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From Temporal Anchoring to Long Distance Anaphors[∗]

Abstract

In this paper I consider the distribution of long distance anaphors in two typologically unrelated languages, Italian and Chinese, and show that in spite of the superficial differences they are ruled by the same grammatical principles. I propose that the properties determining the temporal location of events at the interface level – i.e., Sequence of Tense – also allow the identification of the antecedent of long distance anaphors. I focus mostly on the so-called *blocking effects* – namely, the impossibility for a long distance anaphor to extend its binding domain beyond certain elements, such as an indicative verbal form in Italian, or an indexical or context-related item in Chinese. I also consider *backward binding* phenomena, and show how they might follow from the same generalizations. In order to propose a theoretical account of these facts, I investigate the role of the *speaker* and the *bearer of attitude* in the sentence. I argue, capitalizing on the proposals by Giorgi and Pianesi (1997, 2001a, 2003, 2004) on Sequence of Tense, that they are syntactically realized and might act as *binders* and *blockers* both for temporal purposes and for binding ones.

1   Introduction

The main idea I develop in this work is that the morphosyntactic characteristics determining the temporal location of events at the interface level also allow the identification of the antecedent of long distance anaphors. That is, temporal anchoring, or Sequence of Tense – henceforth, SoT – and the binding of long distance anaphors – henceforth, LDAs – are two facets of the same grammatical properties of the clause. This proposal is not only motivated by the well-known interaction between verbal forms – for instance subjunctive/infinitive vs. indicative – and the distributional properties of LDAs, but also by the important role played by *subjects* in both domains.

In this paper I mostly consider the distribution of the Italian third person singular/plural possessive *proprio* and of the Chinese reflexive *ziji*. The reason for this choice is that the two languages are located at the opposite extremes with respect to morphosyntactic properties and SoT in particular. Italian in fact has a clear main/subordinate clause distinction with respect to temporal and modal dependencies, exploiting the indicative/subjunctive paradigm. Chinese, on the contrary, lacks any morphological temporal and modal marking, relying almost exclusively on aspectual morphemes. This peculiarity obviously represents the main challenge for a SOT-

based theory of LDAs.[1]

I argue that the properties of LD binding can be accounted for by resorting to the same machinery operating with temporal anchoring, and I adopt to this purpose the view developed by Giorgi and Pianesi (2001a, 2004a, 2004b).

I focus on two important and well-known characteristics of LDAs. The first one is that they are subject oriented. This is not without exceptions. Some non-subjects are possible antecedents and, conversely, some subjects are not available as antecedents. The second one is that they are *long distance*. However, even if they can pick up an antecedent outside their minimal clause, their domain of binding is not *unlimited*. In Italian, it is limited by the presence of an indicative verbal form – I use the term *verbal blocking effect* – whereas in Chinese, it is limited by the intervention of various elements, all of which will be shown to be indexicals, or context-related items. I use in this case the term *nominal blocking effect*.

With respect to subject orientation, I show that the both sets of exceptions can be captured by resorting to the notion of *bearer-of-attitude*, which is crucial in accounting for SoT phenomena.[2] I adopt Giorgi and Pianesi's view and identify precise syntactic positions, in the extended verbal projection – in Grimshaw's (1991) sense – that are read off at the interface as pertaining to the bearer-of-attitude and to the speaker. I show that these positions are in fact relevant in the binding of LDAs as they are in the temporal interpretation.

Furthermore, I argue that the verbal – Italian-like – and the nominal – Chinese-like – blocking effects arise when the speaker's coordinate is syntactically represented in the clause. The presence of the speaker's coordinate – syntactically represented in CP layer – is taken by Giorgi and Pianesi to give rise to the Double Access Reading effect in the temporal interpretation of the embedded clause in Italian-like languages. In Italian, the domain of binding for a LDA coincides with DAR contexts. In Chinese, where there aren't any DAR effects – due to the lack of verbal morphology – the presence of the speaker's coordinate shows up when it comes to the distribution of LDAs .

If this line of thought is correct, the necessity for advocating *logophoric* conditions might turn out to be very much reduced, given that both the bearer of the attitude and the speaker are argued to be syntactically represented *inside* the clause, and not treated as properties of

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[1] *Proprio* is a possessive item roughly meaning *own*. Since however the parallelism with *own* is only partial, I adopt a more neutral gloss and translate it as *self's*. For *ziji* I use the glosses given by the authors of the examples. On a comparison between *proprio* and *own*, see Safir (2004c). See also Higginbotham (1985).

[2] The notion of a *bearer-of-attitude* adopted by Giorgi and Pianesi (see for a discussion Giorgi and Pianesi 2001b) is directly derived from Russell's. They assimilate to Russell's attitudes also the subject of communication like *dire* (say), sometimes not included in this class, given that they do express an attitude by the subject, as an implication of the speech act.

discourse grammar. This will be shown to be the case for the examples where the antecedent is sentence-internal. Furthermore, in the concluding section, I tentatively argue that even in some cases where the antecedent appears to be external to the sentence, there is no need to resort to a discourse representation, given that sentential grammar might syntactically supply the antecedent.

I also argue that the sensitivity of LDAs to the conditions governing SoT is due to the peculiar nature of LDAs. I propose that a LDA is the spell-out of an unsaturated position, partially following Higginbotham's (1995) ideas about *implicit arguments*.

This paper is organized as follows. In the next section I introduce the main questions connected with the distribution of LDAs, in particular the exceptions to subject orientation and the blocking effects. I also briefly discuss the movement hypothesis – perhaps the most influential existing account of LDAs – with respect to the set of data just mentioned. In the following section I introduce the hypothesis of this work and discuss the idea according to which LDAs are unsaturated positions, as well as Giorgi and Pianesi's proposal with respect to the syntactic representation of the bearer of the attitude and the speaker. In the fourth section I work out the analysis, applying the hypothesis to Italian and Chinese, sentence by sentence. I also enclose a brief section on Japanese *zibun*, which to some extent resembles Chinese *ziji*. Finally, in the concluding section I sketch a possible extension to traditional logophoric cases of binding, as a possible source for further developments of my proposal.

2   The distribution of LDAs

In this section I illustrate the distribution of LDAs, considering in particular the syntactic role of the antecedent and the domain of binding. As has already been noted, LDAs are subject oriented, although there are however, exceptions in both directions: some subjects are not available as antecedents and conversely, some non-subjects can play this role.

I provide a minimal definition of *long distance anaphor*, to ensure that *proprio* and *ziji* are properly classified.[3]

An anaphor is widely assumed to be an inherently *dependent* form – i.e., a form that cannot be

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[3] In this paper I am not going to consider typological issues in general. The main reason is that the variety of phenomena is, superficially at least, very large and I think that only an in-depth study – which in principle should be conducted by native speakers – can clarify the theoretically relevant aspects. Therefore, I try to do my best with respect to Italian and Chinese, mentioning facts in other languages which might be pertinent, but which should deserve further study. For thorough discussions about the syntactic nature of the notions of *pronoun* and *anaphor*, see Reuland (2001a), Safir (1996, 2004a, 2004b, 2004c) and Anagnostopoulou and Everaert (1999). I refer the reader to them and references cited there. See also the introduction to the collection of essays on long distance reflexives, by Cole, Hermon and Huang (2001) about the state of the art in the topic.

used for deixis.[4] Since Chomsky (1981), these elements have been taken to obey principle A of the Binding Theory, which I state as follows, ignoring many complex and intriguing questions related to the definitions:[5]

(1)   Principle A of the BT:

    .An anaphor is bound in domain D

    .A Domain D is the minimal domain of an accessible SUBJECT

However, many items, though inherently dependent, do not obey principle A of the BT in that they can take an antecedent outside the local domain. For this reason, they are referred to in the literature as *long distance* anaphors.[6]

Neither the Italian possessive *proprio*, nor the Chinese *ziji* can be used for deixis.[7] Therefore, they both pass the test for anaphoricity. Consider for instance the following example in Italian:

(2)   *Questo è il proprio libro! (indicando Gianni)

    This is self's book! (pointing to Gianni)

However, they can appear in contexts which violate principle A of the BT, because they can select their antecedent outside domain D. Consider the following sentences, which show a contrast between the possessive anaphor *proprio* and the clause bound, morphologically complex anaphor *se stesso* (himself):[8]

(3)   Quel dittatore$_i$ pensava che i libri di storia avrebbero parlato a lungo delle proprie$_i$ gesta

    That dictator thought that the books of history would talk for a long time about self's

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[4] An anaphor can never by used for accompanying an ostensive gesture, even when the individual picked out in that way is a familiar one. One could exclaim, pointing to a familiar individual, "Him!", but not "Himself!". See Safir (2004c).

[5] Some questions concern the exact definitions of Domain D, and what counts as an accessible SUBJECT, and what a SUBJECT is, as opposed to a (lower case) "subject". The topic has only been sporadically addressed in the last ten years. It seems to me that the general feeling is that such notions should be derived from more principled ones and not just stated as primitives, in the spirit of Chomsky's (1995) minimalist view. See Reinhart and Reuland (1993) and Williams (1989, 1994) for proposals aiming at a reduction of clausal binding to co-argumentality and, in general, to argument structure. See also Kayne (2002) for a reformulation of principles B and C.

[6] Some scholars derive the local and non-local nature of anaphors from their morphological properties, in terms of feature specification, with their binding options. See for instance Pica (1987) and Burzio (1991). See also section 3 below.

[7] Chinese *ziji* can be used as an indexical to refer to the speaker. I discuss the issue in section 4.2 below.

[8] Coindexation is to be understood as a mere illustrative device and the theory I am going to propose does not need any device of this sort. See Reuland (2001a) for a discussion of the notion of coindexing in the minimalist perspective.

deeds

(4)   *Quel dittatore$_i$ pensava che i libri di storia avrebbero lodato a lungo se stesso$_i$

That dictator thought that the books of history would have praised for a long time himself

Finally, as I pointed out in the introduction, *proprio* is a possessive anaphor. *Ziji* can be a possessive as well, though not exclusively. Following Huang and Liu (2001), I propose that the whole nominal projection containing a possessive anaphor works as an anaphoric item, both in Chinese and in Italian.

2.1   The subject orientation of LDAs

2.1.1   The subject as an antecedent

Sentence (5) illustrates subject orientation:[9]

(5)   Gianni$_i$ ha informato Maria$_j$ che la propria$_{i/*j}$ casa era in fiamme

Gianni informed Maria that self's house was on flame

The only possible antecedent for the anaphor is the subject, as opposed to other arguments, such as the object. Notice that both subject and object c-command the anaphor.

Subject orientation is not a "natural" property of binding relations, given that in other binding cases it does not arise. Clause bound anaphors are not subject oriented, neither in Italian nor in English:

(6)   Una lunga terapia psicoanalitica ha restituito Maria a se stessa

A long psychoanalytic therapy has brought back Maria to herself

(7)   A long psychoanalytic therapy brought back Maria to herself

Analogously, bound pronouns are not subject oriented, neither in Italian nor in English:[10]

(8)   Ho informato ogni studente$_i$ che il suo$_i$ compito era stato corretto

I informed every student that his homework had been corrected

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[9] A reviewer points out the existence of *anti-subject orientation* of certain anaphors in Germanic languages. The reviewer suggests that this might be an argument in favor of the notion of *grammatical subject*, instead of bearer-of-attitude. I do not agree with this view, given that in principle nothing prevents the anti-subject constraint from being considered as an anti-bearer-of-attitude one. It is also not unconceivable that languages might differ with respect to this peculiar point, some selecting the bearer-of-attitude, and others the grammatical subject. The question deserves further study.

(9)   I informed every student$_i$ that his$_i$ homework had been corrected

In sentences (8) and (9) the pronoun is bound by the quantified nominal *ogni studente/ every student* in object position. Consider further that, when clause bound, *proprio* is not necessarily coindexed with a subject:

(10)   Ho presentato gli studenti$_i$ ai propri$_i$ professori
       I introduced the students to self's professors

It can be concluded that subject orientation is not a lexical property – i.e. a property of certain lexical items *per se*. On the contrary, it appears to be a property of reflexive pronouns in certain contexts, *when certain special conditions are met*. The question I want to address here is the following: what are these special conditions?

Let me also briefly remark that approaches simply aiming at enlarging the domain of application of principle A of the Binding Theory cannot explain subject orientation, unless by means of an *ad hoc* constraint, explicitly excluding non-subjects from the range of possible antecedents. To simply enlarge the binding domain to include the superordinate clause(s), in fact, would also necessarily include objects, which therefore would be available for antecedenthood.[11]

2.1.2   LDAs in adverbial clauses

Let's consider the distribution of LDAs in adverbial clauses. These facts have been described both for Italian and for Icelandic. Consider for instance the following example:

(11)   Il primo ministro$_i$ sperava che il dittatore$_j$ partisse prima che i rivoluzionari sequestrassero
       il proprio$_{i/*j}$ patrimonio
       The Prime Minister hoped that the dictator left before the revolutionaries sequestered
       self's patrimony

In this sentence, the anaphor has to skip the first available subject, and can refer only to the subject of the higher clause. Why is that subject unavailable as an antecedent? The question is an interesting one, because the structural syntactic conditions for antecedenthood – i.e., c-

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[10] I address in section 3.2 the question of the difference between anaphors and variables, both distributionally and interpretively. See also Giorgi (to appear).

[11] See for instance Manzini and Wexler (1987) for a proposal in this direction.

command – seem to be met by both nominals, but only one qualifies as an antecedent. [12]

2.1.3 Psych-verbs

The puzzle concerning psych verbs is constituted by the availability of backward binding – i.e., binding from the object to the subject. Consider for instance the following cases:[13]

(12) La propria moglie preoccupa molto Gianni

Self's wife worries Gianni a lot

(13) *La propria moglie ha ucciso Gianni

Self's wife murdered Gianni

Examples (12) and (13) show an asymmetry between regular transitive verbs, like *kill*, and psych-verbs such as *worry*. In the latter case, the object is available as an antecedent, but not in the former. The question, therefore, is why a transitive verb like *kill* is different from an – apparently – transitive verb such as *worry*. Notice that in this case the anaphor is not, strictly speaking *long distance*, because the antecedent lies in the same clause. Non-backward binding is available in both cases:[14]

(14) Gianni preoccupa molto la propria moglie

Gianni worries self's wife a lot

(15) Gianni ha ucciso la propria moglie

Gianni killed self's wife

Consider now the following cases of LD binding:

(16) Che la propria$_i$ figlia sia andata in campeggio da sola preoccupa molto Gianni$_i$

That self's daughter is camping by herself worries Gianni a lot

(17) Che tutti ambiscano al proprio$_i$ incarico preoccupa molto il primo ministro$_i$

That everybody aspires to self's office worries the Prime Minister a lot

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[12] A very similar set of facts holds for Icelandic. See Maling (1990), Thráinsson (1990), Sigurðsson (1990) and Thráinsson (1991). I believe that my proposal here can be extended to the Icelandic cases.

[13] On this issue see Giorgi (1983), Belletti and Rizzi (1988), Pesetsky (1995) and Hale and Keyser (2002).

[14] No effect can be detected in case of a quantified antecedent:

    i.   Ciascuno/ ciascun uomo preoccupa la propria moglie

                Everybody/every man worries self's wife

See also fn. (17).

In sentence (16) the LDA is embedded in the subject position of a subject clause; in example (17) the LDA appears in the object position of the subject clause. In both cases, the experiencer is available as an antecedent. However, a LDA embedded inside the experiencer cannot refer back to the subject:[15]

(18) *Il primo ministro$_i$ preoccupa molto coloro che ambiscono al proprio$_i$ incarico

The Prime Minister worries a lot those who wish self's office

(19) Coloro che ambiscono al proprio$_i$ incarico preoccupano molto il primo ministro$_i$

Those who wish self's office worry the Prime Minister a lot

The example in (18) contrasts minimally with (19). There is therefore an asymmetry: the *normal* non-backwards binding pattern does not obtain with LDAs, whereas it is available with the same anaphoric item, when clause bound – cf. example (14). I consider again this question in sec. 4 below. The whole question of binding with psych-verbs is quite complex and for reasons of space cannot be addressed here. The problem concerning the structure of the VP projected by these verbs has been variously addressed in the literature, most notably by Belletti and Rizzi (1988) and Pesetsky (1995). [16]

Another important consideration is that in these cases the antecedent can be further embedded inside the experiencer. Consider the following examples:[17]

(20) La propria$_t$ salute turba i sogni di Gianni$_t$

Self's health disturbs Gianni's dream

(21) Che la propria$_i$ figlia sia andata in campeggio da sola turba i sogni di Gianni$_i$

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[15] A reviewer points out the existence of a contrast between Marathi and Germanic languages: in the former a logical subject can be the antecedent of a LDA, in the latter this is not possible. If this is indeed the case, an explanation should be proposed for this cross-linguistic difference. I do not have access now to more detailed data concerning this issue.

[16] So far, no general theory of binding has incorporated the data concerning LDAs in a systematic account (as acknowledged for instance by Belletti and Rizzi,1988, fnn. 19 and 21). Departing from the general tradition, Hale and Keyser (2002, ch.5) propose an intriguing and original view of backward phenomena with psych-verbs, which is certainly worthy of further study. They propose that psych-verbs should be assimilated to inalienable possession structures, projecting an extra pronominal, which is able to bind the anaphor. I examine this topic in Giorgi (in preparation).

In any extent, with respect to the present discussion, in order to account for the long distance contrast in (18) and (19) there is no need for any special *proviso*. These cases will be shown to follow quite straightforwardly from the proposal advocated here, independently of the analysis of the VP and a possible account for (12)-(15).

[17] Again, the presence of a quantified antecedent does not modify the status of the sentence:

i,   La propria$_{*t}$ salute turba i sogni di ogni ragazzo$_t$

Self's health worries every boy's dreams

That self's daughter went to camp by herself, disturbs Gianni' dreams a lot

These cases are reminiscent of the sub-command cases, extensively discussed by Huang and Liu (2001). In Chinese, in certain configurations, an NP qualifies as an antecedent even when embedded inside an *inanimate* NP. The inanimacy constraint also holds in these cases: [18]

(22) La propria$_{*t}$ salute turba la moglie di Gianni$_t$

Self's health worries Gianni's wife

It would be desirable if this piece of evidence as well followed from a theory of LD binding.[19]

2.2 Blocking effects

In the preceding section I dealt with the exceptions to subject orientation. Here I consider the properties delimiting the binding domain of LDAs. The facts are well-known from the previous literature. The point of my analysis is to show that they are the language-specific manifestation of the same deep property of embedded clauses – namely, the representation of the speaker's coordinate. The speaker's coordinate is instantiated in Italian by certain verbal forms – the so-called *indexical* ones – and in Chinese by indexically-related nominal expressions. In this section I illustrate the main cases. I discuss them in more detail in the subsequent sections.

2.2.1 The Italian *Verbal* blocking effect

LDAs show sensitivity to the distinction subjunctive/infinitive vs. indicative. In languages having a mood distinction, the binding domain of a LDA is usually defined by an indicative mood, whereas a subjunctive/infinitive can be crossed over. I call this property 'verbal' blocking effect, to distinguish it from the blocking effect of Chinese.[20]

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[18] In Italian, sub-command is otherwise not possible, neither with clause bound *proprio*, nor with the LD one:
i.　　I sogni di Gianni$_i$ provocarono il suo/ *proprio$_i$ risveglio improvviso
　　　Gianni's dreams caused his/self's sudden awakening
ii.　　La biografia di quello scienziato$_i$ rivelò al pubblico che le sue/ *proprie$_i$ scoperte erano dei plagi
　　　The biography of that scientist revealed to the public that his/self's discoveries were imitations
[19] Huang and Liu (2001) propose that the sub-command cases pertain only to *syntactic* binding and not to the *logophoric* one, which in their terminology is the same thing as LD binding. In what follows I argue for the opposite view – namely, that sub-command pertains to a theory of LDAs. See section 4 for discussion.
[20] This question has been extensively investigated for Icelandic, see, among the others, Maling (1984; 1990). Reuland and Sigurjónsdóttir (1997) however argue that infinitival sentences are crucially different from subjunctive ones.
In this paper, I do not consider infinitival clauses for two reasons. The first one, as briefly discussed in Giorgi (1983/1984), is that as far as LD binding is concerned, they do not seem to instantiate peculiar questions with respect to subjunctive clauses. The second one is that in this work I do not wish to take a theoretical position about

As in the case of subject orientation, this one is not a property of binding *per se*. Clause bound anaphors do not exhibit this property – namely, they can be found in both subjunctive and indicative clauses, without producing any special effect. Similarly, bound pronouns do not share this characteristic: the mood distinction does not have any effect on their distribution:[21]

(23)   *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

(24)   *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

(25)   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

(26)   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

Sentences (23) - (26) show that the main verb of the embedded clause must be a subjunctive, and that an indicative prevents the anaphor from looking any further.

2.2.2   The Chinese *nominal* blocking effect

In Chinese an intervening first or second person prevents the anaphor from being bound in a clause superordinate to the one containing the first or second person pronoun.

As pointed out by Huang and Liu (2001), however, in Chinese the blocking effect is asymmetrical and even non-potential binders may act as blockers. Consider the following example:[22]

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

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the nature of control phenomena, which might be unavoidable, even if not directly related to he analysis proposed here. See section 3.3 for further discussion of this point.
[21] The antecedent might as well be a quantified one:
i.   [$_{S1}$Ogni uomo supponeva [$_{S2}$che qualcuno credesse [$_{S3}$che tutti odiassero la propria moglie]]]
         Every man supposed that somebody believed(SUBJ) that everybody hated(SUBJ) self's wife
A reviewer points out that this seems to make a difference in some languages such as Icelandic. It does not, however, in Italian. I thank to the reviewer for having brought this issue to my attention.
[22] For an analysis, see Huang (1984), Xue et al. (1994) and Huang and Liu (2001). See also the discussion of English and Chinese examples in Pollard and Sag (1992).

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

Intervening first or second person pronouns in a potential antecedent position prevent the anaphor from referring to the higher third person Noun Phrase. However, first and second person block the anaphor, but not a third person: [23]

(28) Wo$_i$ danxin Zhangsan$_j$ hui piping ziji$_{i/j}$

  I am worried that Zhangsan will criticize me/himself   (Huang and Liu 2001, ex.11b)

The grammaticality of example (28) illustrates the existence of an asymmetry in the blocking effect. Consider now the following example:

(29) 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)

LD *ziji* may be blocked by non-subjects that are not potential antecedents (Huang and Liu p. 161). Notice also that in Italian there is also a mild 'nominal' blocking effect:

(30) Gianni$_i$ pensa che tutti siano innamorati della propria$_i$ moglie

  Gianni believes that everybody is in love with self's wife

(31) Gianni$_i$ crede che Mario sia innamorato della propria$_i$ moglie

  Gianni believes that Mario is in love with self's wife

(32) ?*Gianni$_i$ crede che tu sia innamorato della propria$_i$ moglie

   Gianni believes that you are in love with self's wife

(33) ?*Gianni$_i$ crede che io sia innamorato della propria$_i$ moglie

   Gianni believes that I am in love with self's wife

The sentences with a plural or singular third person intervening nominal – cf. exx. (30) and (31) – contrast with the ones with an intervening first or second person pronoun – cf. exx. (32) and

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[23] Huang and Liu (2001) notice that some sentences with an intervening third person antecedent might be controversial. Namely, 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 are fully acceptable. Here for consistency, I assume their range of data. Notice however, that some of the problems with these judgments might be due to the complex effects arising in Chinese with plural antecedents (see Huang and Liu 2001, sect. 3.2.4), if plurals are used in the relevant contexts. Furthermore, if the third person is deictically identified can also act as a blocker, as I better discuss in a while. On the effects caused by an intervening third person, see also Tang (1989, fn.11 and fn.15).

(33). The contrast is not as strong as with the subjunctive/indicative distinction, but is undoubtedly there.

The nominal vs. verbal blocking effect partition is therefore not univocally associated with a particular language type: whatever theory one is going to develop, it should not predict a "black and white" distribution.

2.3 The movement theory

One of the most influential proposals is the one originally discussed in Cole, Hermon and Sung (1990) – and subsequently developed in various papers (Cole and Sung, 1994; Cole and Wang, 1996; Cole and Hermon, 1998; Cole, Hermon and Lee, 2001). They account for subject orientation by means of covert movement. Several versions of this proposal have subsequently been discussed by other scholars, each with its peculiar advantages or disadvantages. In the brief review that follows, I abstract away from the details and consider only the major points that might be taken to characterize the movement theory in general.[24]

Starting from an observation by Pica (1987; but see also Burzio 1991, who elaborates on previous unpublished material, dated 1986), LDAs are supposed to move out of the VP at LF. The landing site is Inflection (or T, or variants thereof). They have to move because they are somehow *defective* from the point of view of their feature specification. It is assumed that, in order to be interpreted, these anaphors must end up in a local configuration with an item providing them with the necessary features. Due to the syntactic location of the landing site, only the subject qualifies as a possible antecedent, given that it is the only nominal phrase c-commanding the anaphor. Thus subject orientation is accounted for.

This theory has produced an interesting debate. One basic question, is what counts as a defective feature endowment of an anaphor, so as to force movement at LF? The problem is that feature properties differ across languages, and even in the same language anaphoric items may differ from each other. For example, *proprio* and *ta-ziji* are both specified only for person. However *proprio* is long distance, whereas *ta-ziji* is local. Following Pica (1987), it is assumed that anaphors can move only if they are heads, given that the relevant movement is a head-to-head one and the landing site is a head position (or adjoined to a head position). Therefore, a bi-morphemic anaphor like *himself* cannot move, because it would not qualify as a head. Analogously, the Italian anaphor *se stesso* and the Chinese complex anaphor *ta-ziji* cannot

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[24] Notice that the theoretical proposal developed by Huang and Liu (2001) is ultimately based on covert movement, but it also takes into account important semantic observations, therefore we are not going to consider it here. Cole,

move. The anaphors that cannot move must be clause bound, whereas the others are subject oriented. The problem with this generalization is that *proprio* and *ziji*, beside being long distance, can be locally bound as well, in which case they are not subject oriented. Note also that the movement theory doesn't elaborate directly on Pica's proposal, but on the under-specification of the anaphors. [25]

Another very general question has to do with the fact that LDAs are not sensitive to island configurations – whereas usually covert movement is – as well as with the observation that there is no overt movement corresponding to the covert LF movement of LDAs. These problems led to various adjustments of the movement proposal; I will not comment on these points further.[26]

Putting aside these very general matters, I concentrate on two empirical questions. The first one concerns how the movement theory explains the blocking effect, particularly in Chinese. The second concerns backward binding in the case of psych-verbs.

Let me start with the *blocking effect*, as discussed by Huang and Liu (2001). Chinese *ziji* represents a prototypical case of lack of feature specification. *Ziji* in fact is not endowed with any feature at all, neither number, nor gender, nor person. As a consequence, it must move at LF.[27]

The movement theory hypothesizes that the anaphoric item *must* inherit the features it meets on its way up to the antecedent. The features are picked up by the anaphor as soon as it enters the relevant configuration with the feature-endowed lexical item. As a consequence, the first potential antecedent assigns the relevant features to the anaphor and all the potential antecedents must agree, otherwise a feature mismatch would arise and the anaphor could not proceed any further.

First, note that in order to transmit its features to the anaphor, the blocking item must be a

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Hermon and Lee (2001) in their analysis of two different Chinese dialects adopt a broader view, which they call *logophoric*, in order to account for some of the differences observed between the two languages.

[25] Concluding this brief comment, let me say that the morphological correlations are obviously there and that recent proposals by Safir (2004a, b and c) capitalize on these distinctions, making it a central requirement for the selection of the various items entering the Numeration. The issue is not crucial for the subsequent discussion, but in general I endorse Safir's view, as I discuss more extensively in Giorgi (to appear).

[26] Several solutions to this question have been proposed in the literature. See for instance Huang and Tang (1991) and Safir (2004a). A reviewer asks me whether the revisions of the movement theory were successful. It seems to me that they were indeed successful. The question however is not if adjustments of the theory are *possible* – because they always are – but how *insightful* they are. So far, it seems to me that the fundamental similarity advocated here between the Chinese-like system and the Italian-like one were not captured by any of them. In all the works I know of, there is no mention of a unification of the verbal blocking effect with the nominal one and I can't really see how in principle this could be achieved in the movement framework.

[27] A reviewer points out that the difference between possessive and non-possessive anaphor might be crucial in this respect. In particular, only possessive anaphors might pose problems to a movement theory. However, as discussed by Huang and Liu (2001), this does not seem the case, as far as *ziji* is concerned. They explicitly claim and show that *ziji* when used as a possessive, has the same distribution of the non-possessive ones.

potential antecedent. However, in (29) above, the blocker is *not* a possible antecedent. To deal with these cases of LD binding, Cole, Hermon and Lee (2001) propose that they do not belong to sentence grammar, but must be accounted for in terms of logophoricity.

Second, according to the movement theory, *any* potential antecedent will endow the anaphor with features. Consequently, a LDA cannot refer to something differently marked. The example in (28) above illustrates a problem for this proposal. As shown by the example, the blocking effect is *not* symmetrical, so that a third person does *not* block the anaphor from referring to a first person.[28]

Finally, under the movement approach, the (nominal) blocking effect in Chinese is usually considered to be a consequence of its lack of verbal agreement. Cole and Sung, (1994) and Cole and Wang (1996), *inter alia*, propose that there is a typological correlation between the lack of agreement and the blocking effect. According to this proposal, the blocking effect should exist only in Chinese-like languages, whereas it should be absent in Italian-like ones. The data illustrated above in (30)-(33), however, show that this prediction is not empirically adequate due to the existence of the mild nominal blocking effect in Italian-like languages as well.[29]

The entire pattern involving psych-verbs is difficult to explain on the basis of movement of the anaphor to Infl (or to equivalent positions). According to the movement theory, LDAs are predicted to be *always and only* subject oriented. The sentences in (16), (17) and (19) – i.e., the cases with backward LD binding – could not be trivially derived in this way, since movement of the anaphor to Infl would not locate it any closer to its antecedent. Those working in the movement framework usually propose versions of a theory of logophoricity in order to account for these cases. Let us suppose, pushing the movement theory as far as possible in the spirit of Cole, Hermon and Lee (2001), that a syntactic theory is also supplemented by logophoric conditions. This idea could account for the *grammaticality* of (16) and (17), but still cannot explain the *ungrammaticality* of (18) – i.e., the impossibility of LD non-backward binding with this kind of structures. The logophoric conditions in fact, must be conceived of as existing *in addition* to the movement strategy. Therefore, a proper account for long distance backward binding is an open question.[30]

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[28] The trigger for further movements of the anaphor, after the first cycle, constitutes another important question arising in this connection. If LDA movement in fact, is motivated by the necessity of inheriting features for the interpretive process, it is unclear why, once the features have been assigned, the anaphor can move further up.

[29] D. Sportiche (p.c.) has pointed out to me that as far as French goes, the anaphor *soi* (self) – a long distance anaphor selecting indefinite and quantified antecedents – seems to exhibit the same properties with respect to a *mild* nominal blocking effect. I thank him for the observation.

[30] Notice that Cole, Hermon and Lee (2001) do *not* propose this solution for the experiencer problem, for which they might have ideas of which I am not aware of.

Sub-command is predicted to be possible only in Chinese-like languages. The idea proposed by the movement theory is the following: in a language with no visible agreement features, only the features of an animate subject – or, in these cases, of a *sub*-subject – can be represented in Infl, or AGR, and be able to trigger the movement of the anaphor. Such effects should therefore be absent in Italian-like languages. Therefore, if examples (20)-(21) are indeed cases of sub-command, they lack an explanation.

Finally, the verbal blocking effect is considered as a peculiar condition holding in Italian-like languages. In the movement perspective, in fact, the subjunctive induces a syntactic configuration that is a pre-condition to be met, in order for a LDA to be able to move.[31]

The issue here arises from the fact that from this perspective the blocking effects in the two language types are conceived of as totally different in nature. In what follows I propose an alternative view, attributing both of them to the presence of the syntactic representation of the speaker's coordinate.

3   An alternative account

I propose the following principle of anaphoric binding, which I discuss in the rest of the paper:

(34)   Long distance anaphoric binding:

a) a LDA is the spell-out of an unsaturated position

b) it can be saturated either by a co-argument[32], or

c) by the bearer of the attitude

In what follows I discuss the two main points of the hypothesis. The first one is that LDAs are unsaturated positions and the second is that anaphors are interpreted by means of the same syntactic apparatus needed for the temporal interpretation of utterances – i.e., the syntactic representation of the bearer-of-attitude and of the speaker's coordinate.

3.1   LDAs as unsaturated positions

It has often been the case that anaphors have been considered in the literature as bound variables *tout court*. Here I show that LDAs must be analyzed by means of a finer grained theory of reflexives, and that – though they can behave as bound variables, for instance when bound by a

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[31] For a different view, see Progovac (1992).

[32] As far the notion of co-argument is concerned, I endorse the view proposed by Reinhart and Reuland (1991) and subsequent work.

quantifier – they fall into a different class. I distinguish *unsaturated* positions, from *open* positions – i.e., bound variables. I discuss this point more extensively in Giorgi (to appear) and here I summarize the main points necessary to the present discussion.[33]

I propose that long distance anaphors, are the spell out of an unsaturated position – that is to say, a theta-position that is not filled by any argument whatever, overt or covert – which comes to be saturated in the course of the derivation via theta-identification with the antecedent.

This discussion is based on the observations regarding the *de se* interpretation of *proprio*, due to Chierchia (1989), building on Kaplan (1979), and on the analysis of the interpretation of (clause bound) reflexives in English due to Jackendoff (1992), later elaborated by Burzio (1994), Lidz (2001a; 2001b) and Liu (2003).

3.1.1 LDAs as *de se* anaphors

Chierchia (1989) considers the *de se interpretation* of *proprio*, based on the discussion by Castañeda (1966) and subsequent developments by Kaplan (1979). He argues that this property is sufficient for explaining the subject orientation of this LD anaphor. In this section I show that this is an important property, calling for an explanation, but that it cannot explain the complexity of the distribution by itself the whole of the distribution of LDAs. I account for this property by means of the hypothesis proposed above – i.e., the idea that LDAs are unsaturated positions.

Let's begin with a brief discussion of the well-known examples in (35):

(35)   John thinks that he is a war hero

The speaker might mean that John has a *de re* belief about a certain person which is John himself – namely, that that person is a war hero.

However, there are two distinct thoughts that might be in John's mind, both of which can be appropriately reported by means of (35). John might be amnesiac and therefore, when reading

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[33] The distinction between unsaturated positions vs. variables is discussed in Higginbotham (1997, see also Higginbotham, 1985). Some authors, *inter alia* Reuland (2001a), identify anaphors with bound anaphors. In this perspective, the question Reuland addresses is why in certain contexts the anaphor has to be selected and why in other ones the pronoun has. He considers the following Dutch examples:
    i.   *Oscar* voelde [*zich* wegglijden] (Reuland's ex.(21))
            Oscar felt himself slide away
    ii.   *Oscar* voelde [*hem* wegglijden] (Reuland's ex. (22))
            Oscar felt him slide away
He argues that both sentences have the same interface representation:
    iii.   Oscar λx (x felt (x slide away)) (Reuland's ex. (23))
The question is therefore why (i) is chosen over (ii) as a source for (iii). I address this and related questions in Giorgi (to appear). In the present paper my position with respect to *proprio* is that a representation such as the one in (iii) would not capture its core properties, as described in this section.

about himself, he might say, "Oh, this guy is a war hero!" without realizing that the hero is him himself. The speaker might then report what he said by means of sentence (35). Notice that the speaker is aware of the identity of the war hero, and therefore *from the speaker's point of view* coreference between the pronoun and the matrix subject is perfectly appropriate. In another scenario, John might simply have a conscious belief about himself: "I'm a war hero", which the speaker might report by means of (35). This one is the *de se* – or first personal – reading.

The ambiguity disappears if the sentence contains an emphatic pronoun, or a PRO structure:

(36)   John thinks that he himself is a war hero

(37)   John expects himself to win

(38)   John expects to win

In these cases, the only appropriate reading is the one in which John is perfectly aware of his own identity.[34] Chierchia proposes that *proprio* (self's) exhibits the same property. He considers in fact Kaplan's example (1979, reported in the references as Kaplan 1989):

(39)   John believes that his pants are on fire

The relevant meaning is the one in which the pronoun refers to John. This sentence can be first-personal. However, it can also be appropriate in a situation in which John is not aware of the fact that the person whose pants are on fire is he himself. The Italian equivalent containing a pronoun has the same property:

(40)   Gianni$_i$ pensa che i suoi$_i$ pantaloni siano in fiamme
       Gianni thinks that his pants are on fire

Conversely, the sentence containing the LDA is not ambiguous:

(41)   Gianni$_i$ pensa che i propri$_i$ pantaloni siano in fiamme
       Gianni thinks that self's pants are on fire

The example (41) is only first-personal. Pan (1998, 2001) and Huang and Liu (2001) discuss the

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[34] See the extensive discussion provided by Higginbotham (2003).

same range of facts in Chinese.

Following this line of thought it might be argued that LDAs are subject oriented because only the subject can give rise to the appropriate first personal reading. Objects are excluded because they are not compatible with the *de se* requirement of the anaphor. Consider the following example:

(42) Gianni$_i$ ha informato Maria$_j$ che i propri$_{i/*j}$ pantaloni sono in fiamme
      Gianni informed Maria that self's pants are on fire

In (42) the only one which can be said to have a first personal belief is *Gianni*, and not *Maria*. However, in order to obtain the correct distribution, one has to claim that the anaphor has in itself, as a lexical property, the requirement of being interpreted *de se*. Furthermore, the same should hold of the emphatic pronoun and PRO.

This account faces the following problems. An emphatic pronoun can refer also to an object, in which case no first personal reading obtains and the same holds of object control:

(43) I informed Bill that he himself was selected by the committee.

(44) John ordered Mary$_i$ PRO$_i$ to leave

The interpretation assigned to the emphatic pronoun and to PRO is not a first-personal one and yet the sentences are grammatical. Furthermore, when it is clause bound, *proprio* is not subject oriented:

(45) Ho convinto Maria$_i$ del proprio$_i$ valore
      I convinced Maria of self's value

Therefore, it is not clear why, given the existence of a non-*de se proprio*, the LDA in (43) cannot be appropriate in a non-*de se* scenario. Let us entertain the possibility that the fact that *proprio* selects the *de se* reading is not the *cause* of its subject orientation, but an *effect* due to other properties. On the other hand, the peculiar reading of these items in these contexts has to be addressed by any theory dealing with LD binding.

There is finally another piece of evidence that I would like to discuss in this connection. Subject orientation is usually a sharp judgment, on which speakers usually agree – namely, coreference with an object, as in (42), is considered ungrammatical by all speakers. On the contrary, for

some speakers – even if not for everybody – there is no contrast between the sentences (46) and (47):

(46)   La sventurata fanciulla riteneva che il proprio fidanzato fosse un gentiluomo
          The unhappy young woman believed that self's sweetheart was a gentleman
(47)   La sventurata fanciulla riteneva che il proprio assassino fosse un gentiluomo
          The unhappy young woman believed that self's murderer was a gentleman

Only (46) can be truly first personal. Some speakers therefore do behave accordingly to Chierchia's prediction, rejecting (47), but other ones, myself included, do not. Still, sentences (46) and (47) both sharply contrast, for all speakers, with (48):

(48)   *Ho informato la sventurata fanciulla$_i$ che il proprio$_i$ fidanzato non era un gentiluomo
          I informed the unhappy young woman that self's sweetheart was not a gentleman

Even the speakers who tend to reject (47) find (48) much worse.

The generalization, therefore, could be stated as follows: *when possible*, the LDA *proprio* is unambiguously interpreted first-personally. For some speakers, if it is not possible to assign it the first-personal interpretation, the sentence becomes marginal, for other ones, it is still acceptable. If this is the case, then it is necessary to look elsewhere to explain subject orientation. [35]

Let's briefly consider now the unification of LDAs with bound variables. There are distributional differences between anaphors and bound pronouns, which are rather obvious: bound pronouns are not subject oriented, are not sensitive to subjunctive/indicative distinction etc. Moreover, and more importantly, there are semantic differences. In Kaplan's contexts, which I briefly illustrated above, rediscussed in Chierchia (1989), LDAs are unambiguously *de se*, whereas bound pronouns maintain the ambiguity:

(49)   John$_i$ thinks that his$_i$ pants are on fire

(50)   Ogni ragazzo$_i$ pensa che i suoi$_i$ pantaloni siano in fiamme

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[35] Huang and Liu (2001) and Cole Hermon and Lee (2001) discuss examples like (47) in Chinese. Huang and Liu consider them marginal – not *totally* ungrammatical – whereas Cole, Hermon and Lee give them as fully acceptable.

(51) Every boy thinks that his pants are on fire

(52) Gianni$_i$ pensa che i propri$_i$ pantaloni siano in fiamme

      Gianni thinks that self's pants are on fire

(53) Ogni ragazzo$_i$ pensa che i propri$_i$ pantaloni siano in fiamme

      Every boy thinks that self's pants are on fire

When the pronoun is bound by a quantifier, both the first-personal and non first-personal readings are available, like in (50) and (51). However, when the anaphor is present, only the first-personal reading is acceptable – cf. ex. (52) and (53). Given this paradigm, it seems necessary to set the two cases apart.

The conclusion is that the anaphor and the bound pronoun cannot be *tout court* identified with each other.

3.1.2 The *Madame Tussaud* setting

Another set of data in the same vein comes from the analysis of the so-called *near reflexives*. Jackendoff (1992) pointed out that anaphors in English can have the statue reading in a *Mme. Tussaud setting*. Namely, if we take a scenario like the wax museum, we might imagine that some famous person visiting it might see her/his own statue. Jackendoff notices that in such a scenario a sentence such as (54) can mean (55), but not (56):

(54) Ringo fell on himself   (Jackendoff's 13)

(55) 'The actual Ringo fell on the statue of Ringo'   (Jackendoff's 13a)

(56) 'The statue of Ringo fell on the actual Ringo'   (Jackendoff's 13b)

Sentence (54) can be interpreted as: wandering around at the wax museum the famous Ringo Starr might fall on his own statue, but not the other way around. The analysis provided by Jackendoff is mainly devoted to the explanation of the contrast between (55) and (56).

Lidz's (2001a, 2001b, 2001c) analyzed these cases and proposes the term *near reflexives* for anaphors in the statue setting. He discusses an account – Condition R – for the unavailability of the near reflexive reading in the local context. In his approach, the anaphors must be classified on the basis of the possibility of instantiating the *near-reflexive function*. As a lexical property, they have – or lack – the possibility of taking a *near-antecedent* (such a statue). Lidz represents the two readings in the following way (from Lidz, 2001a, exx.15a - 15b):

(57) $\lambda x [P(x,x)]$ (Semantic/ Pure-reflexive)

(58) $\lambda x [P(x, f(x))]$ (Near-reflexive)

Condition R is represented as follows:

(59) $\lambda x [P(x,x)] \leftrightarrow (\theta 1 = \theta 2)$ (From Lidz, 2001a, ex.17)

This condition states that if a predicate is semantically reflexive – where semantic reflexivity excludes the availability of near-reflexive readings – it must be lexically reflexive. Conversely, if a predicate is lexically reflexive, then it must be semantically reflexive – i.e., it must exclude near-reflexivity.

Liu (2003) analyzes the distribution of the near reflexive reading with clause-bound reflexives in Chinese. Both the anaphors *ziji* and *ta-ziji* can have a near-reflexive interpretation – i.e., they can refer to the statue, whereas the proper name refers to the actual person.

(60) Mao Ze-Dong ba *ziji$_S$* qiangbi le   (from Liu, 2003, ex. 3, subscript mine)

      Mao Ze-Dong BA self shot ASP

      Mao Ze-Dong shot himself'

(61) (Zai ziji-de tongxiang qian), Jiang Jie-Shi yong gunzi da-le *ta-ziji$_S$* yi-xia

      (from Liu, 2003, ex.4, parentheses and subscript mine)

      (At self-DE statue before), Jiang Jie.Shi use cane hit-Asp himself one-cl

      (In front of his statue), Jiang Jie-Shi uses a cane to hit himself

The same holds in Italian, with the clause bound *proprio*:

(62) Ringo ammirò il proprio viso

      Ringo admired self's face

      'Ringo admired his face/ the face of his statue'

On the contrary, the near reflexive reading is unavailable for LDAs, both in Italian and Chinese:

(63) Ringo$_i$ temeva che i visitatori danneggiassero il proprio$_i$ viso

      Ringo was afraid that the visitors might damage self's face

'Ringo was afraid that visitors might damage his face/ *his statue's face

(64) Mao Ze-Dong$_i$ yiwei Lisi zhuyi-dao ziji$_i$ le

Mao Ze-Dong thought that Lisi noticed self ASP

Mao Ze-Dong thought that Lisi noticed himself/ *his statue

In (63) and (65), *proprio* and *ziji* are LD bound and near reflexivity is ruled out. The problem therefore is the to explain why *ziji* and *proprio* can instantiate the near-reflexive function in the local domain, whereas they cannot do it in the non-local one.[36]

3.1.3 Conclusions

In the remaining sections I develop a possible solutions for these questions, following the line of thought originally suggested by Williams (1987; 1989) Higginbotham (1997).

 Williams (1987; 1989) proposed that the binding theory operates on thematic relations and not on syntactic projections and Higginbotham (1997) developed a similar view proposing a theory of *implicit anaphora*.[37]

Here I want to capitalize on these proposals and argue that Williams's and Higginbotham's perspectives are essentially correct, at least as far as LD binding is concerned. I propose that a LDA should be treated as an *implicit argument* in Higginbotham's sense. More precisely, a LDA is an unsaturated position, saturated in the course of the derivation by means of theta-identification. The anaphor is first personal, precisely because it marks an unsaturated position. Namely, there is nothing there which 'takes a reference' in the sense a pronoun does. In the same vein, near-reflexivity is excluded – coherently with the proposal discussed by Lidz applied to the local contexts. In a word, the correct notion for a LDA is not *having an antecedent*, but *being theta-identified* with it. For simplicity, I assume here that morphologically complex anaphors such as *se stesso*, *himself* and *ta-ziji*, obey principle A of the binding theory. Only anaphors escaping principle A of the binding theory can spell out unsaturated positions. [38]

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[36] The Chinese anaphor *ta-ziji* (lit: him-self) is only clause bound. I thank Audrey Li and Luther Liu for judgments and discussion on this point.

[37] Williams (1987, p.159) reformulates principles A, B and C of the binding theory as principles A, B and C of the *Th-binding theory*. Furthermore, he also defines the notion of *th-command*, analogous to the one of c-command.

[38] Something similar has been proposed in the literature, for instance by Reuland and Reinhart (1993), who claimed that the core cases of binding do not include possessive anaphors, anaphors in PPs, etc, basically including only items in argumental position. Notice that the prediction concerning which items would follow which strategy is a language internal one. In fact, *ta-ziji* is marked for person and only for person, exactly like *proprio*, as noted above. *Proprio* however, can be LD bound, whereas *ta-ziji* is only local. See also Safir (2001, 2004a, 2004b). It seems to me that Burzio's (1994) and Safir's (2004a, 2004b, 2004c) intuitions, with respect to the way the items entering the Numeration are selected, can be taken to be correct. The property according to which languages define which item

3.2 The syntactic representation of the bearer-of-attitude's and speaker's coordinates

In this section I argue that the bearer-of-attitude's and speaker's coordinates are both represented in the embedded clause. Simplifying somehow, the former is present both in indicative embedded clauses and in subjunctive ones, whereas the latter only in the indicative ones.

More precisely, when the complement clause has an indicative verbal form, the bearer-of-attitude's interpretive feature is represented in T, whereas the speaker's is in C. In subjunctive complement clauses, the bearer-of-attitude – the speaker's is not present in this case – is represented in MOOD-P. They are activated by the verbal form, which is copied there in the Merge/Move process building the sentence.[39]

In Italian-like languages, these features play a central role in interpretation of the temporal interpretation of embedded clauses, and in general in Sequence of Tense phenomena. I argue that the same holds in Chinese, even if the temporal interpretation of embedded clauses does not obtain through verbal morphology.

Furthermore, I argue that the presence of the speaker's coordinate has the effect of "blocking" the anaphor in both languages. The underlying idea is that when an event evaluated with respect to the "actual" world, all positions must be saturated. The following condition holds:[40]

(65) **Blocking condition:** an event located with respect to the speaker's coordinate must be *fully saturated*

3.2.1 LDAs as logophors

Before proceeding further, I would like to say a few words on the theoretical approach that directly connects LDAs to the indexical context – namely, the idea that LDAs are logophors. The present proposal in fact owes much to this view, given that it recognizes the crucial role

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is a LDA could be the following: the *least* specified item is selected to mark unsaturated position. Intuitively, this makes sense, because the property of an unsaturated position crucially must depend on the item which saturates it, and not on the position marker. In other words, it is not the case that anaphors need an antecedent because they lack features, but in the contrary, they lack features because they need an antecedent – i.e., they are used to mark unsaturated positions.

[39] Recall also that they are interpreted cyclically. See Larson and Segal's (1995) discussion of the notion of Interpreted Logical Form (ILF), which can be viewed as a cyclically interpreted Logical Form.

[40] The same should hold in Russian-like languages as well, being a general, perhaps universal, interface condition. In Russian, however, SoT differs with respect to the Italian one, in that the present-under-past effect, which is part of the Double Access Reading effect, cannot be observed. However, Russian, like Italian and contrary to Chinese, has a rich morphological verbal system, and also encodes distinctions resembling the subjunctive/indicative divide. Further study by native speakers is required in order to investigate the relationships with LDAs.

played by the context. Contrary to this approach, however, I attribute the binding properties to *sentence* grammar and not to *discourse* grammar. [41]

The relevance of the discourse in LDAs interpretation was pointed out by Sells' (1987) in order to explain subject orientation. He noticed that the subject, but not the object, usually plays an important function in the discourse. On the basis of the discourse representation proposed by Kamp (1984), Sells suggests three ways in which a certain item can be prominent with respect to the other ones: it can be a *source*, a *self*, or a *pivot*. Since a LDA is ruled by logophoric principles, it is subject oriented, the grammatical subject usually coinciding with the prominent logophoric role.

The logophor theory has been discussed and adopted with various provisos by many authors. I summarize here the discussion provided by Cole Hermon and Lee (2001). They claim that if stated in a simplistic way this theory does not make correct predictions. In several cases, in fact, the antecedent is not the element bearing the prominent role in the discourse, but on the contrary it appears to be a subject devoid of any particular prominence in the context. Cole, Hermon and Lee (2001, exx. 3 and 4), discuss the following cases:

(66) $Zhangsan_i$ wangji le $Lisi_j$ hen taoyan $ziji_{i/j}$ de gege

$Zhangsan_i$ forget perf $Lisi_j$ very hate self's brother

$Zhangsan_i$ forgot that $Lisi_j$ hates his_i/his own_j brother

(67) $Zhangsan_i$ bu xiao de Lis_j hen taoyan $ziji_{i/j}$

$Zhangsan_i$ not aware $Lisi_j$ very hate self

$Zhangsan_i$ was not aware that $Lisi_j$ hates $him_{i/j}$

They argue that the matrix subject qualifies as an antecedent, without being either a Source, or a Self, in Sells' (1987) sense. There is also a discussion of related issues in Pollard and Xue (2001). They claim as well that the *pure* logophoric approach cannot successfully account for the variety of phenomena observed in LD binding.

Finally Reinhart and Reuland (1991) introduced the notion of logophoricity in connection with similar binding phenomena, even if under a rather different perspective. Their view is that all the binding facts that cannot follow from a theory of binding based on co-argumentality and *chains*

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[41] The same move has been proposed by several other authors for other questions, such as the temporal interpretation (Higginbotham 1995, Giorgi and Pianesi 2001a; 2004a) and the interpretation of pronouns (Schlenker, 2003) and PRO (Higginbotham 2003).

should be accounted for by a theory of logophoricity. [42]

In this paper, I make the very strong claim that all *sentential* antecedents can be accounted for by means of rules of sentence grammar.

3.2.2 The role of the speaker and the bearer-of-attitude in SoT

The syntactic representation of the bearer-of-attitude's and speaker's coordinates is considered by Giorgi and Pianesi (2001a, 2004a; 2004b) as the crucial factor determining the Double Access Reading effects. They named their proposal *Generalized Double Access Reading – Generalized DAR* from now on. Here I briefly summarize the most important points, concerning the syntactic representation of the coordinates in question.

As a first step, let me illustrate what the DAR is. Consider the following examples, in Italian and English:

(68)   Gianni ha detto che Maria è incinta

(69)   Gianni said that Mary is pregnant

The meaning of this sentence is that the state of pregnancy must stretch from the time of Gianni's saying it to the present moment – i.e., the state of Maria being pregnant must hold at both times. The embedded present tense is interpreted as expressing simultaneity both with respect to the event of the main clause, the *saying* episode, and with respect to the time of the utterance event. Notice that this is not a universal property, given that it holds in some languages, such as Italian and English, and it does not hold in other ones, such as Japanese, Chinese, and Russian.[43]

Giorgi and Pianesi propose that the DAR is not a property restricted to the present tense, but that it also holds of the embedded past and the embedded future:[44]

(70)   Gianni ha detto che Maria ha telefonato

(71)   Gianni said that Maria called

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[42] Hellan (1991) proposes a bipartition between LD anaphors and locally bound ones. He argues that LDAs obey a *containment* condition, whereas the locally bound ones obey a *connectedness* condition. LDAs are related to their antecedent by means of predication or logophoricity. Locally bound anaphors are basically bound by a co-argument. Hellan's distinction is descriptively very similar to the one I am arguing for in this work.

[43] Recall that Russian, though lacking of the effect illustrated in sentence (68), cannot be assimilated *tout court* to Chinese, given that it has a very reach verbal morphological system. Moreover, the complementizer system of this language, as in other Slavic ones – see Krapova and Karastaneva (2000) – is quite different with respect to the Italian one. Therefore the whole question should be further investigated.

[44] Abusch (1997) and Stowell (1996), on the contrary, argue in favor of limiting the DAR to the present tense.

(72)   Gianni ha detto che Maria telefonerà

(73)   Gianni said that Maria will call

In examples (70) and (71) the embedded event is interpreted as past both with respect to *now* – the utterance event – and with respect to the matrix saying event. Analogously, the embedded event in (72) and (73) is future both with respect to the matrix saying episode and with respect to *now* – i.e., the utterance time. In other words, the embedded eventuality, in order to be located in time, accesses both the utterance time and to the time of the matrix event.

The point relevant for my discussion concerns the way the temporal interpretation is achieved. Giorgi and Pianesi propose that the Interpreted Logical Form (ILF, see Larson and Segal 1995), on which the temporal interpretation takes place, in these cases contains both the temporal coordinate of the speaker and the one of the bearer of the attitude – which in *most* cases is the superordinate subject.

According to Larson and Segal, the Logical Form is not simply built and *then* sent to a non-descript interpretive module, but is interpreted while it is built, in a cyclic way. Beside this, for the purposes of this work, it can be conceived of as the usual LF, closer however in the abstract conception to the notion of *interface* developed in Chomsky (1995) and subsequent works.

With respect to the coordinate of the bearer of the attitude, Giorgi and Pianesi follow a proposal by Higginbotham (1995). He argues that by means of tense, thought contents make room for reference to their own episode (*tensed thoughts*) and that therefore the matrix episode must be represented in the embedded clause. According to Giorgi and Pianesi, therefore, the temporal anchoring of the embedded event to the matrix one amounts to the fact that the ILF of the embedded clause contains a temporal relation holding between the event of the embedded clause, and that of the embedding one. Syntactically, the temporal coordinate of the superordinate subject appears in the lower T (or MOOD, for the subjunctive) projection.

With respect to the temporal speaker's coordinate, Giorgi and Pianesi (1997; 2004b) discuss a split-C framework according to which – as far as the temporal relations are concerned – two distinct complementizers must be distinguished in embedded clauses. They identified a lower one, called MOOD, related to the presence of an embedded subjunctive verb, and C, the higher one, which roughly speaking appears with the indicative verbal forms. The high C is associated with the speaker's coordinate. [45]

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[45] The positions in the Complementizer layer might be more numerous than that; see Rizzi (1997). I focus here only on the positions involved in the temporal anchoring process. Note also that there is converging evidence with respect to the relevance of the complementizer in the mood selection and, consequently, in the temporal

This proposal accounts for the peculiar semantics of the DAR and for the properties of indicative clauses vs. the subjunctive ones. With the subjunctive, no DAR effects can be observed:[46]

(74)   Gianni crede/ *credeva che Maria parta

Gianni believes/*believed that Maria leaves (PRES SUBJ)

(75)   Gianni credeva che Maria partisse oggi/ieri/domani

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

If a present tense appears in the matrix clause, then a present subjunctive must appear in the subordinate one, and a main past form is ruled out, as shown by (74). Furthermore, the embedded verbal form, though considered in traditional grammars as a *past* form, is compatible with all possible temporal references, cf. (75).[47]

In other words, the presence of a present vs. a past subjunctive in an embedded clause depends on the tense of the superordinate clause and can therefore be considered a morphological agreement phenomenon. As a consequence, there is no DAR. In other words: no question could ever arise in connection with the DAR, given that in the embedded clause there is no temporal relation to be independently interpreted.

For clarity, let's compute the ILF of an indicative and a subjunctive clause.

Consider example (68) above. The bearer-of-attitude's coordinate is represented in T, and while building the TP, the event is copied there. Given that the verbal form is an indicative, according to Giorgi and Pianesi's system, the event is then copied in C. At this point the structure looks as follows:

(76)   …. $[_{\text{CP-speaker}} …e'_{be\ pregnant}…. [_{\text{TP-bearer-of-attitude}} …e_{be\ pregnant}…$

At the CP level a cycle is concluded and therefore the eventive variable is interpreted. In T, It is evaluated with respect to the subject, i.e., the bearer-of-attitude, temporal coordinate. Consequently, the pregnancy is interpreted as simultaneous to the saying of Gianni. In C, the

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interpretation of the embedded clause, even in different language groups. See *inter alia* Tsoulas (1994) for Modern Greek, Krapova and Karasteneva (2000) for Bulgarian and Slavic languages.

[46] Giorgi and Pianesi (2004b) also discuss the subjunctive clauses embedded under a verb belonging to the *ipotizzare* (hypothesize) class, which strongly support their view. For further discussion, I refer the reader to their paper and references cited there.

[47] If no adverb is present in the embedded clause, the interpretation is a *default* simultaneous one. For a detailed discussion of these examples, see Giorgi and Pianesi (2001a, 2004a, 2004b).

eventive variable is interpreted again, with respect to the speaker's coordinate, getting therefore a *double* evaluation. Concluding, the event is evaluated both with respect to the bearer-of-attitude's coordinate, syntactically represented in T, and the speaker's coordinate, syntactically represented in C.

When the embedded clause is in the subjunctive, as in examples (74) and (75) above, the situation is different. Recall in fact that the subjunctive does not instantiate a real *tense* and the higher complementizer C is not realized. The only relevant projection in these cases is MOOD-P, where the bearer-of-attitude coordinate is represented. Consequently, the eventive variable is temporally located only *once* and no DAR obtains:

(77) Subjunctive: $[_{\text{MOOD-P bearer-of-attitude}} \dots e'_{leave} \dots [_{\text{VP}} \dots e_{leave} \dots$

Giorgi and Pianesi discuss these questions with more details and further data supporting the analysis. For reasons of space, I cannot reproduce here the arguments in their entirety and refer the reader to the quoted references.

3.2.3   The temporal interpretation in Chinese

In Chinese, SOT has very different properties with respect to Italian and English. Chinese lacks a morphological device for marking tense; it marks aspect by means of aspectual morphemes, which however bear on the temporal interpretation only derivatively. On the other hand, trivially, in complex sentences the various events *are* temporally ordered with respect to each other, exactly as in Italian and English.

As pointed out in Lin (2003, p. 282), the temporal reference of Chinese subordinate clauses largely depends on the semantics of the matrix verb. The relation can be fully determined on principled grounds, as for instance in the following cases:[48]

(78) Wo kanijan ta da Lisi (Lin's ex.36)

   I see he hit Lisi

   I saw him hit Lisi

Due to the peculiar semantics of the perception verbs – a general property across languages, and perhaps a cognitive constraint – the event of hitting must overlap the seeing. This piece of evidence would be the same in all languages. The author goes on to say that when the temporal

constraint of the matrix clause is not *a priori* defined, the temporal location of the embedded event is left undetermined (p. 283-284). Let me consider more closely the following example:

(79)   Zhangsan shuo/renwei Lisi hui chuli   (Lin's ex. 39c)

Zhangsan say/think Lisi will handle

Zhangsan said/thinks Lisi would/will handle it[49]

In the discussion of this example, Lin points out that the eventuality of the embedded clause is located after the eventuality in the main one, by means of the auxiliary *hui* expressing futurity. However, the location of the embedded clause with respect to utterance time in not specified. In Giorgi and Pianesi 's terms, this fact can be interpreted by saying that the embedded eventuality is anchored to the superordinate one, but that – as in many other languages, such as for instance Russian and Japanese – there is no anchoring to the utterance time, hence no DAR. Therefore, the sentence is predicted to be equivalent both to the sentence with the *will*-future and to the one with the *would*-future, as shown in the translation.

Consider now the following sentence:

(80)   Zhangsan shuo/renwei Lisi zai xizao   (Lin's ex. 39b)

Zhangsan say/think Lisi Prog take-a-bath

Zhangsan said/thinks Lisi was/is taking a bath

In this example there is an aspectual marker – *zai*, glossed as a progressive marker – in the embedded clause, to the effect that the embedded eventuality must be interpreted as overlapping the time of the matrix one. However, its relation with the utterance time is again not specified. In fact, the glosses show that it can give rise to two interpretations. In the first one the embedded event is understood as simultaneous only to the matrix one. In the second, it is interpreted as simultaneous both with the matrix and with the utterance event, analogously to the example in (79).[50]

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[48] I thank Audrey Li for providing the relevant reference.

[49] For completeness, I must say that Lin (p.c.) does not fully agree with this conclusion. However, it does not seem to me to be contradicted by anything he proposes in his work, or by anything I am aware of about the Chinese language. Therefore, I pursue it, since it leads to correct predictions.

[50] Lin (ex.(39b)) also discusses the following case:

i.   Zhangsan shuo/renweui Lisi shuo huang
         Zhangsan say/think Lisi tell lie
         Zhangsan said/thinks that Lisi told lies

Given this evidence, it seems reasonable to conclude, therefore, that the anchoring to the main verb obtains in all cases. This is predicted by Giorgi and Pianesi's proposal. The authors in fact claim that the anchoring of the eventuality of a complement clause to the superordinate one is an obligatory requirement of Universal Grammar. On the other hand, Chinese is a non-DAR language and the relation of the eventuality of the embedded clause with the utterance time is not automatically provided.

The prediction of my proposal applied to Chinese is therefore the following: no blocking effect due to the DAR is expected, given that there is no codified DAR in the language. However, we should expect blocking phenomena whenever the speaker is represented in the embedded clause, in a way *analogous* to the DAR.

4   Back to LDAs

4.1   The analysis of Italian LDAs

The extended verbal projection – the TP in the case of the indicative and the MOODP in the case of the subjunctive – is a phrase with an unsaturated position, spelled out as a LDA. Recall in fact that in section 3.1, I proposed that LDAs are the spell out of a theta-position that is not filled by any argument whatever, overt or covert, which is saturated in the course of the derivation via theta-identification with the antecedent. The principle of binding – already given in (34) – is the following:

(81)   Long distance anaphoric binding:

     a) a LDA is the spell-out of an unsaturated position

     b) it can be saturated either by a co-argument, or

     c) by the bearer of the attitude

If the position in question fails to be saturated by means of a co-argument, it is saturated by the bearer-of-attitude. Therefore, *in most cases, but not all of them,* it is saturated by the superordinate subject. The process applies recursively, each value that can be picked up in the

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The English glosses imply that the embedded verb is interpreted as a past with respect to the one of the matrix clause. This is in fact the interpretation we would expect coherently with the other cases: the embedded eventuality is anchored to the main one, irrespectively of the utterance time. In this case however, the difference with the DAR languages is not evident, because the DAR and non-DAR strategies both give the same result. The author however (p.284) says that the embedded clause is interpreted as if it were unembedded. If that were the case, the sentence should also be compatible with an interpretation in which the embedded eventuality, though still interpreted as a past, is located in the future with respect to the main one: Zhangsan said that Lisi would tell lies. The glosses however seem to exclude such a possibility.

course of the process being a possible "antecedent" for the anaphor. The process stops when the speaker's coordinate intervenes. At that point, all positions must be saturated and cannot be further operated upon, due to the *blocking condition* given in (65) above, and repeated here:

(82) **Blocking condition:** an event located with respect to the speaker's coordinate must be *fully saturated*

This makes intuitive sense, given that we might think of the speaker's coordinate as something referring to the actual world. Therefore no further evaluation should in principle be possible.[51] Note also that this might be taken as a very general requirement on unsaturated positions. When the speaker's coordinate comes into play, all positions have to be made interpretable, hence, saturated. This might provide an additional insight about antecedent-less anaphors, which are ungrammatical:

(83) *Io amo la propria madre
     I love self's mother

Since a first person pronoun is not a possible antecedent in Italian -- *propria* being third person – the anaphor has no antecedent. This implies that the event cannot be properly interpreted by being evaluated with respect to the speaker's coordinate. Moreover, the process is strictly local and cannot be extended beyond the limit of the sentence – i.e., even if the preceding, or following, discourse provides a suitable antecedent, it cannot be picked up by the anaphor:

(84) Ieri Gianni mi ha salutato. *Io ammiro la propria madre
     Yesterday Gianni said hello to me. *I admire self's mother

In this example, a feature compatible antecedent, the third person NP *Gianni*, is present in the previous discourse, but the anaphor *proprio* cannot refer to it. Note that the relevant issue here is not how to state a *ban* against taking an antecedent from outside the sentence, since, as many scholars shown, this can often be the case, even in languages like English. The relevant question is *why* in these cases it is impossible, and what exactly licenses an (apparent) sentence-external

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[51] Notice the similarity of the conclusions – though *not* of the method or of the basic assumptions – with the logophoricity approach. The bearer of the attitude in fact, is likely to be the *pivot*, *self*, or *source* of the clause. The

antecedent in the so-called logophoric cases, as discussed by linguists, *inter alia* Zribi-Hertz (1989). I suggest some points for further study in sect. 5.

The advantage of my proposal is that there is no need to hypothesize a special mechanism for LDAs, because the machinery independently needed for temporal anchoring also accounts for anaphor binding.

Let us consider now the various cases one by one. Consider first the embedded subjunctive:

(85) Gianni$_i$ crede che Paolo$_j$ odi la propria$_{i/j}$ moglie
      Gianni believes that Paolo hates(SUBJ) self's wife

This sentence is ambiguous, in that both *Paolo* and *Gianni* are possible antecedents. *Paolo* is a co-argument of the anaphor and satisfies the c-command requirement. *Paolo* is therefore selected as an antecedent.[52]

The process goes on, and the whole verbal extended projection – the MOODP – is marked as having an unsaturated position. The bearer of the attitude, *Gianni*, is locally available – recall that its coordinate is represented precisely at this level – and can therefore be selected as a possible antecedent. The relevant ILF is built exactly in the same way I illustrated in the preceding section with respect to the interpretation of tense. The unsaturated position spelled out as a LDA is therefore theta-identified with *Gianni* and the binding condition is satisfied.[53]

The process could proceed further, as for instance in the following case:

(86) [$_{S1}$Mario supponeva [$_{S2}$che Gianni credesse [$_{S3}$che Paolo odiasse la propria moglie]]]
      Mario supposed that Gianni believed(SUBJ) that Paolo hated(SUBJ) self's wife

The MOOD-P in S2 can be marked as having an unsaturated position. The bearer of the attitude

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predictions however, are more accurate, given that the notion of speaker's and subject's coordinate presents some advantages over the more vague notions of *pivot*, *source* and *self.*

[52] It is actually a co-argument of the DP containing the anaphor. As I briefly discuss above, I simply assume that a possessive anaphor makes the DP immediately containing it an anaphoric item. Namely, *proprio NP* acts as an anaphor. Therefore, its co-arguments are the other arguments of the verb governing the DP in question. Huang and Liu (2002) propose the same with respect to Chinese *ziji*.

[53] With respect to the role of the complementizer in the present picture, a reviewer points out that the only features in the languages of the world that are overtly represented in C are those pertaining to the downstairs subject. This is an important remark, even if I do not fully agree with it. The first consideration is that recent research, starting from Rizzi (1997), has shown that the complementizer is not a single position, but a syntactic *layer*, therefore potentially far richer than what was believed in the 80's. Second, the effect of this agreement process can be empirically detected. It is a very well-known fact that the complementizer in many languages and in many varieties of Italian takes different forms in indicative and subjective clauses. See, for instance Calabrese (1993), Tsoulas (1994), Krapova and Karastaneva (2000), For further discussion, see Giorgi and Pianesi (2004b).

toward the content of that clause, in this case *Mario*, is locally available as well. The reason is always the same: the subject's, i.e., bearer-of-attitude's, coordinate is represented in the embedded clause and is independently needed to fix the temporal reference, as I illustrated for the cases analyzed step by step in section 3.2.2.

Consider now a subordinate indicative clause:

(87) Gianni$_t$ ha detto che Maria$_j$ ama la propria$_{*i/j}$ madre
       Gianni said that Maria loves(IND) self's mother

Maria is locally available for binding, given that it qualifies as a c-commanding co-argument. *Gianni*, however, is not an acceptable antecedent. Let me illustrate how this can be derived.

After having selected Maria as a possible antecedent, the process goes further and the VP is marked as an unsaturated phrase – the event containing an unsaturated position. At the next step, the event is evaluated with respect to the bearer of the attitude's coordinate. The latter could in principle also saturate the position and, consequently, the event can cease to be marked as an unsaturated one.

However, since an indicative sentence is a DAR context, the event has to be evaluated with respect to the speaker's coordinate as well, and hence be copied in the high C complementizer. Trivially, however, the event must be *the same* in T and C – i.e., it must maintain all the properties it had at the TP level, when it was evaluated with respect to the subject's coordinate, otherwise it could not be considered a *copy*. Consequently, the unsaturated position *cannot* be saturated by identification with the bearer-of-attitude, since this would violate this *sameness* condition. On the other hand however, the presence of an unsaturated position would violate the blocking condition. Concluding, the only antecedent available is the local one, *Maria*.

Further embedding does not improve the sentence, as expected:

(88) Paolo$_w$ sa che Gianni$_t$ ha detto che Maria$_j$ ama la propria$_{*w/*i/j}$ madre
       Paolo knows that Gianni said that Maria loves(IND) self's mother

Let us consider now psych-verbs. I reproduce here the examples given above, for simplicity:

(89) Che tutti ambiscano al proprio$_i$ incarico preoccupa molto il primo ministro$_i$
       That everybody wishes(SUBJ) self's office worries the Prime Minister a lot
(90) *Il primo ministro$_i$ preoccupa molto chiunque ambisca al proprio$_i$ incarico

The Prime Minister worries a lot everyone who whishes(SUBJ) self's office

With respect to (89), where the anaphor is deeply embedded in the subject clause, the same mechanism adopted in the LD cases discussed above is at work. Adopting the framework I just sketched, *the Prime Minister* is the bearer-of-attitude, and as such, it qualifies as a suitable antecedent for the LDA – or, better to say, it can saturate the unsaturated MOOD-P. In other words, the LDA can be theta-identified with the NP *the Prime Minister*. Example (90) is ungrammatical: in this case, *the Prime Minister* is not the bearer-of-attitude.

Consider now the case of a LDA embedded in an adverbial clause:[54]

(91)   Il primo ministro$_i$ sperava che il dittatore$_j$ partisse prima che i rivoluzionari sequestrassero il proprio$_{i/*j}$ patrimonio

The Prime Minister hoped that the dictator left(SUBJ) before the revolutionaries sequestered self's   patrimony

In this case, the anaphor must refer to the subject of the main clause, and cannot refer to the intermediate subject. Irrelevantly, the local subject, *the revolutionaries*, could work as a suitable antecedent, as a consequence of co-argumentality. The availability of the highest subject *the prime minister*, and the unavailability of the lower one, th*e dictator*, is easily explained by the proposal suggested here: *That dictator* is not an attitude-bearer for the adverbial clause. The adverbial clause, though featuring the subjunctive, does not get it as a function of sequence of tense, but on the basis of independent properties, connected with the semantics associated with it. In this particular case, the presence of the subjunctive can be due to the peculiar semantic representation of the clauses introduced by the preposition *prima* (before), as opposed for instance to the preposition *dopo* (after).[55]

On the contrary, *the prime minister*, is a possible antecedent, being the bearer-of-attitude relevant for the interpretation of the intermediate complement clause. Recall in fact that the

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[54] For a discussion along rather similar lines, see also Williams (1989, p. 442).
[55] Consider the following cases:
i. Gianni è partito prima che Maria telefonasse
Gianni left before Maria called(SUBJ)
ii. Gianni è partito dopo che Maria ebbe telefonato
Gianni left after Maria had(IND) called
In the first case, there is an existential quantification – namely, there is at least one episode of Gianni's leaving, before Maria's call. In the second case, there is a universal quantification: every relevant episode of Gianni's leaving is located after Maria's call. Independently of the specific account for these cases, however, the subjunctive/indicative distinction is not due to Sequence of Tense phenomena, but to other factors.

process applies recursively until the event is placed with respect to the utterance one – cf. section 3.2.2.

Let's consider now the cases in which the LDA is embedded in the subject position:

(92)   Gianni$_i$ ha detto che la propria$_i$ madre ha telefonato

Gianni said that self's mother called(IND)

In this case, the superordinate subject *Gianni* is available as an antecedent for the LDA. The embedded verbal form is in the indicative, which usually, as we saw above, has a blocking effect on LD binding. This observation can be accounted for considering the way in which the relevant ILF is derived. What is to be located with respect to the subject's and the speaker's coordinates is the TP – namely, the event has to be located in time with respect to the other relevant events, but the subject falls outside the domain of the TP. The same procedure as before applies and the whole TP of the main clause is marked as an unsaturated phrase. The subject *Gianni* is locally available as a suitable antecedent and the position can be successfully saturated. Huang and Liu (2001) discuss a very similar paradigm for *ziji* when in subject position. Therefore these properties can be considered as a general characteristics of LDAs. I discuss these facts with more details in the next section.

Consider now the following case, which further supports the view I sketched so far:

(93)   [$_{S1}$Mario$_t$ credeva [$_{S''}$che il fatto [$_{S3}$che la propria$_{i/j}$ figlia fosse andata in campeggio da sola] preoccupasse molto Gianni$_j$]]

Mario believed that the fact that self's daughter had(SUBJ) left for the camp by herself worried(SUBJ) Gianni a lot

In this case the embedded clause S3 features a psych-verb and a LDA embedded in the subject. As predicted, both *Mario* and *Gianni* are possible antecedents for *proprio* (self's). Again, this follows from the fact that the process applies recursively and every nominal element meeting the requirements qualifies as a possible antecedent. *Gianni* is the bearer-of-attitude with respect to the embedded subject clause S3; *Mario* is available as a (local) antecedent for the LDA.

Finally, consider the following example:

(94)   [$_{S1}$Quel dittatore$_i$ credeva [$_{S2}$che il primo ministro$_j$ preoccupasse molto [$_{S3}$chiunque ambisse al proprio$_{i/*j}$ incarico]]

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That dictator thought that the Prime Minister worried(SUBJ) a lot everyone who wished(SUBJ) self's office

I discuss above why the equivalent of S2 is ungrammatical: *the prime minister*, in fact, is not the bearer-of-attitude and does not qualify as a suitable antecedent for the LDA in S3. However, since the process applies recursively until the event is evaluated with respect to the utterance one, the superordinate subject, *that dictator*, does qualify, being the bearer of the attitude concerning the content of S2.[56]

4.2 On Chinese LDAs

In this section, I consider the predictions of the theory I sketched, when applied to Chinese. Several scholars have studied the properties of *ziji* and many have made use of the notion of *logophoricity* to explain its distribution; see among others, Cole, Hermon and Lee (2001), Huang and Liu (2001); Pan (2001); Pollard and Xue (1998; 2001). The relevant facts I am going to consider can be summarized as follows:

(95) Blocking effect in Chinese:

- Chinese does not have DAR effects, hence the speaker's coordinates do not appear in the subordinate clause to satisfy anchoring conditions, as in contrast they do in Italian and English.

- Some phrases can introduce the speaker's coordinate, by referring to the utterance context itself.

- Whenever the speaker's coordinate is introduced, the extended verbal projection must saturate all positions, in a way exactly parallel to the one observed for Italian – and in general for DAR languages.

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[56] An anonymous reviewer points out, as a possible problem, the fact that in Russian no difference is found in the distribution of LDAs in indicative vs. subjunctive embedded clauses. It seems to me that, if things are really that way, no question actually arises. Recall in fact that Russian is *not* a DAR language, and therefore this is precisely what my theory would predict. In a non-DAR language the indicative/subjunctive alternation would not be correlated with the presence/absence of the speaker's coordinate in the embedded clause – the speaker's coordinate being what *causes* the DAR. Consequently, the presence of the one or of the other should be non-influential for a LDA. Further study is however needed to clarify what the role of a subjunctive in a non-DAR language might be.
In general, in this work I do not address the issues related to languages belonging neither to the Italian group – i.e., reach verbal morphology and DAR – nor to the Chinese one – no verbal morphology and no DAR. Russian, belongs to a third, perhaps intermediate, group: highly articulated verbal system and no DAR. I think that only very detailed analyses of the data by native speakers can reliably address these questions, given the subtle intuitions needed to clarify the various issues. I might however, offer a suggestion: the complementizer system of Slavic languages looks quite complex and very different from the Italian one. In the account I sketch here, the

Chinese reflexive *ziji* is not marked for person and number, in that it is compatible with first, second and third person antecedent, both in the singular and in the plural.

As discussed in section 2.2.1, Huang and Liu (2001, p.161) point out with respect to the blocking effect, that a person asymmetry exists such that a first/second-person pronoun may block a third-person LD antecedent, but not the other way round. I reproduce here the relevant examples:

(96) Zhangsan$_i$ danxin wo/ni$_j$ hui piping ziji$_{*i/j}$ (Huang and Liu, ex. 11a; cf. ex. 13 above)
   Zhangsan is worried that I/you might criticize myself/yourself/*him

(97) Wo$_i$ danxin Zhangsan$_j$ hui piping ziji$_{*i/j}$
   I am worried that Zhangsan will criticize me/himself (Huang and Liu, ex. 11b, cf. ex. 14 above)

They also point out that LD *ziji* may be blocked by non-subjects, which are *not* potential antecedents:

(98) Zhangsan$_i$ gaosu wo$_j$ Lisi$_k$ hen ziji$_{*i/*j/k}$
   Zhangsan told me that Lisi hated self (Huang and Liu ex. 8a, cf. ex. 15 above)

Moreover, a deictically identified third-person NP does induce blocking, as illustrated by the following case:

(99) Zhangsan shuo DEICTIC-ta qipian-le ziji
   Zhangsan said that she/he cheated himself/herself   (Huang and Liu ex. 12)

Furthermore, in case of multiple occurrences of *ziji* even some third person NPs may induce blocking effects (see the discussion in Huang and Liu, pp. 161):

(100) ZS renwei LS zhidao WW ba ziji$_1$ de shuo song-gei le ziji$_2$ de pengyou
   ZS think LS know WW BA self DE book give-to perf self DE friend (Huang and Liu ex. 13)

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complementizer layer plays a crucial role. Presumably, a thorough description of the complementizer system might

'ZS thinks that LS knows that WW gave self's book to self's friend'

The list of the possible and impossible interpretations is as follows:

(101) $Ziji_1$ = $ziji_2$ = WW/LS/ZS

(102) $Ziji_1$ = WW, $ziji_2$ = LS

(103) $Ziji_1$ = WW, $ziji_2$ = ZS

(104) $Ziji_1$ = ZS, $ziji_2$ = WW

(105) $Ziji_1$ = LS, $ziji_2$ = WW

(106) *$Ziji_1$ = ZS, $ziji_2$ = LS

(107) *$Ziji_1$ = LS, $ziji_2$ = ZS

Finally, explicit time expressions can be used to indicate the sequence of events, namely the ordering of the events of the complement and superordinate clause with respect to each other. As pointed out by Huang and Liu (2001, p. 181), these temporal expressions interact in an interesting way with LD binding. Consider the following example:

(108) ? $Zhangsan_i$ 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

(109) * $Zhangsan_i$ 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 expression, given that it must refer back to a time already given in the sentence. The expression *this morning*, on the contrary, is an indexical, given that its location depends solely on the temporal coordinate of the speaker.

In all the unacceptable cases reported above, the utterance context, i.e., the speaker's coordinate, appears in the embedded clause.

The obvious difference between Italian and Chinese is that in Chinese, the utterance event cannot be introduced by means of verbal morphology, since there is no such thing in the language. It is introduced by explicitly mentioning the speaker's temporal coordinate, or by referring to the utterance event itself by means of indexical temporal expressions. However, the

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prove insightful.

effects on binding are exactly the same. Let me illustrate the examples one by one.

In example (96) the anaphor can only refer to the first/second person local subject, and cannot refer back to the matrix one, though this is an acceptable option in (97).

In (96) the speaker's coordinate intervenes in the interpretation of the embedded clause through the presence of the first/second pronoun. The LDA interpretation strategy prescribes that the domain in which the antecedent has to be found cannot extend beyond the clause where such coordinate appears. Therefore, even if in Chinese there is no indicative/subjunctive distinction, the anaphor is blocked in the embedded clause in (96), but not in (97).

The *mild* blocking effect of Italian, which I briefly mentioned in section 2.2.2, exx. (32)-(33), is due to the same property: the speaker's coordinate intervenes in the interpretation of the embedded clause, and therefore the domain should in principle be closed. On the other hand, in Italian-like languages, where tense is morphologically encoded, the syntax forces movement of the temporal features to the complementizer layer and the domain cannot be closed before such a movement is accomplished. Therefore the nominal blocking effect of Italian is only an interface phenomenon and not a truly syntactical one.[57]

Moreover in these cases, as discussed by Huang and Liu (2001) for Chinese, the blocking effect is enforced even if the first or second person pronouns are not possible antecedents. What determines the blocking effect, according to my hypothesis, in fact, is not the mere mismatch of features, but the fact that the speaker's coordinate has to be taken into account in the interpretive process and therefore it blocks the LDA.

Going back to the discussion of the Chinese cases, the case in which the blocking effect is induced by a deictic identification of an intervening pronoun, as in example (99), is also accounted for. In this case too, the speaker's coordinate is forced to intervene to assign the correct interpretation to the embedded clause.

Furthermore, it can be argued that the condition on blocking is an *if and only if* condition on anaphor interpretation.[58] In other words, reference to the utterance event closes the domain and therefore forces the LDAs to be interpreted. On the other hand, if a LDAs is interpreted, the domain is closed and cannot be reopened for the sake of anaphora interpretation.

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[57] Notice that, trivially, there is no DAR effect in a case like the following:
i.   Gianni crede che io sia innamorato di Maria
          Gianni believes that I am(SUBJ) in love with Maria
If a DAR effect would arise, we should expect the sentence in (i) to have the same marginal status as that in the text. However, even if in (i) the utterance context must enter the interpretation, recall that in Italian – and Italian-like languages – in this case there is no *syntactic* representation of the *temporal* coordinates of the speaker, given that their appearance must be codified in the morphosyntax, in the verbal morphology. In other words, the speaker's coordinates are available only for nominal reference, but not for the temporal one.

[58] At least in Chinese. It is not clear to me if this is the case in Italian as well. Further study is necessary.

The multiple anaphor case, cf. ex. (100), can be accounted for by claiming that once the domain is closed, it cannot be reopened. The ungrammatical interpretations, (106) and (1097), are those in which neither anaphor is interpreted locally, i.e., with WW as an antecedent. Hence they are both long distance bound. Their binding domains, however, are supposed to be different. In the interpretation (106) $ziji_2$ picks up as an antecedent the intermediate subject *Lisi*, therefore requiring the domain to be closed at that point. However, in order to interpret $ziji_1$ as the main subject *Zhangsan*, the domain has to be extended up to the main clause. As a consequence, a conflict arises and the interpretation is not admitted. The same happens in (107), for the opposite values of antecedents.[59]

Consider now examples (108) and (109). In these cases, a temporal adverb appears in the embedded clause. As expected, the deictic adverb, *this morning*, defines the domain and blocks the anaphor. Recall that Chinese lacks morphological tense. A deictic adverb, in such a language, therefore, requires that in order for the embedded eventuality to be located with respect to the utterance event, all positions should be saturated. Therefore, the anaphor in (109) cannot pick up the main subject as an antecedent. Such an antecedent is available, on the contrary, for the anaphor in (108).

In Italian, the presence of temporal adverb does not affect the distribution of LDAs. Consider for instance the following case:

(110)   Quell'artista_i spera che qualcuno compri le proprie_i opere prima di stasera

That artists hopes that somebody buy(SUBJ) self's works before tonight

The presence of the deictic time adverb, *before tonight*, does not block the LDA from referring back to the higher subject *that artist*. Again, in Italian, a language with morphological temporal marking, the interpretation of the adverb does not take place directly, but it is always mediated by the tense itself. Therefore if the tense does not require the speaker's coordinate to be represented in the clause, the binding of the anaphor can proceed successfully. As expected, in Chinese the blocking effect does not arise when the anaphor is in subject position, in this being exactly parallel to the Italian examples discussed in (92) above. Consider the following

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[59] An anonymous reviewer points out that the she only accepts the readings given in (101). Her grammar is therefore more restrictive then the one of Huang and Liu (2001). This judgement is not in contrast with the present account, given that, trivially, for the reviewer the domain of binding for the two anaphors must be the same, and therefore her grammar is a subset of Huang and Liu's one. The opposite case would be a problem, but not the one mentioned by the reviewer.

examples:[60]

(111) Wo zhidao jintian ziji yiding guo-bu-liao-guan

     I know today self definitely cannot pass

     'I know that today I definitely won't pass'

(112) Zhangsan shui jintian you henduo ziji de pengyou hui lai

     Zhangsan say today have manu self-poss friend will come

     'Zhangsan said that today many friends of his will come'

Finally, when there is no antecedent around, in Chinese the anaphor has to refer to the speaker:

(113) Zhe-ge xiangfa, chule ziji, zhiyou san-ge ren zancheng. (Huang andLiu's ex.36)

     This-CL idea, besides self only three people agree

     As for this idea, beside myself, only three people agree

The speaker is the bearer of the attitude for the matrix clause, therefore in Chinese, where the reflexive is not marked for person, it qualifies as a possible antecedent. The same does not hold in Italian, where the speaker triggers first person agreement.

Let me briefly consider sub-command. Huang and Liu point out that sub-command is possible with clause-bound *ziji* and does not give rise to blocking effects:

(114) Zhangsan$_i$ de xin gen wo tandao-le ziji$_i$ (Huang and Liu's ex. 78)

     Zhangsan DE letter to me discuss-Perf self

     Zhangsan's$_i$ letter discussed him$_i$ with me

The example in (116) contrasts with the following:

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[60] Huang and Liu (2001) discuss similar examples. The ones above are due to a reviewer, whom I thank. The reviewer also points out the existence of the following sentence, as a potential problem:

    i.   Zhangsan shuo zheli you xuduo ziji de huiyi

             Zhangsan say here have many self-poss memory

             'Zhangsan said that here has many memories of self'

The reviewer suggests that *zheli* (here) is a subject, so that blocking should be expected, contrary to facts. I do not have a clear solution for this sentence. I wonder if an alternative structure could be proposed, where *ziji de huiyi* (self's memory), and not *zheli* (here), is the subject. This move does not seems totally implausible, since the Italian equivalent of (i) would be (ii):

    ii.   Molti ricordi sono qui

           Many memories are here

(115) *Zhangsan$_i$ de shibai biaoshi tamen dui ziji$_i$ mei xinxin (Huang and Liu ex. 79)

      Zhangsan DE failure indicate that they to self no confidence

      Zhangsan's failure indicates that they have no confidence in him

From these examples the authors conclude that sub-command is not a property of LD binding. However, in a footnote to their paper, they note the acceptability of LD binding in the following case:

(116)   Zhangsan$_i$ de baogao biaoshi tamen dui ziji$_i$ mei xinxin   (Huang and Liu, fn. (18) ex. i)

      Zhangsan DE report indicate that they to self no confidence

      Zhangsan's report indicates that they have no confidence in him

This contrast casts some doubts on their generalization – i.e., that sub-command is a property only of local binding. That Huang and Liu's generalization cannot be right seems also to be challenged by the Italian data I illustrated in section 1.2.1, exx. (20)-(21), reproduced here:

(117)   La propria$_t$ salute turba i sogni di Gianni$_t$

      Self's health disturbs Gianni's dream

(118)   Che la propria$_i$ figlia sia andata in campeggio da sola turba i sogni di Gianni$_i$

      That self's daughter went to camp by herself, disturbs Gianni' dreams a lot

In these cases sub-command seems to be possible, i.e., if the object experiencer c-commands the subject, then the antecedent of the anaphor sub-commands it. Consider now the following examples:

(119) *La salute di Gianni$_i$ preoccupa molto la propria$_i$ moglie

      Gianni's health worries self's wife a lot

(120) *Che la figlia di Gianni$_i$ sia andata in campeggio da sola turba molto i propri$_i$ sogni

      That Gianni's daughter went to camp by herself, disturbs self's dreams a lot

In these cases we obtain the reverse judgment: sub-command is not possible, both when the antecedent is local and when it is a LD one. Concluding, it seems that the generalization discussed by Huang and Liu needs to be somehow amended.

My proposal is that the possibility of taking a sub-commanding antecedent pertains to the LD strategy. I state the following generalization:

(121) Sub-command is possible if the phrase in which the bearer of the attitude appears is not in agreement with the verb.

In Chinese, there would be no question about agreement, therefore sub-command is always possible. In (116) there is no blocking effect because the first person is a co-argument of the antecedent. According to my hypothesis, this is crucial, given that the blocking effect prevents the anaphor from finding an antecedent *further up* in the sentence, Therefore, there is no reason to expect the blocking effect to hold in (114). Moreover, (115) is ungrammatical because there is no way in which *Zhangsan* can be understood as the bearer of the attitude, contrasting in this with the grammatical (116).[61]

In Italian, sub-command is possible only with psych-verbs, because only in this case is the bearer-of-attitude not in a phrase in agreement with the verb. Recall in fact that (verbal) agreement is the main property distinguishing in these cases Italian from Chinese, therefore it is rather natural that it plays a role. Formally, it can be argued that if an agreement relation has been enforced between a phrase and the TP, then the ILF cannot access anymore sub-parts of the phrase. In other words, the phrase is *closed* and *saturated* and its internal components are no longer visible to the effect of the interpretation of the clause, hence for binding purposes. This pattern therefore constitutes further evidence in favor of the hypothesis developed here.

4.3   Some remarks on Japanese *zibun*

In this section I am going to argue that some of the peculiarities of the distribution of the Japanese LDA *zibun* (self) can be traced back to the same *blocking effect* I have described in the previous pages. The problems connected with the distribution of this anaphoric item have been widely discussed in the literature, and I am not going to provide a full account for all the facts that have been observed. However, I think it is worthwhile to make a couple of points which might be of interest for future research.[62]

There is no DAR in Japanese, as discussed in Ogihara (1996, 1999). Namely, this language belongs to Russian/Chinese groups, where an embedded present tense does not (necessarily)

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[61] For completeness, let me add that the explanation provided by the authors, though expressed in terms of logophoricity, is very close to the analysis presented here.

have to denote an eventuality holding at utterance time. Given this consideration, we expect that the relevant antecedent for the anaphor has to be identified following strategies similar to those I discussed for Chinese. In this language as well, in fact, the representation of the speaker coordinate is not enforced because of the necessity of assigning the correct temporal interpretation, but its presence is due by other factors.

Kuno (1987), Sells (1987) and Oshima (2004) observe that in some cases speaker-evaluative expressions, such as *that fool,* can be attributed not only to the speaker, but also to the subject of the saying predicate, when a speech act is involved (From Oshima, ex 38):

(122) Takashi wa Taro ni baka-no/itosii Yoshiko ga Masao o oikakemawasite-i-ru to it-ta

   Takashi TOP Taro DAT fool/beloved Yoshiko NOM Masao ACC chase around-ASP-PRES

   COMP say-PAST

   Takashi told Taro that that fool/beloved Yoshiko was following Masao

The expression 'fool/beloved' can either be attributed to the speaker, or to Takashi, i.e., the subject of the saying predicate. Consider now the interaction with the distribution of *zibun* (from Oshima, ex. 39):

(123) Takashi$_i$ wa Taro ni baka-no/itosii Yoshiko ga zibun$_i$ no musuko o oikakemawasite-i-ru to it-ta

   Takashi$_i$ TOP Taro DAT fool/beloved Yoshiko NOM self$_i$ GEN son ACC chase around-ASP-PRES COMP say-PAST

   Takashi$_i$ told Taro that that fool/beloved Yoshiko was following self$_i$'s son

In a sentence with the long distance anaphor *zibun*, the speaker evaluative clause cannot be interpreted as due to the speaker, but can only be attributed to the main subject *Takashi*. This fact is reminiscent of the pattern I discussed with respect to the Chinese *ziji*. When the representation of the speaker is enforced in a certain clause, then all positions must be saturated. Therefore, in this case the account I proposed above seems to make the correct prediction when extended to *zibun* as well.

There is another phenomenon peculiar to Japanese, which has been discussed by many scholars, namely, the role of *empathy* in anaphora interpretation. The facts are very complex and not

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[62] See, among the others, Kuno (1972; 1987), Sportiche (1986), Ueda (1986) and for a more recent analysis, Oshima

totally uncontroversial, but I would like to point out a consequence of my proposal, which might be verified in future research.

As pointed out originally by Kuno (1972), Japanese has several devices for representing the point of view from which a certain fact is described. A typical case is provided by the verbs used for expressing the concept of *giving*. The event can be described from the point of view of the giver – by means of the verb *yaru* – or from the point of view of the receiver – by means of the verb *kureru*. Notice that in English, and Italian as well, the two points of view are lexicalized differently – as the verb *give* and the verb *receive* respectively. However in Japanese, contrary to these other languages, the structure of the sentence does not vary – i.e. the giver is always expressed as the subject and the receiver always appears in the dative.[63]

Consider for instance the following examples (from Kuno, 1987, p.246, see also the discussion in Oshima 2004):

(124) **Taro** wa Hanako ni okane o **yar**-u

      Taro TOP Hanako DAT money ACC give-PRES

(125) Taro wa **Hanako** ni okane o **kure**-ru

      Taro TOP Hanako DAT money ACC give-PRES

      'Taro gives money to Hanako'

In example (126) the point of view from which the event is described in Taro's, in (125) it is Hanako's. As Kuno puts it, the speaker is *empathizing* either with the giver or with the receiver. Interestingly, if a first person pronoun is present, the verbal form must be the one taking the point of view of the speaker. I.e., if the speaker appears in the sentence as the giver, the selected form must be *yaru*. If the speaker appears as the receiver the selected form must be *kureru*.

This property interacts with the distribution of *zibun* in the following way: the antecedent of *zibun* must be the person from whose point of view the event is described (From Oshima 2004, exx. 17 a - b):

(126) Taro$_i$ wa Hanako ga zibun$_i$ ni kasite-**kure**-ta okane o tukatte-sima-ta

      Taro TOP Hanako NOM self DAT lending-give-PAST money ACC spending-end up-PAST

      Taro spent all the money that Hanako had lent to him

(2004).

(127) *Taro$_i$ wa Hanako ga zibun$_i$ ni kasite-**yat**-ta okane o tukatte-sima-ta

      Taro TOP Hanako NOM self DAT lending-give-PAST money ACC spending-end up-PAST

      Taro spent all the money that Hanako had lent to him

In example (126) *kureru* identifies the dative as the prominent argument, i.e., *Taro*. Accordingly, *Taro* must be selected as the antecedent of the anaphor. If the counterpart *yaru* is used, which identifies *Hanako* as the prominent argument, the relation between *zibun* and *Taro* can no longer be established.

Tentatively, the following explanation could be proposed. Suppose first that these verbs in Japanese introduce an implicit argument, along the lines of Higginbotham (1987), as in the case of English nominals such as for instance *self-inflicted wound*, or *self-starting motor*. Such as implicit argument, which in Japanese, as remarked in the literature, can in certain cases also be used to refer to a beneficiary, has the same status as the LDA, in that it can be considered as an unsaturated position.

If this proposal is correct, then we can reduce this phenomenon to the case of multiple occurrences of *ziji* analyzed above. The domain for the overt LDA and for the implicit one must be the same. If, for instance, in a sentence like the one in (127), the verb *yaru* refers to *Hanako* – i.e., *Hanako* binds the implicit anaphor – then *zibun* cannot select an antecedent in the main clause. In example (126), on the contrary, the two unsaturated positions are both saturated by the subject of the main clause, *Taro*.[64]

5   Conclusions

One of the consequences of this work is the reversing of the perspective about the feature specification of anaphors.[65] From the point of view outlined here, in fact, it follows that it is not the case that anaphors need an antecedent because they aren't specified enough, but on the contrary, that they aren't enough specified because they need an antecedent. Namely, they represent the way in which languages mark unsaturated positions.[66]

Saturation by identification is a local process, to be attained under c-command. The only

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[63] I simplifying the facts in several ways. Importantly, the two verbs can also work as so-called *supporting verbs*, or light verbs, and enter in complex lexical formations, giving rise to more or less the same range of effects. They also enter in benefactive/malefactive constructions.

[64] Saito (pc) told me that the multiple anaphor effect found in Chinese in exx. (100) above, is also found in Japanese. I thank him and the audience in Nangsan for the judgments.

[65] See Reuland and Sigurjónsdóttir (1997) and Reuland (2001b) for a discussion of this topic with respect to the Icelandic anaphor *sig*.

[66] Notice that Chierchia (1989) suggests that *proprio* (self's) might be taken to be the lexical counterpart of PRO, as far as the *de se* interpretation is concerned. My opinion is that his perspective is correct, though it should be stated in much more general terms and doesn't simply holds of the *de se* or first-personal reading.

unsaturated position that can stay empty is the subject of infinitival clauses – PRO – because it is not endowed with case. As it is possible to see, the theory of LDAs that I have sketched here permits to maintain quite a conservative view about some very basic questions such as the nature of empty positions and the locality of syntactic relations. This is a welcome result, since it permits to achieve new insights on the basis of minimal adjustments.

The first-personal effect, or *de se* reading, immediately follows from this framework. The anaphor in fact is not an item denoting something that can have independent properties, but is simply a marker for an unsaturated position. The LDA does not *refer to* an antecedent, nor is it *bound* by an antecedent, but is *identified with* the antecedent – the anaphor and the antecedent are the very same thing – and whenever possible and natural, the LD must be first personal, since it could be nothing else.

The notion of logophoric anaphor/pronoun has been widely discussed in the literature, and I considered here only some aspects of it. I tried to show that some traditionally logophoric antecedents for LDAs are actually sentential, local, ones. A full discussion of the logophoric effect would lead me too far away from the main topic of this work.[67]

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[67] Among the other problems, is the lack of general consensus on the notion itself, so that for some linguists it only refers to pronouns of some African languages (see Hagège, 1974; Clements, 1975; Koopman and Sportiche, 1989) which are specialized for referring to the speaker, or the hearer, in certain contexts.

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