italian has both possibilities, whereas English can only exploit the second one.

In the following section, I will briefly discuss Romanian and Chinese. Romanian is a non-DAR language, exhibiting the indicative/ subjunctive distinction. Chinese does not have any tense or mood morphology associated with the verbs and is a non-DAR language.

The cross-linguistic variation can be summarized in the following table:

table 1:

	subjunctive	Double Access Reading
Italian	+	+
Romanian	+	-
English	-	+
Chinese	-	-

This kind of variation seems is at first sight quite puzzling. It is not clear at all how come that, with respect to the DAR, Romanian patterns with Chinese and not with Italian, and conversely, languages with poorer morphology, such as English and Chinese, do not pattern alike.

My proposal, as sketched in the introduction, is that morphological variation is only a superficial clue and that what really matters is the pattern observed at the C-I interface.

4   Toward a generalization: Some remarks on Romanian and Chinese

4.1   Romanian

As mentioned above, Romanian is a non-DAR language. Consider the following Romanian examples:[23]

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simultaneous with a superordinate event because a bounded sequence cannot coincide with a (mereological) point (the *punctuality constraint*).

[23] I wish to thank all my Romanian students, in Venice with our Erasmus program, who participated to the course of *Theoretical Linguistics* in the academic years '06-'07 and '07-'08, for discussing with me about these and related data.

(48)   Maria e insarcinata.

       Maria is(PRES IND) pregnant

(49)   Acum 2 ani Gianni a spus ca Maria e insarcinata.

       Two years ago John said that Maria is(PRES IND) pregnant

The present tense is the form used in main sentences to express simultaneity with the utterance time, as shown in example (48). In Romanian, however, a sentence such as (49), has the same meaning as sentence (50) in English:

(50)   Two years ago, John said that Mary was pregnant

In sentence (49), as in sentence (50) in English, Mary's pregnancy holds at the time of the saying, but does not have to hold at utterance time. Recall in fact, as discussed above, that the temporal [24]specification *two years ago* is totally incompatible with an embedded present tense in DAR languages, such as English and Italian:[25]

(51)   *Two years ago, John said that Mary is pregnant

(52)   *Due anni fa Gianni ha detto che Maria è incinta

In other words, on one side Romanian is like English and Italian, in that a present tense in a main clause is interpreted indexically. On the other, in Romanian the indexical component disappears when the present tense is in a complement clause.

Romanian also has the indicative/ subjunctive distinction. Typically, the subjunctive appears under control verbs in the place of the English and Italian infinitive, as in the following example (from Farkas, 2003, ex 4):

(53)   Maria vrea sa-i raspunda

    Maria wants SUBJ PRT-clitic answer(SUBJ)

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[24] The subjunctive in Romanian also appears in a periphrastic construction to express future and as an imperative.

[25] Recall that states might be persistent, and therefore they might be holding *now*, even if the language is not a DAR language. This effect does not mean anything: The crucial test must always be provided by a sentence like the one in (51).

Maria wants to answer him

Interestingly, the subjunctive does not appear in factive-emotive contexts – see among the others Farkas (2003). This suggests that the indicative/ subjunctive distinction encodes partially different properties with respect to the Italian subjunctive. On the other hand, like Italian, Romanian admits Complementizer Deletion with the subjunctive. The subjunctive verbal form in Romanian is introduced by a syntactically low particle *sa*. Such a particle is syntactically lower than the complementizer *ca*. *Sa* is in most cases the only element distinguishing the indicative verbal form from the subjunctive one – with the exception of the third person singular – and is therefore the distinctive property of the subjunctive in Romanian.[26]

The complementizer *ca* cannot be deleted with the indicative, but it is in general omitted with the subjunctive. Consider in this respect examples (49) and (53):

(54)   Jon a spus *(ca) Maria e insarcinata.

        Jon said *(that) Maria is(PRES IND) pregnant

(55)   Maria vrea (*ca) sa-i raspunda

        Maria wants (*that) *sa*-him answer(SUBJ)

        Maria wants to answer him

In example (54) the complementizer cannot be omitted, whereas in (55) it cannot be present. However, if the subjunctive clause has a lexical subject, the complementizer *ca* is again obligatorily realized:

(56)   Maria vrea *(ca) Jon sa-i raspunda

        Maria wants *(that) Jon *sa*-him answer(SUBJ)

        Maria wants *(that) Jon answers him

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[26] In Italian the personal endings of the subjunctive present differ in at least four persons out of six, depending on the verbal declension. In Romanian moreover there is no subjunctive imperfect – i.e., there is only one simple subjunctive form.

The presence of *ca* in (56) shows that in principle in Romanian the high complementizer position is available even with the subjunctive.[27]

In this pages I do not intend to provide an exhaustive analysis of the Romanian Mood system, because it would lie outside the scope of this work, but I will discuss some generalizations and propose some possible lines of future research on the topic.

I illustrated above with respect to Italian that the DAR/ non-DAR interpretation is largely coincident with the indicative/ subjunctive distinction. In particular, in indicative clauses, the high Complementizer encoding the speaker's coordinates is present, whereas in (most) subjunctive clauses such a complementizer is not realized. To some extent, this accounts for the indicative/ subjunctive bipartition of clauses in Italian from a syntactic point of view: in indicative embedded clauses the speaker is represented at phase level in the C-layer, whereas in subjunctive clauses it is not there.

The problem raised by these considerations with respect to Romanian is the following. Given that it is a non-DAR language, the functional reasons of the distinction between a Complementizer encoding the speaker's coordinates – the indicative-like complementizer – and a deletable complementizer, not encoding this information – i.e., the subjunctive-like complementizer – disappears. Non-DAR clauses do not require anchoring of the embedded verbal form to the speaker's temporal coordinate, hence, in Romanian there is no reason to hypothesize a complementizer encoding the speaker's temporal location, as opposed to one that does not.[28]

Pursuing this line of reasoning, one might suggest that the indicative/ subjunctive distinction has a different role in the grammar of Romanian with respect to the role it has in the grammar of Italian. This might seem a reasonable suggestion, given the empirical observation concerning the absence of infinitival control structures in this language. In the same vein, one might propose that the absence of DAR in Romanian points to the absence of the complementizer encoding the speaker's temporal coordinates. Hence, a possible line of investigation could be the analysis of the properties of the complementizer, in order to ascertain if it is significantly differ from the Italian one.

This line of research, however, might be not the most promising one. The possibility of deleting the complementizer in fact looks very close to Italian CD – or, at least, closer to the Italian-like deletion phenomena, than to the English null complementizer pattern, since if follows, the indicative/

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[27] For a discussion, see Aboh (2004, ch. 5). On this topic, see also Dobrovie Sorin (1994), Terzi (1992), Motapanyane (1995).

subjective divide. Hence, one might suggest that CD phenomena in Romanian are to be traced back to the presence/absence of the speaker's temporal and spatial coordinates in the left periphery of the clause, like in Italian.

So far, however, I do not have positive empirical arguments to offer in favor of this view, but, on the other hand, there are no counter-arguments that I can see.

More importantly, it might be desirable to claim that the possibility of encoding the speaker's coordinate in the left-most position in the C-layer is a universal one, as argued in Giorgi (2008). In this way, the interface between syntax and context would be univocally represented by grammar.

In the next section I'll argue that the analysis of Chinese might provide an argument in favor of the second perspective.

4.2   Long Distance Anaphors and the speaker's coordinates

4.2.1   Long Distance Anaphors in Italian

In this section I will briefly analyze the properties of Chinese with respect to the interface with the context. As I just illustrated above, Italian has a rich verbal morphology encoding tense and mood distinctions, as well as aspectual properties. Chinese, on the contrary, is a language almost without morphology and with no tense and mood distinctions detectable on the verb, but only aspectual ones. Temporal interpretation is taken to be derivative on lexical and aspectual properties.[29]

Given this state of affairs, one might think that it is impossible to test the relevance of the hypothesis proposed here with respect to Chinese. The issues related to the presence of the speaker's temporal coordinate in the C-layer of the embedded clause in fact seem to be irrelevant, or at least not testable, due to the lack of tense and mood distinctions.

 However, in Italian, beside the facts related to the DAR, there is also an another set of phenomena sensitive to the presence of the indicative/ subjunctive distinction, namely, the distribution of long distance anaphors, henceforth LDAs.

As well known, LDAs, are cross-linguistically permitted to get over a clause featuring a subjunctive, or infinitive, verbal form, but are blocked by an indicative one. That is, simplifying somehow, the antecedent of a LDA cannot lie outside the first clause containing an indicative, but

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[28] Interestingly D'Hulst **etc (XX)** discussed the lack of the future-in-the-past in Romanian. Again, since this language never anchors the embedded event to the speaker's coordinate, the necessity of a distinction between the equivalents of a *will*-future and a *would*-future disappears.

can lie outside a clause containing a subjunctive. This phenomenon was observed both in the Germanic, for instance in Icelandic, and in the Romance domain, for instance in Italian.[30]

To illustrate this point, consider the following examples:

(57)   Quel dittatore$_i$ spera che i notiziari televisivi parlino a lungo delle proprie$_i$ gesta

That dictator hopes that TV news programs will talk (SUBJ) for a long time about self's deed

(58)   Quel dittatore$_i$ ha detto che il primo ministro$_j$ era convinto che i notiziari televisi avessero parlato a lungo delle proprie$_{j/*i}$ gesta.

That dictator said that the Prime Minister was(IND) convinced that the TV news program had(SUBJ) talked a lot about self's deeds

(59)   *Quel dittatore$_i$ ha detto che i notiziari televisivi hanno parlato a lungo delle proprie$_i$ gesta

That dictator said that the TV news programs talked(IND) for a long time about self's deeds

(60)   *Quel dittatore$_i$ ha detto che i notiziari televisivi parleranno a lungo delle proprie$_i$ gesta

That dictator said that the TV news programs will(IND) talk a lot about self's deeds

This paradigm shows that for the anaphor to be long distance bound, the main verb of the embedded clause must be a subjunctive. In particular the ungrammaticality of (59) and (60) shows that an indicative prevents the anaphor from looking any further for an antecedent, whereas the grammaticality of (57) and (58) shows that a subjunctive is *transparent* to this purpose. LDAs also exhibit a series of further properties, as for instance being usually subject-oriented, which I will not take into account in this brief discussion.

The point to be stressed here is that the indicative mood actually has a blocking effect on the long distance anaphor, defining the domain in which it has to look for an antecedent.

Interestingly, the blocking effect I just described above is not limited to sentences featuring an indicative verbal form, but it also extends to some cases of subjunctive clauses. I showed above that the speaker's coordinate is represented in the left periphery of the clause also in some subjunctive contexts, which, as expected, give rise to the DAR, as for instance the *ipotizzare* (hypothesize) cases described in exx. (33)-(34) and (37)-(38). The prediction is therefore that on these cases long distance binding should be blocked, as happens with the indicative mood in sentences (59) and (60).

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[29] See Smith (2007) and Lin (2006).
[30] See, among the others, Thrainsson (1991) and Giorgi (1984).

Consider to this end the following examples:

(61) Quel dittatore$_i$ ha ipotizzato che il primo ministro venda illegalmente i propri$_{?*i}$ tesori

That dictator hypothesized that the prime minister illegally sells(PRES SUBJ) self's treasures

(62) Quel dittatore$_i$ ha ipotizzato che il primo ministro vendesse illegalmente i propri$_i$ tesori

That dictator hypothesized that the prime minister illegally sold(PAST SUBJ) self's treasures

In example (61) a present subjunctive is embedded under a main past, whereas in example (62) the usual past-under-past configuration obtains. The superordinate subject is much more available as an antecedent in example (62) then in example (61), where the sentence is preferentially interpreted with *propri* (self's) referred *il primo ministro* (the prime minister). This contrast, even if subtle, certainly goes in the expected direction and cannot be accounted for by invoking the indicative/subjunctive distinction discussed above.

An account for these cases can be provided along the following lines. Sentence (61) is a DAR sentence – i.e., a sentence in which the embedded eventuality has to be located both with respect to the temporal coordinates of the superordinate subject, *that dictator*, and to the temporal coordinates of the speaker. Therefore, in order to reach its expected antecedent, the anaphor should cross a clause endowed with the speaker's coordinate. In the indicative clauses given above – cf. exx. (59) and (60) – the LDA should do the same, whereas this would not happen in the 'normal' subjunctive cases illustrated in examples (57) and (58).

Given this pattern, the alternative hypothesis to explain the whole of the cases given above can be the following: the blocking of the anaphor is due to the presence of the speaker's coordinate in the left periphery of the clause, and not to the presence of the indicative mood *per se*.[31]

In other words, a LDA could look for an antecedent beyond its own clause only if the speaker's coordinate are not represented in its left-periphery, hence the anaphor *proprio* can take a superordinate, long distance, subject as an antecedent.[32]

Consider also that, coherently with what I said above, the indicative imperfect is not transparent to LD binding – i.e., it does not admit a long distance anaphor to be bound outside its domain,

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[31] For a detailed discussion of long distance binding see Giorgi (2006, 2007).

showing therefore that it is in this respect a well-behaved indicative. Consider to this purpose the following sentences:

(63)   Quel dittatore$_i$ ha detto che i libri di storia parlavano spesso delle proprie$_{*i}$ gesta

       That dictator said that the books of history often spoke (IMP) about self's deeds

(64)   Quel dittatore$_i$ ha detto che i libri di storia hanno parlato spesso delle proprie$_{*i}$ gesta

       That dictator said that the books of history often spoke (PAST IND) about self's deeds

(65)   Quel dittatore$_i$ sperava che i libri di storia parlassero spesso delle proprie$_i$ gesta

       That dictator hoped that the books of history often spoke (SUBJ) about self's deeds

The imperfect verbal form in example (63) patterns with the past indicative in example (64), and both cotrast with the subjunctive in sentence (65). Only in example (65), in fact, can the LDA be bound outside the minimal clause containing it.

The important conclusion following from this evidence, which will be useful in the subsequent discussion, is that with the imperfect no DAR effects are detectable – due to its peculiar feature endowment. With respect to the distribution of LDAs, however, the effects due to the presence of the speaker's temporal coordinates become visible again. In other words, even if it does not show up with the DAR, the imperfect does encode reference to indexicality in the C-layer.

4.2.2   Long Distance Anaphors in Chinese

In Chinese there are no DAR effects, as remarked in the previous sections, but LDAs are fairly common.[33]

In Chinese there is no subjunctive/ indicative divide, given that there is no mood distinction at all. I showed in the preceding discussion that the presence of the speaker's coordinates could be detected even in absence of DAR effects, by means of the analysis of the distribution of LDAs. One might wonder therefore, if there is any blocking effect in Chinese as well, in spite of the absence of indexical morphology associate with the verb.

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[32] Irrelevantly, the intermediate subject, *il primo ministro* (the prime minister) is available as an antecedent in both cases.

[33] In Italian LDAs are not very common in spoken language and for some speakers they are not totally 'natural'. In Chinese, on the contrary, LDAs are very common in all linguistic registers. It is not clear to me where the difference between the two languages might lie and I will not consider this issue any further.

It is a well known fact, that in Chinese the binding domain of a LDA is indeed bounded by intervening items, which however do not have a *verbal* nature, but (mostly) a *nominal* one. In other words, the blocking items are not connected with the category *verb*, but in most cases connected with the category *noun*.

For instance, In Chinese an intervening first or second person pronoun prevents the anaphor from being bound by the subject of the superordinate clause. Consider the following example:

(66)   Zhangsan$_i$ danxin wo/ni$_j$ hui piping ziji$_{*i/j}$ (Huang and Liu 2001,ex.11a)

       Zhangsan is worried that I/you might criticize myself/yourself/*him

In this example the anaphor *ziji* cannot refer to the higher third person noun *Zhangsan*. This example contrast with the following one:

(67)   Wo$_i$ danxin Zhangsan$_j$ hui piping ziji$_{i/j}$ (Huang and Liu 2001, ex.11b)

       I am worried that Zhangsan will criticize me/himself

As discussed by authors, in Chinese the blocking effect is asymmetrical, in that an intervening third person Noun Phrase does not have the same effect and the LDA *ziji* can refer back to *wo* (I).[34]

They also show that the blocking effect induced by a first or second person pronoun persists even if the pronoun in question does not occur in a position where it may count as a potential antecedent. Consider to this end the following example:

(68)   Zhangsan$_i$ gaosu wo$_j$ Lisi$_k$ hen ziji$_{*i/*j/k}$

       Zhangsan told me that Lisi hated self   (Huang and Liu 2001, ex.8a)

In this example *wo* – the first person pronoun – is not a potential antecedent, given that it does not appear in subject position. In spite of this, the binding domain of the LDA is limited to the embedded clause and the superordinate subject, *Zhangsan*, is not a possible antecedent.

The relevant question at this point concerns the nature of the blocking effect in Chinese. Which property distinguishes first and second person pronouns from third persons? An interesting insight

comes from some examples by Huang and Liu (2001) that are not easily amenable to the theoretical accounts formerly proposed.[35]

They observe that some third person NPs can act as blockers, when they are identified by means of deixis, as illustrated by the following example:

(69)   Zhangsan$_i$ shuo DEICTIC-ta$_k$ qipian-le ziji$_{*i/k}$ (Huang and Liu 2001, ex. 12)

Zhangsan said that DEICTIC-she/he cheated himself/herself

The word DEICTIC here stands for the ostensive gesture pointing at a person present in the context. When this is the case, the superordinate subject *Zhangsan* is not available as an antecedent, and the anaphor must necessarily have an antecedent in the embedded domain. In the example given above, the antecedent is the deictically identified noun.

Another interesting observation comes from the analysis of the effects on LD binding of items, which are not even clearly nominal ones, i.e., explicit temporal locutions. As I pointed out above, Chinese does not have temporal morphemes, but only aspectual ones. Temporal locutions can be used to the purpose of defining the sequence of events, that is, the ordering of the events with respect to each other.

Consider the following examples:

(70)   ? Zhangsan$_i$ kuanjiang-guo houlai sha si ziji$_i$ de naxie ren$_j$ (Huang and Liu, ex. 107)

Zhangsan has praised those persons who **later** killed him

(71)   * Zhangsan$_i$ shang xingqi zanmei-le jin zao piping ziji$_i$ de nei-ge ren

Zhangsan praised last week the person who criticized self **this morning** (Huang and Liu ex. 109).

Later is an anaphoric temporal item, given that it must refer back to a time already given in the sentence. The expression *this morning*, on the contrary, is an indexical locution, and as such its location depends on the temporal coordinate of the speaker. Interestingly, the indexical temporal expression seems to act as a blocker for the LDA, so that the superordinate subject *Zhangsan* in (71)

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[34] Huang and Liu (2001) point out that some sentences with an intervening third person antecedent might be controversial. Some speakers might find it hard to *pass* over a third person intervening subject. Their own judgment, however, is that the sentences with an intervening third person, like the one provided in the text, are fully acceptable.

is not available as an antecedent. On the contrary, in (70) the anaphor can refer back to it.[36]

Given this evidence, it is possible to formulate a generalization. The blocking effect is Chinese seems to be induced by items which crucially rely for their interpretation on indexicality – i.e., on the context defined on the basis of the speaker's temporal and spatial coordinates. First and second person pronouns, deictically identified noun phrases, indexical temporal locutions, all share this property.

If this is correct, then Italian and Chinese would not differ at the relevant level of abstraction, in that in both languages the distribution of LDA would be affected by the presence in the sentence of indexical items.

The morphosyntactic properties of Italian are such that indexicality is prototypically encoded, as far as the syntax goes, in the verbal system – as for instance by means of the distinction between indicative and subjunctive. In Chinese, indexicality cannot be encoded in the same way, but the relevant effects are visible with *all* indexically related items.[37]

In other words, the presence of the speaker's coordinates shows up in different ways, due to the fact that the languages in question differ with respect to their morphosyntactic properties. In Chinese, due to the lack of verbal morphology, the presence of speaker's coordinates does not show up in DAR phenomena, as in Italian, but their effects on LD binding are exactly the same.

5   Conclusions

The evidence discussed in this paper points to the conclusion that in all the languages considered here, the speaker's temporal and spatial coordinates are encoded in the syntax and have detectable effects on the interface conditions imposed by conceptual-intentional system C-I. This requirement might therefore be reasonably taken to be universal and to be part of Narrow Syntax.

It is even possible to speculate that precisely this property is at the bottom of the phase nature of the complementizer projection. In fact, the location of events with respect to indexicality – or their *lack* of location with respect to it – might be taken to be the universal and basic property that clauses have to satisfy.

In this perspective therefore, it can be concluded that all languages are *optimal*, independently from

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[35] As for instance the movement theory of LDAs, see Cole (1996). Huang and Liu (2001) themselves adopt a revised version of such a theory.

[36] Huang and Liu (2001) actually mark this example as "?" for unclear reasons. It is nevertheless a significant contrast.

[37] See Giorgi (2008) for a discussion of indexically related nominal expressions in Italian. As I said in the text, the *prototypical* encoding in Italian is on the verbal system, but other indexical items, such as for instance first and second person pronouns, also shows a milder blocking effect with LDAs.

the specific morphosyntactic implementation they exhibit, because all of them interface with the C-I system and with the context in the same way, once the appropriate level of abstraction is established.

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