Movement at LF triggered by Mood and Tense *

Gerhard Brugger and Mario D'Angelo
Universität Wien - University of Venice

1. Introduction

In this paper we discuss the Logical Form of mood (section 2) and tense (section 3) and the semantic position of sentential negation (section 4). We show that movement of constituents at Logical Form can be triggered by mood and tense. We consider the distribution and the interpretation of both indefinites and complement clauses in different contexts. In section 2, we analyze Italian indicative mood as an Anti-Intensional-Operator Polarity Item, i.e., in Logical Form it cannot remain in the scope of an intensional operator introduced by a predicate such as credere (believe) or desiderare (want). Subjunctive mood is an Intensional-Operator Polarity Item (sections 2.1, 2.2, 2.3). Moreover, discussing the different kinds of distributive interpretation of indefinites w.r.t. universal quantifiers, we assume that indefinite nominal expressions are ambiguous: they can be construed as quantificational or referential expressions. A special case of referential indefinites constitutes the function interpretation discussed in section 2.4. We further discuss che-deletion (section 2.5) and disjoint reference effects (section 2.6). In section 3, we analyze Italian present tense as an Anti-Past Polarity item, i.e., in Logical Form it cannot remain in the scope of a tense projection bearing the feature PAST. In section 4, we show that there are just two LF landing sites outside the scope of the semantically relevant position of negation and the scope of the intensional operator: one, LFP1, dominates TP1; the other, LFP2, is dominated by TP1. As a consequence of our analysis, the semantic position of negation and the position of intensional operators have to be assumed to be very low in the structure: below TP1 and LFP2 (section 4.1). Moreover, we propose that Italian indicative mood is an Anti-Negative Polarity Item, i.e., in Logical Form it cannot be interpreted in the scope of negation. Subjunctive mood is a Negative Polarity Item (section 4.2). Finally, we show that LF-movement of n-words such as nessuno (nobody) in order to license negative concord has no impact on the position of interpretation.

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2. **Subjunctive and Indicative at Logical Form**

2.1. **Mood and Polarity**

In this section we will discuss how mood can determine the location of nominal expressions and embedded sentences at LF. Consider first the sentence in (1a), which is ambiguous. In one reading (1a) asserts the existence of a rich man: there is a rich man and Gina wants to marry him. In the other reading (1a) does not assert the existence of a rich man. It expresses that Gina wants there to be a man, whoever he is, provided that he is rich, and that she marries him. Following Russell (1905, 1919), Kripke (1979), Neale (1990), a.o., we assume that the two interpretations are determined by different scope relations of the indefinite object and the intensional predicate desiderare (want) (1b,c).  

(1)  
\[\begin{align*}
\text{a. Gina desidera sposare un uomo ricco} \\
&\text{"Gina wants (to) marry a man rich"} \\
\text{b. } \exists(x) \left[ \text{rich-man}(x) \right] \text{ Gina wants } [\text{Gina marries } x] \\
\text{c. Gina wants } [\exists(x) \left[ \text{rich-man}(x) \right] \text{ & Gina marries } x]
\end{align*}\]

The ambiguity of (1a) is resolved in (2), where the adjectival modification is substituted by a relative clause in the indicative mood, (2a), and in the subjunctive, (2b). The indefinite in (2a) is interpreted only with wide scope w.r.t. the intensional predicate, i.e., (2a) has only the first reading of (1a). The indefinite in (2b) is interpreted only with narrow scope, i.e., (2b) has only the second reading of (1a).  

(2)  
\[\begin{align*}
\text{a. Gina desidera sposare un uomo che è ricco} \\
&\text{"Gina wants (to) marry a man who is (Ind.) rich"} \\
\text{b. Gina desidera sposare un uomo che sia ricco} \\
&\text{"Gina wants (to) marry a man who is (Subj.) rich"}
\end{align*}\]

We assume that intensional predicates which select subjunctive mood such as desiderare (want), credere (believe), volere (want), sperare (hope), etc., introduce an intensional operator into LF. As we will see in section 4.1, the position of this operator is very low in the structure of the clause. For the sake of simplicity we assume that it is located in \(V^2\), i.e., the base position of the intensional verb.  

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1. As pointed out by e.g. Kripke (1979), the notion of scope cannot be replaced by any twofold distinction such as de re - de dicto, transparent - opaque, specific - non specific, etc.

2. Some native speakers of Italian also allow the narrow scope interpretation of the indefinite object in (2a). Others allow this interpretation only at a more colloquial level but exclude it at a more formal stylistic level.

3. Mental attitude verbs such as credere, desiderare, volere, sperare, etc., are intensional predicates, because, as stated in philosophical literature, the meaning of attitude sentences cannot be analyzed in purely extensional terms (cf. e.g., Bonomi (1983), Chierchia & Mac Connell-Ginet (1990), Casalegno & Marconi (1992), Santambrogio (1992), Chierchia (1992), Mariani (1992)).

4. Note that the surface position of the intensional verb and the position where the intensional operator is interpreted are not identical. The subjunctive in the relative clause in (2b) is licensed by the intensional operator in \(V^2\) of the intensional predicate desiderare which in Italian raises to AGRS at S-Structure:
complementary distribution with respect to these operators at the level of Logical Form:

(3) a. Italian indicative mood is an Anti-Intensional-Operator Polarity Item (AIOP). b. Subjunctive mood is an Intensional-Operator Polarity Item (IOPI). 5

According to (3a) the indefinite object in (2a) has to raise at LF to a position outside the scope of the intensional operator, taking wide scope over it. Because of (3b), the indefinite object in (2b) remains in the scope of the intensional operator at LF. 6

2.2. Mood and Quantification

In the following examples the effects of (3) are illustrated in the light of the scope of indefinites relative to a quantifier. Just as in (2a), the indefinite object in (4a), which is modified by a relative clause in the indicative, raises to a position outside the scope of the intensional operator of the main predicate. In this configuration, however, it also takes wide scope over the universally quantified subject of the complements clause. The indefinite in (4b), on the other hand, which is modified by a relative clause in the subjunctive, must be interpreted in the scope of the intensional operator of the main predicate, and can therefore be interpreted with narrow scope with respect to the embedded subject.

\[
\left[_{\text{AGRSP}_{\text{Gina}}} \left[_{\text{AGR} \text{S}_{\text{desidera}}_{\text{t}}} \left[_{\text{TP}_{\text{t}}} \left[_{\text{TP} \text{t}_{\text{t}}} \left[_{\text{CP}_{\text{sposare}}} \left[_{\text{DP}_{\text{un uomo che sia ricco}}}}\right]\right]\right]\right]\right]
\]

In section 4.1 we will show that the intensional operator is located in a position which is dominated by the inflectional projections AGRS and TP, i.e., the traditional IP. This is in contrast with Manzini (1994), who assumes that subjunctive is licensed by a relation which involves the 1° of the superordinated clause and the 1° of the subordinated clause.

5. Subjunctive can be licensed not only by intensional predicates, but also by negation (cf: section 4.2), the question operator and wh-operators, verbs of doubt, conditionals, rational perché (in order that), and necessity and possibility operators (see Manzini (1994) for a more extensive discussion). Manzini (1994) argues that the licensing mechanisms of subjunctive and negative polarity items are parallel and that the syntactic dependency between the operator that licenses subjunctive and the subjunctive is sensitive to islands.

6. Manzini (1994) argues that the distribution of subjunctive and indicative is not accounted for by scope at LF but exclusively by syntactic dependency relations between an (intensional) operator and the verb form in the subjunctive. This syntactic dependency can be blocked by definiteness specificity island: a subjunctive relative clause cannot modify specific nominal expressions. In this view, (2a) receives the interpretation (1b) not via LF-movement of the indefinite object, but by the fact that the indefinite is specific. In section 2.4, we will argue that this fact is a possible analysis of (2a). We will argue that (2a) is ambiguous: the indefinite can either be construed as referential (as indicated by the referential index a in (i)) or as quantificational (ii). In the first case it does not raise at LF and the subjunctive is excluded because of a referentiality island. In the second case no referentiality island intervenes between the intensional operator and the indicative in the relative clause, and consequently, because of (3a), the indefinite has to scope out.

i. Gina desidera sposare [un uomo che è ricco]ₐ

ii. Un uomo che è ricco]₁ [Gina desidera sposare]₁
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(4)  

a. Gina desidera che ogni studente incontri una ragazza che è alta  
"Gina wants that every student meets (Subj.) a girl who is (Ind.) tall"

b. Gina desidera che ogni studente incontri una ragazza che sia alta  
"Gina wants that every student meets (Subj.) a girl who is (Subj.) tall"

In fact, only in (4b), but not in (4a), the indefinite can have a distributive interpretation with respect to the universally quantified subject (but see footnote 7). (4b) can be paraphrased with (5b). (4a), on the contrary, lacks this interpretation. The indefinite is interpreted only with wide scope with respect to ogni studente (5a).  

(5)  

a. There is a tall girl y and Gina wants every student to meet y  
b. Gina wants that for every student x there is a tall girl y such that x meets y  
c. Gina wants that there is a tall girl y and that every student meets y

Note first that the indefinite object in (4b) can be interpreted with wide scope with respect to ogni studente. This reading, which is paraphrased in (5c) arises when the indefinite raises at LF to a position which is outside the scope of the universal quantifier but still inside the scope of the intensional operator which licenses the subjunctive in the relative clause. Second, the argumentation is based on the assumption that quantifiers like ogni (every) differ from indefinite nominal expressions in that the first but not the latter are clause bound: in (4a) the universal quantifier cannot take scope over the indefinite since in this case it would leave its own clause. Ludlow & Neale (1991) criticize this assumption. They note that it cannot be true that universally quantified expressions cannot escape scope islands introduced by intensional predicates because the nominal expression every Gila monster in New Mexico in (6a) can take wide scope with respect to the predicate think (6b).

(6)  

a. A man in Arizona thinks that every Gila monster in New Mexico won the lottery  
b. ∃(x)[man](x) ∀(y)[Gila monster](y) [x thinks that y won the lottery]  
c. ∀(y)[Gila monster](y) ∃(x)[man](x) [x thinks that y won the lottery]

However, although the embedded subject in (6a) can take scope over the main predicate, it cannot take scope over the indefinite subject of the main clause: (6c) is not an appropriate paraphrase of (6a). Therefore, although it is not clear how this interesting property of universal quantifiers can be accounted for, Ludlow & Neale's observation does not constitute a problem for our analysis of (4a). In contrast to universal quantifiers, embedded indefinites can take scope over nominal expressions in superordinated clauses. (7a) can be paraphrased with (7b).

(7)  

a. Every professor thinks that a tall student kissed Lori  
b. there is a tall student x such that every professor thinks that x kissed Lori

7. Speakers of Italian who allow indicative mood in the scope of intensional predicates (cf: fn. 2) can interpret the indefinite object in (4a) with narrow scope with respect to ogni studente. However, also speakers who do not accept indicative mood in the scope of intensional operators can get a special kind of distributive interpretation of the indefinite in (4a), which we will refer to as function interpretation (Himikka 1986). Crucially, this interpretation is possible only in particular contexts where the indefinite can be used as a referential expression (cf: section 2.4).
Fodor & Sag (1982) assume that indefinite nominal expressions are ambiguous. They can be construed as referential or as quantification nominal expressions. They maintain that the ability of indefinites to escape scope islands constitutes evidence for the referential evidence rather than the quantification one. According to their view the indefinite in (7a) with the interpretation in (7b) qualifies therefore as a referential expression. Consequently, the interpretation (7b) is not obtained by LF-raising of the indefinite but by the fact that referential expressions are insensitive to scope. Although, as we will discuss more in detail in section 2.4, the indefinite can be construed as referential, this is, contrary to Fodor & Sag, not necessarily the case (cf. Kripke (1979) and especially Ludlow & Neale (1991) for a more extensive discussion). This can be seen easily in (8a), where the indefinite, just as in (7a), can be interpreted with wide scope with respect to the universal quantifier but still in the scope of the intensional predicate of the main clause (8b). In Italian, in accordance with the generalization in (3b), (8c) can have this interpretation only if the relative clause which modifies the indefinite is in the subjunctive.

\[(8)\]
\[\begin{align*}
& a. \text{Peter believes that every professor thinks that a tall student kissed Lori} \\
& b. \text{Peter believes that there is a tall student x such that every professor thinks that x kissed Lori} \\
& c. \text{Peter pensa che ogni professore creda che uno studente che sia / #è alto abbia baciato Lori}
\end{align*}\]

2.3. Complement clauses

In Italian there are two kinds of intensional predicates which select subjunctive mood. Complement clauses of verbs of volition, such as desiderare (desire), sperare (hope), volere (want), etc., (9) must be in the subjunctive. Complement clauses of weak assertive

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8. The predicate sperare differs from volere and desiderare in that it allows future tense in the complement clause (i) (cf. e.g. Vanelli 1991). This difference can be related to the fact that one can hope, but not want or desire events in the past (ii) or simultaneous events (iii). Similarly, the sentences in (iv) and (v) differ with respect to the temporal relations: while the present tense in the complement clause in (iv) can be interpreted as simultaneous and as future shifted, the one in the complement clause in (v) has only a future shifted interpretation. It seems to be reasonable to assume that in (i) the complement clause of volere and desiderare, in contrast to the complement clause of sperare, is interpreted as future shifted by default and therefore morphological future tense is excluded.

\[\begin{align*}
& i. \text{Gina spera/* vuole/* desidera che Gino andrà al cinema} \\
& \quad \text{"Gina hopes/* wants/* desires that Gino will go to the cinema"}
\end{align*}\]

\[\begin{align*}
& ii. \text{Gina spera/* vuole/* desidera che Gino andasse al cinema} \\
& \quad \text{"Gina hopes/* wants/* desires that Gino went (Subj.) to the cinema"}
\end{align*}\]

\[\begin{align*}
& iii. \text{Gina spera/* vuole/* desidera che Gino sia intelligente} \\
& \quad \text{"Gina hopes/* wants/* desires that Gino is (Subj.) intelligent"}
\end{align*}\]

\[\begin{align*}
& iv. \text{Gina spera che Gino vada al cinema} \\
& \quad \text{"Gina hopes that Gino goes (Subj.) to the cinema"}
\end{align*}\]

\[\begin{align*}
& v. \text{Gina vuole/desidera che Gino vada al cinema} \\
& \quad \text{"Gina wants/desires that Gino goes (Subj.) to the cinema"}
\end{align*}\]

The possibility of future tense in the complement of sperare, as in (i), does not constitute an exception to the generalization that this verb necessarily selects for subjunctive mood since Italian does not overtly distinguish between indicative and subjunctive in the future.
predicates like credere (believe), pensare (think), ritenere (maintain), etc., (10) can be either in the subjunctive or in the indicative. 9

(9) a. * Gino desidera che Pina va al cinema
   "Gino wants that Pina goes (Ind.) to the cinema"
   
   b. Gino desidera che Pina vada al cinema
   "Gino wants that Pina goes (Subj.) to the cinema"

(10) a. Gino crede che Pina è incinta
   "Gino believes that Pina is (Ind.) pregnant"
   
   b. Gino crede che Pina sia incinta
   "Gino believes that Pina is (Subj.) pregnant"

According to (3) we predict that the complement clauses in (10), depending on the mood of the complement clause, occupy different positions in LF. The complement clause in the indicative in (10a) moves to a position outside the scope of the intensional predicate credere. The complement clause in the subjunctive in (10b) has to remain in the scope of credere. Before we discuss the consequences of these predictions in the light of scope relations, note that (10a) and (10b) differ in meaning. Using the indicative mood the speaker not only reports Gino's belief but he also asserts the content of the complement clause to be true. With the subjunctive the speaker does not take any attitude towards the content of the complement clause. 10 Consequently, if the complement clause is unlikely to be true the use of the indicative is excluded (11). We assume that this interpretational contrast in (10) is related to the different LF-positions of the complement clauses. 11, 12, 13

9. See Wandruszka (1991) for a phenomenology of the difference in distribution and interpretation between Subjunctive and Indicative in complement clauses in Italian.

10. This is not necessarily the case for native speakers who allow indicative mood in the scope of intensional operators (cf. fn 3). Interestingly, although these speakers in general allow indicative mood in configurations where other speakers would use the subjunctive, they have to use subjunctive in complement clauses of verbs of volition (cf. (9)).

11. More precisely, we assume that the complement clause in the indicative in (10a) is interpreted in two positions: its LF-position, i.e., a position outside the scope of the intensional operator, and the copy left behind in its base position (i). In this way, using Fouconnier's (1985) terminology, the complement clause is interpreted in the space of the speaker as well as in the space of Gino's beliefs.

i. [che Pina è incinta] Gino crede [che Pina è incinta]

This assumption reminds Stowell's (1993) analysis of the temporal interpretation of complement clauses in the present tense under superordinated clauses in the past. As discussed for instance by Comrie (1985), Enç (1987), a.o., (ii) not only expresses that Mary was pregnant at the time John said Mary is pregnant but also that she still is. In other words, the period of Mary's pregnancy includes the time point of John's saying as well as utterance time. Stowell (1993) assumes that the complement clause is temporally interpreted in two positions at LF: in a position outside the scope of the past in the main clause, where it is interpreted as simultaneous to utterance time, and in its base position, where it is interpreted as simultaneous to the past saying event.

ii. John said that Mary is pregnant

iii. [that Mary is pregnant] John said [that Mary is pregnant]
(11) Gino crede che la luna sia */è quadrata

The sentences in (12) exemplify LF-raising of complement clauses triggered by mood. Only the indefinite un ragazzo diverso (a different boy) in (12b), but not the one in (12a), can be interpreted with narrow scope with respect to the quantified subject ogni studente. Being in the indicative, the most embedded complement clause in (12a), which contains the indefinite,

12. Our assumptions on LF-movement of complement clauses do not force us to choose any particular theory about the substitutivity puzzle. According to a classical view in Analytic Philosophy (Frege (1893), Quine (1960), but see Leonardi (1988) and D'Angelo (1994) for an alternative approach to the substitutivity puzzle) indirect discourse and attitude contexts like belief-sentences are opaque constructions in which failure of substitutivity arises. Consider the sentences (i) and (ii). Even if Gino believes that Cicero is the greatest Roman orator, he might not believe that the author of De Amicitia is the greatest Roman orator, for example if Gino does not know that Cicero wrote De Amicitia. Hence, (i) might be true and (ii) false, although Cicerone and l'autore del De Amicitia are codeesignative expressions. According to this view in Analytic Philosophy, contexts like (i) are considered as opaque and therefore do not allow free substitution of codeesignative expressions.

i. Gino crede che Cicerone sia/è il massimo oratore romano

"Gino believes that Cicero is (Subj.)/is (Ind.) the greatest Roman orator"

ii. Gino crede che l'autore del De Amicitia sia/è il massimo oratore romano

"Gino believes that the author of De Amicitia is (Subj.)/is (Ind.) the greatest Roman orator"

Note that the complement clause in (i) can be in the subjunctive or in the indicative. Since we assume that indicative mood causes raising of the complement clause to a position outside the scope of credere, one could suppose that this movement effects the possibility of substitution. In particular, one might expect, first, that the complement clause constitutes an opaque domain if it is in the subjunctive and therefore in the scope of credere and, second, that it is transparent if it is in the indicative, i.e., outside the scope of credere. Hence, one might expect substitution to be disallowed in the first case and to be freely possible in the second case. However, contrary to this supposition, the choice of the mood depends on the speaker's attitude towards the truth of the complement clause and it does not have anything to do with the substitution problem, especially since LF-movement of a complement clause in the indicative to a position outside the intensional operator leaves a copy in the base position inside the scope of the intensional operator (cf: fn 12). Using the indicative mood the speaker asserts the truth of the complement clause of (i). Using the subjunctive, the speaker does not take any attitude towards it. Similarly, in (iii) and (iv) the choice of the mood in the relative clause depends on the speaker's attitude towards the object wanted by Gina and it does not have anything to do with the substitution problem. Using the indicative mood the speaker asserts the existence of an unmarried lawyer who Gina wants to marry; using the subjunctive, he doesn't.

iii. Gina desidera sposare un avvocato che sia/è uno scapolo

"Gina desires (to) marry a lawyer who is (Subj.)/is (Ind.) a bachelor"

iv. Gina desidera un avvocato che sia/è non sposato

"Gina desires (to) marry a lawyer who is (Subj.)/is (Ind.) unmarried"

13. Interestingly, if the weak assertive predicate in the main clause appears in the first person, as in (i), the complement clause must be in the subjunctive. Verbs like credere, pensare, ritenere, etc., as opposed to verbs of saying, such as dire (say), asserire (assert), affermare (affirm), are weak assertive predicates because using them in the first person the speaker weakly asserts the content of the complement clause: asserting I believe p, I do not assert the truth of p (cf: D'Angelo 1994). But using the indicative in the complement clause p of x believes p, the speaker asserts the truth of p. Since in (i) the speaker simultaneously asserts and does not assert the truth of the complement clause, (i) is unacceptable.

i. Credo che Pina sia */è incinta

"(I) believe that Pina is (Subj.)/* is (Ind.) pregnant"
has to raise at Logical Form to a position outside the scope of the intensional operator of *credere*, but also outside the scope of the intensional operator of *desiderare*. Consequently, the indefinite occupies a position outside the scope of the universal quantifier, hence the distributive interpretation is not available. In (12b), on the other hand, the most embedded complement clause is in the subjunctive, hence it can remain in the scope of the universal quantifier allowing the distributive interpretation of the indefinite.  

(12) a. Gina desidera che ogni studente creda che Pina ha baciato un ragazzo diverso  
"Gina wants that every student believes (Subj.) that Pina has (Ind.) kissed a boy different"  
Gina wants that every student believes that Pina kissed a different boy  
b. Gina desidera che ogni studente creda che Pina abbia baciato un ragazzo diverso  
"Gina wants that every student believes (Subj.) that Pina has (Subj.) kissed a boy different"  

The sentences in (13) only differ regarding the mood of the complement clause. This difference affects the possible scope relations of the embedded subject *ogni studente* and the indefinite object: only in (13b), but not in (13a), the indefinite can be interpreted with narrow scope with respect to *ogni studente*. Just as it was the case in (4a), the indefinite in the indicative in (13a) cannot be interpreted in the scope of the quantified subject. But it can if the complement clause is in the indicative (13b). In this case the complement clause raises with the indefinite object to a position outside the scope of the intensional operator. In this configuration the indefinite is outside the scope of the operator and can therefore remain in the scope of the quantified subject.  

(13) a. Gina crede che ogni studente incontri una ragazza che è alta  
"Gina believes that every student meets (Subj.) a girl who is (Ind.) tall"  
b. Gina crede che ogni studente incontra una ragazza che è alta  
"Gina believes that every student meets (Ind.) a girl who is (Ind.) tall"  

(14) constitutes further evidence for the analysis proposed for (13a). Since the complement clause including the indefinite object scopes out, the indefinite cannot be modified by a relative clause in the subjunctive.  

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14. Similarly, the direct object *due ragazzi* (two boys) in (i) can be interpreted with narrow scope with respect to *ogni studente* only if the most embedded clause is in the subjunctive.  
   i. Gina desidera che ogni studente creda che Pina ha/abbia baciato due ragazzi  
"Gina wants that every student believes(Sbj.) that Pina has(Ind.)/has(Subj.) kissed two boys"  
Gina wants that every student believes that Pina kissed two boys  

15. Manzini (1994, p. 21) assumes that indicatives create islands for polarity items, while subjunctives do not. In her view, the complement clause in (14) does not scope out at LF, and the subjunctive in the relative clause is not licensed because of the intervening indicative island in the complement clause. Although an analysis in these lines accounts for the ungrammaticality of (14), it does not seem to be clear how it can account for the scope differences in (13).
### 2.4. Function Interpretation

In section 2.2, we claimed that the indefinite object modified by a relative clause in the indicative in (4a), repeated below in (15), cannot be interpreted with narrow scope with respect to the embedded quantified subject. There is however a special kind of distributive interpretation of the indefinite, which we will refer to as function interpretation (Hintikka 1986).

(15) Gina desidera che ogni studente incontri una ragazza che è alta
"Gina wants that every student meets (Subj.) a girl who is (Ind.) tall"

Let’s first consider the examples in (16), where the wide scope interpretation of the indefinite is excluded for pragmatic reasons. In both sentences the indefinite has the distributive interpretation w.r.t. to the universally quantified subject. But there is still a difference in interpretation. The distributive reading of (16a) differs from the distributive reading of (16b).

In order to interpret (16b) with the distributive reading a contextually recoverable function from students to chairs must be available: for every student there is a certain, particular chair which, e.g., he has been assigned to by the teacher. According to Hintikka (1986), a sentence like (16b) can be represented as in (16c). The function $f$ assigns a value to $f(x)$ according to some pragmatically recoverable relation between $x$ and $f(x)$: in the example (16b) every student is related to a particular chair by the function $f$; there is a function $f$ from students to chairs, salient in the context, which associates each student with one particular chair. (16b) means that every student is sitting on the chair which is related to the function $f$. This reading is obligatory in (16b), but it is not excluded in (16a), where the indefinite is not modified by certain.

(16) a. Every student is sitting on a chair
b. Every student is sitting on a certain chair
c. $E(f) A(x)$ (x is a student & x is sitting on f(x))

The same happens in (15). The distributive interpretation of the indefinite is possible only if there is such a contextually recoverable function between students and tall girls. We assume that indefinite nominal expressions, just like definite ones are ambiguous (cf: Donnellan (1966, 1978), Chastain (1975), Kripke (1979), Ludlow and Neale (1991): they can be construed as quantificational or as referential expressions. We further assume that the indefinite in (15a) in the function interpretation is used as a referential expression: for each student $x$ the indefinite directly refers to that particular girl the function picks up for $x$. Being referential the indefinite does not undergo QR, it therefore remains in the scope of the intensional operator at LF. Nevertheless the relative clause cannot appear in the subjunctive in this interpretation, since, adapting Manzini (1994), referentiality creates an island for the licensing of subjunctive mood.

Donnellan (1966) argues that definite nominal expressions are ambiguous between a referential and an attributive use (cf: also Napoli (1992)). Only in the second case, but not in the first one, the definite can be analyzed in a Russellean way as an existential quantifier with a uniqueness condition. Expressions like chiunque sia (whoever he/she is) function as a
device for excluding the referential construal. For instance it is incompatible with intrinsically referential expressions like proper names (17). 16

(17) a. L'assassino di Smith è pazzo, chiunque sia
"The murderer of Smith is insane, whoever (he) is"

b. * Gino è pazzo, chiunque sia
"Gino is insane, whoever (he) is"

If the function interpretation, as we assume, involves referential expressions, we expect it to be incompatible with expressions like chiunque sia. Since a pronoun bound by a quantifier must be in that quantifier's scope, the definite object in (18a) cannot be construed as quantification, because in this case it would have to scope out and be interpreted outside the scope of the embedded quantified subject. Hence the possible distributive interpretation in (18a) can only be an instance of the function interpretation. In fact adding chiunque sia (18a) becomes ungrammatical. 17 The definite object in (18b), on the other hand, which cannot be construed as referential because of the subjunctive, is perfectly compatible with chiunque sia.

(18) a. Gina desidera che ogni studente baci la ragazza che gli fa da mamma
(*chiunque essa sia)
"Gina desires that every student kisses (Subj.) the girl who to him acts (Ind.) as mother whoever she is"

b. Gina desidera che ogni studente baci la ragazza che gli faccia da mamma, chiunque essa sia
"Gina desires that every student kisses (Subj.) the girl who to him acts (Subj.) as mother whoever she is"

The same argument holds for the contrast in (19). The indefinite in (19a) can only be interpreted as distributive, an interpretation which is forced by the coindexing relation, if it has the function interpretation. In this case it is referential and excludes the presence of chiunque sia. 18, 19

16. Note that chiunque sia is ambiguous. It can either qualify the identity or the properties of an individual. With the second use of this expression (17b) is grammatical: Gino whatever kind of man he is is crazy.

17. Obviously, (18a) in presence of chiunque sia is perfectly acceptable if the pronoun is not coindexed with ogni studente: in this case the definite object is interpreted as a quantificational expression with wide scope over the intensional predicate and consequently also over the embedded subject.

18. Indefinites introduced by un certo (a certain), un particolare (a particular) or uno specifico (a specific) are necessarily referential. For this reason they cannot be modified by relative clauses in the subjunctive (i) nor are they compatible with chiunque sia (ii).

i. Gina desidera sposare un(o) certo/particolare specifico uomo che è/* sia ricco
"Gina desires to marry a certain/particular/specific man who is (Ind.)/is (Subj.) rich"

ii. Un(o) certo/particolare/specifico avvocato uccise Gino (* chiunque egli sia)
"A certain/particular/specific lawyer killed Gino whoever he is"

Note first that certo and particolare, and specifico, are ambiguous: they can either qualify the identity or the properties of the object designated by the indefinite. In the first case these elements necessarily give rise to a referential interpretation. However, this does not mean that the relative clause in (i) is necessarily appositive, since these elements allow "stacked" relative clauses (McCauley (1988)) also in their first use. In the second case, in which un certo/particolare uomo can be paraphrased with: a certain/particular kind of man, the
(19) a. Gina desidera che ogni studente_i incontri una ragazza che gli_i vuole bene (*chiunque essa sia)
"Gina wants that every student meets (Subj.) a girl who loves (Ind.) him whoever she is"

b. Gina desidera che ogni studente_i incontri una ragazza che gli_i voglia bene
"Gina wants that every student meets (Subj.) a girl who loves (Subj.) him"

The following kinds of expressions do not allow the function interpretation: bare plurals,

indefinite can be construed as quantificational and is therefore compatible with relative clauses in the subjunctive and with chiunque sia. Second, Manzini (1994) claims that overt partitives of the form one/two/etc. of NP are specific, i.e. referential in our terms, and therefore constitute an island for the licensing of subjunctive mood. However this does not seem to be the case since they are compatible with relative clauses in the subjunctive and with chiunque sia:

iii. Gino desidera incontrare una delle ragazze, chiunque siano, che possano risolvere questo problema
"Gino desires (to) meet of the girls whoever they are who can (Subj.) solve this problem"

19. Note that (i) contrasts with (18a) and (19a) in that the direct object is compatible with chiunque sia. It has to be construed as quantificational and interpreted outside the scope of the intensional operator at LF: the coindexing relation in (i) is therefore an instance of backward pronominalization at LF.

i. Gina desidera che Nino_i incontri la/una ragazza che gli_i vuole bene, chiunque sia
"Gina wants that Nino meets (Subj.) a girl who loves (Ind.) him whoever she is"

As discussed in Wasow (1972) and Vergnaud & Zubizarreta (1990), backward pronominalization is possible with referential expressions, such as proper names (ii) and indefinites introduced by un CERTOPARTICOLARESPECIFICO (cf. fn.18) (iii), but not with non-referential expressions like ogni studente (iv) nor with indefinites modified by chiunque sia (v) or introduced by qualiasi/qualsiasi/quello/quale (vi) (cf. example (20)).

ii. Una/La ragazza che gli_i fa da mamma desidera che Nino_i incontri Gina
"A/The girl who to him acts as mother desires that Nino meets (Subj.) Gina"

iii. Siccome Gina gli_i piace un certo ragazzo, è uscito con lei
"Since Gina loves him a certain boy went out with her"

iv. * Una/La ragazza che gli_i fa da mamma desidera che ogni studente_i incontri Gina
"A/The girl who to him acts as mother desires that every student meets (Subj.) Gina"

v. * Una/La ragazza che gli_i fa da mamma desidera che un ragazzo, chiunque sia, incontrì Gina
"A/The girl who to him acts as mother desires that a boy whoever he is meets (Subj.) Gina"

vi. * Siccome Gina gli_i piace un qualiasi/qualsiasi/quello/quale ragazzo, è uscito con lei
"Since Gina to him pleases an arbitrary boy went out with her"

Note further that, as predicted, adding chiunque sia to (15), the direct object cannot be interpreted as referential, hence the function interpretation is not available: the direct object is interpreted as a quantificational expression with wide scope (vii). Distributivity requires c-command even if it is obtained by the function interpretation.

vii. Gina desidera che ogni studente incontri una ragazza che è alta, chiunque essa sia.
"Gina desires that every student meets (Subj.) a girl who is (Ind.) tall whoever she is"

Therefore, if the direct objects in (18a) and (19a) are construed as wide scope quantificational expressions they violate, in contrast to the one in (i), (a) Koopman & Sportiche’s (1982) Bijection Principle, (b) the conditions on backward pronominalization and (c) the c-command requirement for distributive interpretations.
negative polarity items, nominal expressions introduced by un qualsiasi /qualunque /qualche (20a), and almeno uno/due/etc. (at least one/two/etc.) (20b). Therefore the distributive interpretation in (20), which is forced by the coindexing relation, can only be obtained if the indefinities are interpreted as quantificational expressions in the scope of ogni studente, and consequently in the scope of the intensional predicate in the main clauses. Hence, in contrast to (18a) and (19a), the relative clauses must be in the subjunctive.

(20) a. Gina desidera che ogni studenteì incontri una qualsiasi / quelunque / quale ragazza che gliì voglia / * vuole bene.
   "Gina wants that every student meets (Subj.) an arbitrary girl who loves (Subj.)/* loves (Ind.) him"

b. Gina desidera che ogni studenteì incontri almeno una ragazza che gliì voglia / * vuole bene
   "Gina wants that every student meets (Subj.) at least one girl who loves (Subj.)/* loves (Ind.) him"

Similarly, while it is possible to recover a function between two sets of individuals, it seems to be impossible to recover a function between individuals and propositions. In other words, complement clauses do not act as referential expressions and can therefore not constitute an island for the licensing of subjunctive mood. Hence, the coindexing relation in (21) is only possible if the most embedded complement clause is in the subjunctive.

(21) Gina desidera che ogni studenteì creda che Pina gliì voglia / * vuole bene
   "Gina wants that every student believes (Subj.) that Pina loves (Subj.)/* loves (Ind.) him"

As shown in (22), extraction from nominal expressions is possible if they are interpreted with narrow scope (22b) but also if they are interpreted with wide scope with respect to intensional operators (22a). (22a) expresses that there is a picture Gino is looking for and the speaker asks who is the owner (or painter) of the picture. 20

(22) a. Di chi Gino sta cercando un quadro che lo mostra bello?
   "Of whom Gino is looking for a picture that him shows (Ind.) nice"

b. Di chi Gino sta cercando un quadro che lo mostri bello?
   "Of whom Gino is looking for a picture that him shows (Subj.) nice"

It is a well known fact that referential nominal expressions block extraction. 21 Hence, the

20. In the same way the indefinities below can be interpreted with wide scope over negation (i) and the quantified subject (ii) despite extraction. Note further that the indefinite in the German example in (iii) can only have wide scope over negation, nonetheless extraction is perfectly possible.

i. Di chi non hai visto due fotografie?
   "Of whom (you) not have seen two pictures"

ii. Di chi nessun studente ha visto una fotografia?
   "Of whom no student has seen a picture"

iii. Von wem hast du zwei Bilder nicht gesehen?
   "Of whom have you two picture not seen"

21. Fiengo & Higginbotham (1981) claim that extraction form nominal expressions is subject to a Specificity Condition: extraction from specific nominal expressions is not allowed. This condition applies to
indefinite object in (22a) can only be construed as a wide scope quantificational indefinite but not as a referential expression. If, as we assume, the function interpretation involves referential expressions, extraction should be impossible. As shown by the contrast in (23), this is the case. Remember that the indefinite in (23a) with the indicative and the pronoun which is coindexed with the non-referential expression ogni studente cannot be construed as a quantificational expression; the only possible interpretation is the function interpretation (cf: example (19a)). As such it excludes extraction. The narrow scope quantificational indefinite in (23b), on the other hand, allows extraction. 22

(23) a. * Di chi desideri che ogni studente, cerchi una fotografia che lo mostra bello?
    "Of whom (you) desire that every student looks for (Subj.) a picture that him shows (Ind.) nice"
    b. Di chi desideri che ogni studente, cerchi una fotografia che lo mostri bello?
    "Of whom (you) desire that every student looks for (Subj.) a picture that him shows (Subj.) nice"

2.5. ‘che’-deletion

Differently from English that, the Italian complementizer che (that) can only be deleted if a constituent has been extracted or topicalized out of the complement clause: 23

referential expressions, such as a certain picture, this picture over there, etc., which are considered to be specific. However, as shown by (22a) (cf: also fn. 18) the concept of specificity involved must be distinguished from wide scope. Note that we do not claim referentiality to be the only property to block extraction. For instance, as has long been noticed (cf: e.g., Chomsky (1973, 1977)), extraction cannot take place from definite nominal expressions, which can be construed as non-referential (i). This seems to be a special property, independent of referentiality, of the English (singular) definite determiner the since (a) this construction is possible in languages like Italian (ii) and (b), as noted by Diesing (1992), English definite plurals marginally allow extraction (iii).

i. * Who did you see the picture of?
    ii. Di chi hai visto la fotografia?
    iii. ??Who did you see the pictures of?

In addition, strong quantifiers, such as every, most, each, etc., which are non-referential as well as overt partitives which can be non-referential (cf: fn. 18) allow extraction. See Diesing (1992), who relates this fact to the notion of Presuppositionality.

22. (i) contrasts with (23b) in that the direct object can be construed as a quantificational indefinite with intermediate scope between the main subject and the intensional predicate. Extraction is therefore perfectly possible.

i. Di chi ogni studente, desidera cercare una fotografia che lo mostra bello?
    "Of whom every student desires (to) look for a picture that him shows nice"

23. Note that in contexts without extraction or topicalization che-deletion is possible if the main verb is in the first person:

i. Penso/Credo (che) Pina sia incinta
    "(I) think that Pina is (Subj.) pregnant"
(24) a. Gino pensa/crede *(che) Pina sia/è incinta
    "Gino thinks that Pina is (Subj./is (Ind.) pregnant"
 b. Chi Gino pensa/crede (che) sia incinta?
    "Who Gino thinks that is (Subj.) pregnant"
 c. Nina Gino pensa/crede (che) sia incinta
    "Nina Gino thinks that is (Subj.) pregnant"

Interestingly, while the complement clause of verbs like credere and pensare can be in the indicative, they must be in the subjunctive if the complementizer is deleted:

(25) a. Chi Gino pensa/crede *(che) è incinta?
    "Who Gino thinks that is (Ind.) pregnant"
 b. Nina Gino pensa/crede *(che) è incinta?
    "Nina Gino thinks that is (Ind.) pregnant"

Assuming that che-deletion is possible only if the complement clause occupies a governed position, the ungrammaticality of (25) constitutes a further argument for our hypotheses that complement clauses in the indicative of verbs like pensare and credere undergo movement at LF.

2.6. Disjoint Reference Effects

Raposo (1985) observes for Portuguese, French and Spanish that the pronoun ele (he) can be coreferent with the subject of the main clause in (26a) but not in (26b). In order to account for the Disjoint Reference Effect in (26b), he assumes that the binding domain of the pronominal subject in (26b), but not in (26a), is the main clause. In this view the pronoun in (26b) cannot be coreferent with the main subject without violating Principle B of the Binding Theory.

(26) a. O Manel pensa que (ele) lê bastantes livros
    "Manel thinks that he reads (Ind.) enough books"
 b. O Manel deseja que (ele) leia mais livros
    "Manel wishes that he reads (Subj.) more books"

Raposo assumes that predicates like pensar are characterized by the presence of a [+TENSE] operator in the COMP position of the subcategorized complement clause. This operator creates an opaque domain for the pronoun in subject position. Subcategorized complement clauses to predicates like desej ar, on the other hand, are characterized by the feature [-TENSE] in their COMP position, extending the binding domain of the pronoun to the main clause. Crucially, he concludes that "the choice of mood is not directly involved in the different readings the complement subject pronouns have" in (26) (Raposo 1985), p. 103). The same observation can be made for Italian. Just as in Portuguese (26), the pronoun lui (he) can be coindexed with the main subject in (27a), but not in (27b).

24. This condition has to apply at S-structure and at LF, as shown by the impossibility of che-deletion with topicalized complement clauses:
   i. *(che) la terra si muova penso/credo
      "that the earth moves (Subj.) (I) think"
(27)  
a. *Gino$_i$ crede che lui$_i$ legge abbastanza libri  
"Gino thinks that he reads (Ind.) enough books"  
b. *Gino$_i$ desidera che lui$_i$ legga piú libri  
"Gino wishes that he reads (Subj.) more books"

Note however that Italian differs from Portuguese, French and Spanish in that the complement clause of predicates like credere and pensare can be in the subjunctive. In this case, just as in (27b), the disjoint reference effect shows up (28).

(28)  
*Gino$_i$ crede che lui$_i$ legga abbastanza libri  
"Gino thinks that he reads (Subj.) enough books"

Raposo's approach does not account for the contrast between (27a) and (28). Since the complement clause of credere is characterized by the feature [+TENSE] no disjoint reference effect should arise, independently of mood. We suppose that the contrast between (27a) and (28) is related to the different positions the complement clauses occupy at LF. In contrast to Raposo we assume that predicates like desiderare, on the one hand, and credere and pensare, on the other hand, behave alike with respect to the extension of the binding domain to the main clause. However, the binding domain can be extended to the main clause only if the complement clause is interpreted in its base position. In (26a) and (27a) the complement clauses in the indicative raise to a position outside the scope of the intensional operator of credere at LF. In this position it creates an opaque domain in which the pronoun is free. In (26b), (27b) and (28), on the other hand, the complement clause in the subjunctive does not move at LF. It remains in its base position, hence the binding domain of the pronoun is extended to the main clause. According to this view, (28) shows the disjoint reference effect because the complement clause cannot move at LF without leaving the scope of the intensional operator which licenses the subjunctive mood. Hence the binding domain is necessarily extended to the main clause. Consider now (29a). (29a) differs from (28) in that the most embedded complement clause in the subjunctive can move to an intermediate position outside the scope of the intensional operator of credere in which the subjunctive is licensed by the intensional operator of desidera. If it moves, it constitutes an opaque binding domain in which the pronoun is free: hence, in contrast to (28), no disjoint reference effect shows up.

(29)  
a. Gina desidera che Gino$_i$ creda che lui$_i$ legga abbastanza libri  
"Gina desires that Gino believes (Subj.) that he reads (Subj.) enough books"  
b. *Gina desidera che Gino$_i$ creda che lui$_i$ legge abbastanza libri  
"Gina desires that Gino believes (Subj.) that he reads (Ind.) enough books"

Regarding the absence of the disjoint reference effect (29a) and (29b) behave in the same way. In both sentences the most embedded clause can move at LF creating an opaque binding domain. They only differ with respect to the fact that the most embedded complement clause in (29b) must raise at LF, because of the indicative mood. 25

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25. Note that (i), in contrast to (29a), shows the disjoint reference effect. We assume that desiderare differs from credere in that it does not allow its complement clause to raise at LF, hence the binding domain is necessarily extended.

i. *Gina vuole che Gino$_i$ desideri che lui$_i$ legga piú libri  
"Gina wants that Gino desires (Subj.) that he reads (Subj.) more books"
(30) differs from (29) in that the most embedded clause contains a negative polarity item which is licensed by the negative marker in front of creda. As we will see in section 4.2, the most embedded clause in such contexts cannot move outside the scope of non credere. Hence, in this case, the binding domain of the pronoun will be extended just as in (28). Consequently the subject pronoun cannot be interpreted as coindexed with the subject of credere.

(30) *Gina desidera che Gino non creda che lui legga niente/ alcun libro
"Gina desires that Gino not believes (Subj.) that he reads (Subj.) nothing/ any book"

3. Tense at Logical Form

Consider the contrast in (31). In (31b) the indefinite direct object, which is modified by a relative clause in the imperfect, can have a narrow scope interpretation with respect to the quantified subject of the embedded clause. This interpretation is not available for the indefinite in (31a), which is modified by a relative clause in the present tense.

(31) a. Gino vide che ogni uomo baciava una donna che è molto ricca
"Gino saw that every man kissed a woman who is very rich"
b. Gino vide che ogni uomo baciava una donna che era molto ricca
"Gino saw that every man kissed a woman who was very rich"

Adopting Stowell (1993), we assume that Italian present tense is an Anti-Past Polarity Item (32). As such, the indefinite in (31a) has to raise at Logical Form to a position outside the scope of the temporal feature \textsc{Past} in \textsc{tp1} of the simple past of the main clause, and consequently outside the scope of the quantified subject of the embedded clause.

\begin{itemize}
\item[(32)]
\end{itemize}

26. We assume that the sentences in (31) have the (surface) structure (i). According to Stowell (1993) the temporal feature in \textsc{tp1} in (i) establishes a temporal ordering between two time denoting arguments. The \textsc{zp} (Zeit Phrase) which functions as the external argument of \textsc{tp1} denotes the Reference Time, the internal argument \textsc{zp} the Event Time. When a past tense occurs in a main clause, the Reference Time \textsc{zp} lacks a-commanding \textsc{zp} to serve as its controller; in this case the Reference Time \textsc{zp} denotes the utterance time. Since the feature in \textsc{tp1} in (ii) is \textsc{past}, the event time precedes utterance time. In the following, however, we will disregard the internal structure of tense projections.

\begin{verbatim}
  [agrs Gino [agrs vide [tp1 zp [t1 t1 ...... [zp ... [vp t1 [che ogni uomo baciava
  [past]
  una donna ...]]]]]
\end{verbatim}

27. (32) accounts for the fact that in (31a) the present tense in the relative clause is interpreted independently of the past of the main clause, i.e. directly with respect to utterance time: (31a) only means that the event of being rich is simultaneous to utterance time but not necessarily to the event of seeing. Stowell (1993) assumes that complement clauses in the present tense under a past differ from relative clauses in that they give rise to Double Access constructions: not also their \textsc{lf}-position but also their copy in the base position in the scope of the main past is temporally interpreted. Therefore the complement clause in (i) is interpreted as simultaneous to utterance time but also necessarily as simultaneous with respect to the event expressed in the main clause. Note that in (northern) Italian Double Access constructions are not available (ii). See Brugger &
(32) Italian present tense is an Anti-Past Polarity Item (APPI)

Imperfect differs from present tense in that it can be interpreted in the scope of another past. Hence the indefinite in (31b) can be interpreted in the scope of the feature PAST in the main TP1 and consequently also in the scope of the quantified subject. 28

Note that in (31a), in contrast to (31b), the indefinite object can have a distributive interpretation only if it has the function interpretation, as shown by the contrast in (33).

(33) a. * Di chi Gina disse che ogni studente stava guardando un ritratto che gli sta a cuore?
"Of whom Gina said that every student was looking at a picture that to him is at his heart"

b. Di chi Gina disse che ogni studente stava guardando un ritratto che gli stava a cuore?
"Of whom Gina said that every student was looking at a picture that to him was at heart"

As shown in section 2.4, a nominal expression that has the function interpretation is construed as referential, hence it does not move at LF. Just as it was the case regarding the licensing of subjunctive, also referentiality constitutes an island for tense, i.e., in (31a) the referential indefinite creates a barrier between the present tense in the relative clause and the superordinated past tenses and therefore it is not forced to move by (32). This assumption is confirmed by the fact that the indefinite in (34b), but not the one in (34a), is compatible with words like qualunque/qualche/etc., which exclude referentiality (cf: section 2.4, example (20)): 29

(34) a. * Gino vide che ogni professore salutava una qualunque ragazza che gli fa da mamma
"Gino saw that every professor greeted a any girl that to him acts as his mother"

b. Gino vide che ogni professore salutava una qualunque ragazza che gli faceva da mamma
"Gino saw that every professor greeted a any girl that to him acted as his mother"

D'Angelo (1994b) for an account for this special property of Italian complement clauses.

1. John said that Mary is pregnant
2. * Gino disse che Maria è incinta
   Gino said that Mary is pregnant

28. In this case the imperfect is interpreted not independently of the main past, i.e., not directly with respect to utterance time: the event of being rich is simultaneous to the event of seeing (and, indirectly, past-shifted w.r.t. utterance time).

29. Consequently, as in the wide scope interpretation of the indefinite in (31a), also in the function interpretation the present tense in the relative clause is interpreted independently of the c-commanding past tenses, i.e., directly w.r.t. utterance time.
We conclude that non-referential nominal expressions in the scope of a past tense have to scope out at LF if they contain a present tense. However, in (31a), when the indefinite does not move, i.e., in the function interpretation, the referentiality of the indefinite allows for the presence of the present tense in the c-command domain of the main past.

The assumptions in (3) and (32) account for the following contrasts. The indefinite in (35a) has to raise outside the scope of the main PAST in TP1 since it is modified by a relative clause in the present subjunctive, an APPI. But at the same time, subjunctive being an IOPI, it has to remain in the scope of the intensional operator in V°. Because of these contradictory requirements (35a) is ungrammatical. 30

(35) a. *Gino desiderava sposare una ragazza che sia ricca
   "Gino wanted to marry a girl who is (Subj.) rich"
   b. \[AGRSP [TP1 .... [VP V° ....-]]]]
   \[PAST] op
   c. Gino desiderava sposare una ragazza che è/era fosse ricca
   "Gino wanted to marry a girl who is (Ind.)/was (Ind.)/was (Subj.) rich"

(35a) becomes grammatical if the relative clause is in the present or past indicative or in the imperfect subjunctive (35c). In the first case, the indefinite moves to take scope over both the intensional operator and the past feature of the main predicate; in the second case it is interpreted inside the scope of both elements.

The contrast in (36) shows that a constituent containing subjunctive mood can raise at Logical Form, as long it remains in the scope of an intensional operator which licenses the subjunctive. Because of the present subjunctive in the relative clause, the indefinite direct object in (36a) cannot be interpreted in the scope of the past feature of desiderasse, nor can it be interpreted outside the scope of the intensional operator of the main predicate spera. However, if the indefinite raises at Logical Form to a position between those elements, the requirements for the present subjunctive can be satisfied. In fact, the only possible interpretation of (36a) is the one represented in (36b): the indefinite is interpreted between the two intensional predicates.

(36) a. ?Gina spera che Gino desiderasse sposare una ragazza che sia ancora ricca
   "Gina hopes that Gino desired to marry a girl who is (Subj.) still rich"
   b. Gina hopes that \[∃(x)[girl who is still rich](x) ∧ [Gino desired to marry(x)]\]
   c. *Gina sperava che Gino desiderasse sposare una ragazza che sia ancora ricca
   "Gina hoped that Gino wanted (Subj.) to marry a girl who is (Subj.) still rich"

(36c) contrasts with (36a), since, because of the imperfect in the main clause, the intermediate position between the two intensional predicates is no longer available for the indefinite object. Hence the indefinite cannot be interpreted in any position in (36c).

In Italian as in English (cf: Carlson (1977)) bare plurals with existential interpretation

30. Note that this argumentation is based on the assumption that the intensional operator is located in the scope of the feature PAST, as in (35b). In section 4.1, we will discuss some empirical arguments in favor of this assumption.
typically have narrowest scope. 31, 32 The bare plural objects in (37) cannot be interpreted

31. In Italian unmodified bare plurals cannot surface in the preverbal subject position, but must follow the verb (cf. e.g. Benincà (1980)). Longobardi (1991) assumes that they are introduced by an empty D° which is subject to the ECP; hence bare plurals can only occupy governed position (cf. also Delfitto & Schroten (1991)).

i. Oggi, sono arrivati marocchini in paese  
   "Today have arrived Moroccans in town"

ii. *Oggi, marocchini sono arrivati in paese  
   "Today Moroccans have arrived in town"

Modified bare plurals, such as the ones in (iii) and (iv), differ from simple bare plurals in that they can surface in the preverbal subject position at a particularly narrative stylistic level (Longobardi (1991), Delfitto & Schroten (1991)).

iii. Foreste meravigliose si aprivano davanti ai nostri occhi  
     "Beautiful forests opened in front of our eyes"

iv. Ragazzi che Gianni non aveva mai visto affollavano i marciapiedi tra Rue St. Denis e  
    Boulevard Sébastopole  
    (Longobardi (1991))

Although modified bare plurals can move at S-structure, they cannot take wide scope (cf. (37)), even if they occupy the preverbal subject position (v).

v.  
   Politici corrotti hanno bloccato due leggi (*ciascuno)  
   "Corrupt politicians blocked two laws each"  
   (Brugger (1993))

Brugger (1993) assumes that modified bare plurals which surface in the preverbal subject position are not interpreted in that position at LF but interpreted in their base position inside VP. If this is correct, we expect that preverbal bare plurals whose base position is in the scope of an intensional operator cannot be modified by a relative clause in the indicative mood, which is an AIOPI. As shown by the contrast in (vi), this prediction is fulfilled. The relative clause of the subject of (vi), which is interpreted in the scope of the intensional operator of potere (can), is incompatible with indicative mood (vi). The same contrast is shown by topicalized bare plurals (vii):

vi. Forseste che fossero/* erano meravigliose potevano aprirsi davanti ai nostri occhi da un momento all'altro  
   "Forests that were (Subj.)/* were (Ind.) beautiful could open in front of our eyes from one moment to the other"

vii. Ragazzi che Nino conoscessa/* conosceva bene Gino desiderava incontrare  
    "Girls that Nino knew (Subj.)/* knew (Ind.) well Gino desired (to) meet"

32. Bare plurals with generic interpretation differ from the ones with existential interpretation in that they can have wide scope (cf. e.g., Carlson (1977)). The bare plural subject in (i) can be interpreted with wide scope with respect to negation, the one in (ii) with wide scope over the direct object.

i. Ragazzi che sappiano/* sanno l'inglese non leggono le traduzioni di Joyce  
   "Girls who know (Subj.)/* know (Ind.) English do not read the translations of Joyce"

ii. Politici che siano/* sono corrotti hanno sempre almeno due avvisi di garanzia  
    "Politicians who are (Subj.)/* are (Ind.) corrupt always have at least two warrants"

Note that the relative clauses in (i) and (ii) must be in the subjunctive, although there is no intensional predicate in these examples. Heim (1982) assumes that bare plurals with generic interpretation are bound by an unpronounced generic operator or by adverbial quantifiers. We assume that these operators can license subjunctive mood in Italian. This possibility is not limited to bare plurals but can also be found with e.g., indefinites in the singular (iii). The indefinite in (iii) can have generic interpretation only if the relative clause is in the subjunctive, otherwise it is interpreted as a wide scope or referential indefinite. In contexts of specific time reference, which are incompatible with the generic operator, subjunctive mood is not licensed (iv).
with wide scope with respect to the universally quantified subject in (37a), to negation in (37b), or to the intensional operator in (37c).

(37)  a. Ogni pittore dipinge paesaggi campestri
    "Every painter paints settings rural"
  b. Gina non dipinge paesaggi campestri
    "Gina not paints settings rural"
  c. Gina desidera uomini forti
    "Gina desires men strong"

In addition, contrary to Carlson (1977), existential bare plurals cannot be construed as referential (cf. Brugger (1993)) and therefore disallow the function interpretation. Consequently, since existential bare plurals do not raise at LF, the impossibility of the indicative in (38a) is correctly predicted.

(38)  a. *Gina vuole baciare studenti che si lavano
    "Gina wants kiss students who themselves wash (Ind.)"
  b. Gina vuole baciare studenti che si lavino
    "Gina wants kiss students who themselves wash (Subj.)"

4. Mood and Negation

4.1. Two LF landing sites and the semantic position of Negation

In both sentences in (39) the indefinite object must move outside the scope of the intensional operator of desiderava in the main clause, because of the indicative in the relative clause. The different tenses in the relative clauses determine different scope relations of the indefinite objects with respect to the quantified subject ogni studente. Only the indefinite in (39b), but not the one in (39a), can be interpreted in the scope of the universal quantifier. 33

iii.  Un politico che sia/e corrotto ha sempre almeno due conti correnti all'estero
    "A politician who is (Subj.)/is (Ind.) corrupt has always at least two bank accounts abroad"
iv.   Un politico che *sia/e corrotto ha ricevuto due conti correnti all'estero
    "A politician who *is (Subj.)/is (Ind.) corrupt has got two bank accounts abroad"

33. Again, in (39a) the indefinite object can only be interpreted as distributive with respect to ogni studente by the function interpretation. This is confirmed by the fact that first, (i) and (ii) differ with respect to extraction, and second, that only (iv), but not (iii), is compatible with chiunque sia.

i.    *Di chi ogni studente, desiderava vedere una fotografia che lo1 mostrava bello?
    "Of whom every student desired (to) see a picture that him shows (Ind.) nice"
ii.   Di chi ogni studente, desiderava vedere una fotografia che lo1 mostrava bello?
    "Of whom every student desired (to) see a picture that him showed (Ind.) nice"
iii.  Ogni studente, desiderava sposare la ragazza che gli1 fa da mamma (* chiunque essa sia)
    "Every student desired (to) marry a girl who to him acts (Ind.) as mother whoever she is"
vi.   Ogni studente, desiderava sposare la ragazza che gli1 faceva da mamma (chiunque essa fosse)
    "Every student desired (to) marry a girl who to him acted (Ind.) as mother whoever she was"
(39) a. Ogni studente desiderava sposare una ragazza che è molto alta
"Every student wanted marry a girl who is very tall"
b. Ogni studente desiderava sposare una ragazza che era molto alta
"Every student wanted marry a girl who was very tall"

We assume that there are two landing sites for movement in Logical Form (40). There is one
landing site, LFP1, outside the scope of the subject and therefore to the left of TP, whose
head contains the temporal feature of the main clause; there is another landing site, LFP2, in
the scope of the subject between TP and the intensional operator in V°. 34, 35

(40) \[ LFP1 (DP) \, [AGRSP \, [TP1 \, [LFP2 (DP) \, [VP \, V° \, [\ldots \, \ldots]]]]] \]

The intermediate landing site, i.e., the specifier of LFP2, is outside the scope of the
intensional operator but inside the scope of the feature PAST of desiderava in TP1. Therefore
it is not a possible landing site for the indefinite in (39a), because in this position the present
tense in the relative clause would still be in the scope of the PAST feature. The only possible
landing site of the indefinite is the specifier of LFP1, which is also outside the scope of the
quantified subject. The indefinite object in (39b), on the other hand, can be interpreted in the
specifier of LFP2, because the imperfect in the relative clause is not necessarily an APPI,
and, consequently, is in the scope of the quantified subject. 36

34. Note that the argument only requires the intensional operator to be located in a position below LFP2. It
might therefore be the case that the it is located in a functional projection between LFP2 and VP rather than
in V°. In any way, however, it cannot be the case that the AGRS° and T°, i.e., the old 1°, are involved in the
licensing of subjunctive as proposed by Manzini (1994).

35. The heads of these positions might contain a scope feature the indefinite has to check at LF.

36. In other words, LFP1 is located outside the highest position available for the universal quantifier at LF:
QR of ogni studente in (39a) can only create an LF representation like (i), the one in (ii) is excluded. In other
words, the scope of quantifiers like every, which are clause bound, always excludes LFP1. Note that this view
differs from the classical analysis proposed by May (1977, 1985), according to which LF-representations
similar to (ii) are allowed. A further necessary assumption is that there are no LFPs between the highest scope
position of the universally quantified subject and TP.

i. \[ LFP1 [una ragazza che è molto alta] [ogni studente]_i [AGRSP \, \, [TP \ldots] \]
ii. * [ogni studente]_i [LFP1 [una ragazza che è molto alta] [AGRSP \, \, [TP \ldots] \]

The same observations hold in embedded clauses. The indefinite in (iii) can only be interpreted in LFP1 of the
complement clause. In any other position it would be interpreted either in the scope of the embedded PAST,
or outside the scope of the intensional operator in the main clause. In both cases the present subjunctive in
the relative clause would not be licensed. Consequently, since the scope of the clause bound quantifier ogni
excludes the embedded LFP1-projection, it can only be interpreted with narrow scope with respect to the
indefinite object. Furthermore, since the subjunctive in the relative clause excludes the function interpretation,
the coindexing relation in (iv) is excluded.

iii. Gina spera che ogni studente desiderasse incontrare una ragazza che sia ancora ricca
"Gina hopes that every student wanted (Subj.) meet a girl who is (Subj.) still rich"
iv. * Gina spera che ogni studente, desiderasse incontrare una ragazza che gli piaccia ancora
"Gina hopes that every student wanted (Subj.) meet a girl who to him pleases (Subj.) still"
Now we can establish the position of sentential negation which is relevant for the semantic interpretation. Consider the sentence in (41a). As with the one in (39b), the indefinite in (41a) must raise to a position outside the intensional operator. Since it is modified by a relative clause in the imperfect, it can occupy the specifier of LFP2 at LF. In fact, it can be interpreted in the scope of the quantified subject of the main clause. Crucially, in this position the indefinite is interpreted with wide scope with respect to negation. (41a) can be paraphrased with (41b).

(41) a. Ogni professore non sperava che Gino sposasse una studentessa che era alta "Every professor not hoped that Gino married (Subj.) a student who was (Ind.) tall"
b. For every professor x there was a tall girl y such that x did not hope that Gino married y.

We conclude that the position in which sentential negation is interpreted is lower than the intermediate landing site LFP2. Since TP1 is higher than LFP2 (cf. (40)) this position is also lower than TP1. In the structure in (42) we refer to this position as NEGP2.

(42) \([_{\text{LFP1} \ (\text{DP}_1)} \ [_{\text{AGRSP} \ [_{\text{TP1} \ [_{\text{LFP2} \ (\text{DP}_2)} \ [_{\text{NEGP2} \ [_{\text{VP} \ V^* \ [CP-..t...]]]]]}]}]}]\]

37. In order to avoid confusion with respect to the scope of the negation and the main predicate we use a predicate which does not allow Neg-Raising.

38. The distributive interpretation of the indefinite in (41a) is not necessarily an instance of the function interpretation as shown by the grammaticality of the following examples. This fact is crucial for the structure assumed in (42).

i. Di chi ogni professore non sperava che Gina vedesse una fotografia che lo mostrava bello? "Of whom every professor not desired that Gina saw (Subj.) a picture that him showed (Ind.) nice"
ii. Ogni professore non sperava che Gino sposasse una studentessa che era alta chiunque essa fosse "Every professor not hoped that Gino married (Subj.) a student who was (Ind.) tall whoever she was"

39. The syntactic and the interpretative position of sentential negation do not coincide in Italian: while the negative force is located in NEGP2, perhaps by an empty negative operator (Ouhalla (1990)) in its specifier, the negative morpheme non precedes the inflected verb at s-structure. German, as argued in Brugger & Polito (1994), seems to show the mirror image: the negative marker nicht (not) surfaces in a position which is structurally lower than the interpretative position of negation.

40. We refer to this position as NEGP2 in order to distinguish it from Zanuttili's (1991) NEGP which is located to the left of TP1 (cf. also Haegemann & Zanuttili (1990)). The examples discussed in this section (and in the following section) show that if there is a negative projection higher than TP1, this position cannot be the position that is relevant for semantic interpretation. According to Cinque (p.c), there are at least six negative projections in the structure of a simple clause: some of them are to the left and the others are to the right of TP. The semantically relevant one must therefore be one of the second group.
4.2. Mood, Negation and Negative Polarity Items

As noted in footnote 5, subjunctive mood can be licensed not only by intensional operators, but also by negation. Note first that a verb like salutare (greet), which is not an intensional operator, does not license subjunctive mood, as shown by the contrast in (43). 41

(43) Gino saluta una donna che η/* sia ambiziosa
"Gino greets a woman who is (Ind.)/∗ is (Subj.) ambitious"
Gino is greeting a woman who is ambitious

As shown in (44), in the presence of negation the relative clause can be in the subjunctive (44b). The sentences in (44) differ in meaning. The indefinite in (44b) is interpreted inside the scope of the negation. (44b) can be paraphrased with: it is not the case that there is a woman who is ambitious and who Gino is greeting. The indefinite in (44a), on the other hand, can only be interpreted outside the scope of the negation: there is a woman who is ambitious and it is not the case that Gino is greeting her. 42

(44) a. Gino non saluta una donna che è ambiziosa
"Gino not greets a woman who is (Ind.) ambitious"
    Gino is not greeting a woman who is ambitious

b. Gino non saluta una donna che sia ambiziosa
    "Gino not greets a woman who is (Subj.) ambitious"

We assume that the subjunctive mood is a Negative Polarity Item, i.e., it can be licensed by negation at Logical Form. Indicative mood, on the other hand, behaves as an Anti-Negative Polarity Item, i.e., it cannot be interpreted in the scope of the negation and has to take wide scope over negation:

(45) Subjunctive mood is a Negative Polarity Item (NPI), Indicative mood is an Anti Negative Polarity Item (ANPI)

It is often assumed that in languages like Italian postverbal n-words such as nessuno (nobody) raise to the specifier of a negative projection at Logical Form in order to license negative concord (cf. e.g., Haegemann & Zanuttini (1990), Zanuttini (1991)). However, if there is such movement in natural language, this movement cannot be considered to have any

41. The subjunctive in the relative clause is grammatical if it is read with a marked intonational pattern: 'Gino SALUTA una donna che sia ambiziosa'. In this case the indefinite is dislocated to the right and has a generic interpretation: for a woman who is ambitious Gino in general greets her. We assume that in this case the indefinite is bound by an unpronounced generic quantifier (Heim (1982)), which in Italian can license subjunctive mood (cf. 32). Since generic quantification is incompatible with contexts of specific time reference, we expect subjunctive mood to be ungrammatical in such contexts. This is shown by (i), which is ungrammatical even if read with a marked intonational pattern.

i. * Gino sta salutando una donna che sia/fosse ambiziosa
    "Gino is greeting a woman who is (Subj.) was (Subj.) ambitious"

42. Of course, the indefinite in (44a) can also be construed as referential. Note furthermore that for some native speakers the indicative in the scope of negation is not completely excluded, at least at a more colloquial level. The same holds for the example in (48) below (cf. e.g., the judgements given by Manzini (1994)).
Impact on the position of interpretation, and consequently on the scope of n-words. Otherwise one would wrongly predict that the n-word in (46), raising to a negative projection in the main clause, would necessarily have scope over the indefinite subject of the embedded clause. 43 This is not the case as shown by the fact that pronoun binding is possible. 44, 45, 46

(46) Pina non ordinò che un qualche ragazzo invitasse nessuna ragazza che gli piacesse
"Pina not ordered that a some boy invited (Subj.) no girl who to him pleased (Subj.)"

Pina did not order that a boy invite any girl who he likes

Hence, even if the negative indefinite object moves to the specifier of a negative projection at LF for the licensing of negative concord, this movement must be considered to be irrelevant for its interpretation (47a). 47 (46) further suggests that n-words are existential quantifiers without negative force rather than negative quantifiers (47b). Consequently, as Negative Polarity Items, they have to be interpreted at Logical Form in the scope of an (abstract) element that carries negative force, i.e., in the scope of NEGP2 (47c):

(47) a. Negative concord in the specifier of a negative projection has no impact on the position of interpretation of n-words
b. Italian n-words are existential quantifiers without negative force
c. Italian n-words are interpreted in the scope of NEGP2

43. Again, we use a predicate like ordinare which does not allow Neg-Raising, in order to avoid possible complications regarding the scope of negation.

44. Since nominal expressions introduced by un qualche (qualsiasi, qualunque) cannot be construed as referential indefinites (cf. section 2.4, example (20)) they do not license backward pronominalization (i).

i. * Una ragazza che gli piace desidera un qualche ragazzo
"A girl who he likes desires a some boy"

45. (46) constitutes an exception to the Intermediate Scope Constraint proposed by Linebarger (1980). She points out that simply requiring that NPIs be in the scope of some negation in Logical Form is too liberal a license: if some operator intervenes between the negation and the polarity item, the item will not be licensed. In (46) the indefinite subject obviously intervenes. As pointed out to us by P. Aquaviva (p.c.), this has to be considered a special property of un qualche, since all other operators obey this constraint.

46. Similarly, if the scope of n-words were determined by the position in which negative concord takes place, only (ii), in which the n-word takes scope over the matrix predicate ordinare at LF, but not (iii), would represent the interpretation of (i).

i. Pina non ordinò che Gino invitasse nessuno
"Pina not ordered that Gino invited nobody"

ii. \( \forall(x) \neg [\text{Pina ordered that Gino invited } x] \]

iii. \( \neg [\text{Pina ordered that } 3(x) \text{ Gino invited } x] \]

47. Note that our analysis is neutral with respect to the position of the negative projection in which negative concord takes place, i.e., our NEGP2 or e.g., Zanutini's (1991) NEGP to the left of TPI (cf. fn. 40), as long as the movement involved is considered to be irrelevant regarding scope relations.
The assumptions in (47) are in contrast to Zanuttini (1991). First, in contrast to (47b), Zanuttini (1991) treats n-words as negative universal quantifiers of the form $\forall(x)\neg$. 48

Negative concord is obtained by some kind of negative absorption in the specifier of NEGP at Logical Form. In other words, in languages that show negative concord, when two (or more) negative quantifiers raise they undergo the following process: instead of creating two (or more) consecutive instances of a universal quantifier each followed by an instance of negation of the form $[\forall(x)\neg][\forall(y)\neg]...$, negation is factored out and the two (or more) universal quantifiers become one binary (or n-ary) quantifier of the form $[\forall(x)\forall(y)...]\neg$.

Crucially, in contrast to (47a), in this analysis the scope of n-words is determined by the c-command domain of the negative projection in which negative concord takes place. An analysis in these lines predicts incorrect scope relations for the n-word in (46). In addition, since she assumes that negative concord takes place in a negative projection which is located higher than TP, the present subjunctive in (48) should be grammatical. 49

(48)  Gino non vedeva nessuna ragazza che gli mandasse/* mandi un bacio  
      "Gino not saw no girl who to him sent (Subj.)/* sends (Subj.) a kiss"

According to our analysis, on the other hand, the n-word in (48) must be interpreted in the scope of NEGP2 and consequently also in the scope of the PAST feature of the main clause, a configuration which correctly excludes the present subjunctive in the relative clause. 50, 51

48. Zanuttini argues that n-words cannot be analyzed as existential quantifiers since they can be modified by quasi (nearly) (i) just like universal quantifiers (ii), but unlike existential quantifiers (iii). However, this argument does not go through, since plural numerals are compatible with quasi (iv) (P. Acquaviva p.c.).

i. Gino non salutava quasi nessuno  
   "Gino not greeted nearly nobody"

ii. Gino salutava quasi ogni studente/quasi tutti gli studenti  
   "Gino greeted nearly every student/nearly all the students"

iii. * Gino salutava quasi uno studente  
     "Gino greeted nearly a student"

iv. Gino salutava quasi mille soldati  
    "Gino greeted nearly thousand students"

49. In addition, she assumes (cf. in the lines of Ouahalla (1990)) that languages may parametrically vary with respect to the relative order of TP1 and NEGP. Only in languages in which NEGP dominates TP1, such as Standard Italian, but not in languages in which TP1 dominates NEGP, such as colloquial French and some Italian dialects, a postverbal n-word must cooccur with a preverbal negative element. If this claim were correct we would expect the present subjunctive in sentences like (48) to be grammatical in standard French but ungrammatical in colloquial French, for example. But no such contrast can be observed.

50. Indicative mood is excluded because of (47c) in interaction with (45).

i. * Gino non vedeva nessuna ragazza che gli mandava un bacio  
   "Gino not saw no girl who to him sent (Ind.) a kiss"

ii. Gino non vede nessuna ragazza che gli mandi/* manda un bacio  
    "Gino not sees a girl who to him sends (Subj.)/* sends (Ind.) a kiss"

51. Obviously, the same holds for non-negative indefinites in the scope of negation: the indefinite object in (i) is necessarily sensitive to the temporal feature in the TP-projection of the main clause.

i. Gino non salutò una donna che fosse/* sia ambiziosa
An analogous analysis holds for complement clauses. Since the n-word in (49) must be interpreted in the scope of NEGP2, the complement clause cannot raise to LFP1 or LFP2. Hence the indicative is excluded. 52

(49) Gino non crede che venga/* viene nessuno
"Gino not believes that comes (Subj.)/* comes (Ind.) nobody"
Gino does not believe that anybody comes

5. Conclusions

In this paper we argued that the location at LF of nominal expressions and embedded sentences is determined by mood and tense. We individuated two landing sites for LF-movement: the specifiers of LFP1 and LFP2, which are separated by the tense projection TP. In addition we showed that the semantic position of sentential negation, i.e. our NEGP2, has to be located below LFP2 and consequently below TP. We showed that we have to assume the following ordering: LFP1-TP1-LFP2-NEGP2-intensional operator. We analyzed indicative mood as an Anti-Intensional-Operator Polarity Item (AIOP) and as an Anti-Negative Polarity Item (ANPI). Indicative mood inside a relative clause modifying a non-referential indefinite triggers LF movement of the indefinite outside the scope of intensional operators and sentential negation. An analogous analysis holds for indicative mood in complement clauses. In the same way, present tense triggers LF movement of the same type of constituents to a position outside the scope of the feature PAST: present tense is an Anti-Past Polarity Item (APPI). From our hypotheses we have derived not only empirical consequences, such as the distribution and the interpretation of indefinites, bare plurals and complement clauses, but also theoretical implications. For instance, contrary to Raposo's approach, we have shown that, first, mood is involved in the disjoint reference effects, and second, that in particular contexts no disjoint reference effect shows up in complement clauses in the subjunctive. Moreover, we have proposed that in Italian the semantically relevant position of sentential negation is NEGP2, and not the overt position of the negation marker non, nor Zanuttini's NEGP.

52. If non is in the complement clause, no contrast arises: both subjunctive mood and indicative mood are possible (i). The indicative is licensed if the complement clause raises to LFP1 or LFP2 at Logical Form; the n-word is licensed in the scope of the NEGP2 projection in the raised complement clause.

i. Gino crede che non viene/venga nessuno
"Gino believes that not comes (Ind.)/comes (Subj.) nobody"
Gino believes that nobody comes
References
