

Reinforcing negation: the case of Italian

Italian negation displays a well-known contrast between preverbal and post-verbal n-words: while the preverbal adverb *non* does not co-occur with preverbal n-words with single negation reading (SN), it is obligatory with post-verbal ones. The two negations co-occur in (1c) with a double negation reading (DN), where *non* is (preferably) stressed.

- (1)a. *Nessuno viene* / **Nessuno non viene* (Nobody is coming,)
b. **Paolo vede nessuno* / *Paolo non vede nessuno* (Paolo does not see anybody)
c. *Nessuno **non** viene* (Nobody is not coming, DN)

However, there are two cases, with variable acceptability (hence ‘%’), where the two negations do co-occur preverbally (Benincà *et al.* 1988). Here, we study the one illustrated in (2).

- (2)a. % *NESSUNO non è venuto!* (Nobody not is here, SN)
b. % *NIENTE non ho fatto* (Nothing not I.have done, SN = I have not done anything)
c. % *A nessuno degli STUDENTI non ha parlato* (To none of the students has he talked)

We show that the construction in (2) is a case of reinforced negation, which is formally distinguished from the ordinary (descriptive, semantic) negation in order to express a proposition denial (metalinguistic negation). We give an HPSG grammar for Italian negation which incorporates both expressions of negation.

1 Formal properties of reinforced negation

The constructions in (2) have two properties in common: they contain an initial phrase which (i) includes an n-word, and (ii) is associated with a special prosody (noted here with capital letters), a contour anchored on the rightmost part of the phrase (i. e. the n-word is not specially targetted). The initial phrase can be a subject (2a), a filler (2b) (hence, the possibility of long distance, cf. *Con NESSUNO non ama parlare qui*, with nobody he.likes to talk here) or an adjunct (2c). Hence, syntactically, the construction is characterized by linearization rather than phrase structure.

Crucially, the formal properties (linearization and contour) are shared by positive sentences without initial n-words (3). Thus, reinforced negation lives on an independently defined construction.

- (3) A. *A chi ha parlato Maria per la tutta serata?* (Who did Maria speak to during the party)
B. *A suo ex-RAGAZZO ha parlato* (Maria) (She spoke to her former boy-friend)

2 The construction has no uniform information structure properties

In the literature, the construction in (3) has been characterized in information structure (IS) terms: the initial phrase is said to be a (contrastive) focus (e.g. Rizzi 1997). In fact, the construction (in its positive or negative form) is compatible with different IS. It is appropriate in all focus utterances (5) provided that they are not ‘out-of-the blue’ (4).

- (4) A. *Come sta andando?* (how is it going)
B. (i) # *NESSUNO non è venuto* (nobody came)
(ii) *Non è (ancora) venuto nessuno* (there is nobody yet)

- (5) B. *Nanni Moretti ha fatto il suo intervento* (N. M. has given his talk)
 A. *E poi, cos'è successo?* (And then, what happened?)
 B. *% NESSUNO non ha applaudito* (Nobody not clapped, SN)

In utterances featuring an IS partition, the initial phrase can be either an informational narrow focus (see (6), (7)) or part of ground (8); it can be Kontrastive (denoting a member of a contextually accessible set of alternatives, Vallduví *et al.* 1998) (see (7) or (8)) or non Kontrastive (6). Whether utterances contain an initial phrase with an n-word or not, they behave alike. We illustrate negative sentences; the notation (%non) indicates that not all speakers have the use of *non* in these contexts.

- (6) A. *Chi non ha fatto i suoi compiti?* (Who has not done his homework)
 B. a. *# Nessuno (non) li ha fatti* (Nobody has done it)
 b. *NESSUNO (% non) li ha fatti*

- (7) A. *Suo fratello e suo cugino sono appena arrivati. Sai chi inviterà?*
 (her brother and her cousin have just arrived, you know who she will invite)
 B. *Nessuno di DUE (% non) inviterà.* (neither of the two she will invite)

- (8) A. *I tuoi studenti hanno riuscito l'esame?* (your students have done well on the exam)
 B. *Nessuna questione di SINTASSI (quei cretini) non sono riusciti a risolvere! Le due questioni di semantica, invece, tutti le hanno risolte.*
 (None of the syntactic questions, the stupid ones, they (did not) succeed in solving, the two semantic questions, on the other hand, all of them solved them)

To conclude, there is no specific IS status for the initial phrase that would characterize the construction *per se*.

3 Reinforced negation is associated with proposition denial

Given that IS is not relevant to characterize the construction, we should turn to other discourse features and take advantage of the recurrent comments given by informants. The answers in (5B) through (8B) are not straightforward answers; they express the speaker's surprise at some state of affairs. For instance, in (6), A's question implies that some (of the students) were supposed to have done their homework, and in (8), which might be an exchange between two syntax teachers, B's answer conveys that s/he was assuming that the syntax questions were easy, and thus, would present no problem for the students.

As for negative sentences (2) proper, they convey the denial of a contextually activated proposition (Geurts 1998), either a proposition brought up by the previous turn (9) or an implicit proposition inferable in the context, in particular propositions linked to the issue raised by the question (e. g. (10)).

- (9) A. *Pietro ha letto tutti i scritti di Einstein* (P. has read all the texts by E.)
 B. *% Scherzi, NESSUNO (non) ne ha letto* (You are joking, none of them he has read)

- (10) A. *Allora sono arrivati i pacchi?* (So, have the packets arrived?)
 B. *% No, NESSUNO non ne è ancora partito!* (No, none has even gone yet)

In (10), the inferred proposition corresponds to the way speaker B justifies speaker A asking the question: A would not ask whether the packets have arrived if s/he did not assume that they had been sent in the first place, and this is the proposition that B denies. Similarly in (5) through (7). In (8), speaker B denies a proposition contextually attached to the syntactic half of the exam at issue.

To sum up, the construction (either positive or negative) requires an antecedent proposition that has just been activated in the context (*activated* in the sense of Dryer 1996). This explains why it is barred from out-of-the blue contexts (see (4) vs (5)).

4 Pragmatics and the Jespersen cycle

The common pragmatic function of sentences in (2) does not explain why they come into existence: this function is ensured by the same sentence without *non*. The answer is found in Kiparsky et Condoravdi's 2006 reinterpretation of the Jespersen cycle (Jespersen 1917). Examining negation reinforcement in Greek, they find that there is no phonetic weakening. They propose that reinforcement is due to the co-occurrence of two driving forces: (i) the necessity to formally express the contrast between descriptive and metalinguistic negations (whose core case is proposition denial), and (ii) the semantic / pragmatic weakening of the reinforced metalinguistic negation form, hence the need to reconstruct another one.

What they have in mind is reinforcement via the inclusion of indefinites into the negative system (see E *not*, F *pas*, *mie*, etc.). We propose that there is another way of reinforcing negation, which is the recycling of negative material, used in new environments which violate their usual syntactic or lexical constraints. This is what is happening in (2). In a sentence with descriptive negation, *non* does not co-occur with a preverbal n-word, but it may do so in proposition denial. We claim that Italian has two different ways of expressing metalinguistic negation: (i) reinforcement by the introduction of indefinites in *non V ... mica* (a. o. Cinque 1976, Zanuttini 1997, Tovena 2000, Schwenter 2006); (ii) reinforcement by the recycling of negative material in construction (2). (See also the reinforced negation in Brazilian Portuguese (Schwenter 2005)).

We represent the utterances as dialogue moves, using Ginzburg's model (2006), slightly modified by Marandin 2005, and Bonami and Godard 2006. The dynamics of dialogue is modelled as a game, whose moves are registered in the participants' gameboards. A gameboard has a public and a private part. The former registers the speaker's commitments, the (ordered set of) questions under discussion (qud), and the latest move; the latter, the goal and the ground (with a distinction between the topical propositions and the others). The topical proposition(s) are those that are relevant for the maximal qud. We represent here the latest move as input and the current move as output:

(11) Dialogue gameboard of S accepting *p* asserted by A (Bonami-Godard 2006) :

$$\left[\begin{array}{l} \text{PUB} \left[\begin{array}{l} \text{SP-COMT} \quad [S] \\ \text{AD-COMT} \quad \{p\} \cup [A] \\ \text{QUD} \quad \langle p? \rangle \oplus [Q] \end{array} \right] \end{array} \right] \approx \left[\begin{array}{l} \text{PUB} \left[\begin{array}{l} \text{SP-COMT} \quad \{p\} \cup [S] \\ \text{AD-COMT} \quad \{p\} \cup [A] \\ \text{QUD} \quad [Q] \end{array} \right] \end{array} \right]$$

(12) Dialogue gameboard of S who answers *non-p* to question *p?* by A

$$\left[\begin{array}{l} \text{PUB} \left[\begin{array}{l} \text{SP-COMT} \quad [S] \\ \text{AD-COMT} \quad [A] \\ \text{QUD} \quad \langle p? \rangle \oplus [Q] \end{array} \right] \end{array} \right] \approx \left[\begin{array}{l} \text{PUB} \left[\begin{array}{l} \text{SP-COMT} \quad [S] \cup \{-p\} \\ \text{QUD} \quad \langle -p? \rangle \oplus [Q] \end{array} \right] \end{array} \right]$$

(13) Dialogue gameboard of S denying *p* asserted by A:

$$\left[\begin{array}{l} \text{PUB} \left[\begin{array}{l} \text{SP-COMT} \quad [S] \\ \text{AD-COMT} \quad \{p\} \cup [A] \\ \text{QUD} \quad \langle p? \rangle \oplus [Q] \end{array} \right] \end{array} \right] \approx \left[\begin{array}{l} \text{PUB} \left[\begin{array}{l} \text{SP-COMT} \quad [S] \cup \{-p\} \\ \text{QUD} \quad \langle -p? \rangle \oplus [Q] \end{array} \right] \end{array} \right]$$

(14) Dialogue gameboard of S denying q inferred from the context:

$$\left[\begin{array}{l} \text{PUB} \left[\begin{array}{ll} \text{SP-COMT} & [\text{S}] \\ \text{AD-COMT} & [\text{A}] \\ \text{QUD} & \langle p? \rangle \oplus [\text{Q}] \end{array} \right] \\ \text{PRI} \left[\text{GROUND} \quad [\text{SP-TOPic } q] \right] \end{array} \right] \approx \left[\begin{array}{l} \text{PUB} \left[\begin{array}{ll} \text{SP-COMT} & [\text{S} \cup \{\neg q\}] \\ \text{QUD} & \langle \neg q? \rangle \oplus \langle p? \rangle \oplus [\text{Q}] \end{array} \right] \end{array} \right]$$

5 An HPSG grammar for Italian negation

5.1 The adverb *non*

We analyze Italian *non* as a light adverb, adjoined to the lexical V, rather than the VP. There are two arguments: (i) *non* does not have scope over a coordination of V's with their complements – (15a) is unacceptable, because the post-verbal n-word needs to be licensed by *non*; (ii) it cannot be separated from V (15b), except by *sempre*, which we analyze as a light adverb (cf. Abeillé and Godard 2003, Kim 2000). Lightness is considered a syntactic feature, as in Abeillé and Godard 2000.

- (15)a. **Paolo non legge giornali o guarda nessuna notizia in televisione*
 b. **Gianni non volentieri vedrà domani*

We assume (i) that *non* is a quantifier, (ii) that quantifiers in a general way can be retrieved lexically (Ginzburg and Sag 2000), or constructionally (Pollard and Yoo 1998), and (iii) that scopal adjuncts inherit the scope of the head-daughter. We propose that there are two *non*'s: unstressed *non* follows the general pattern of negations (20), while stressed *non* (which yields a DN reading in (1c)) is exceptional as it is retrieved by the lexical V to which it adjoins.

(16) Italian *non*-1 (unstressed)

$$\left[\begin{array}{l} \text{PHON } \textit{leaner} \\ \text{CAT | HD } \textit{adv} \left[\begin{array}{l} \text{MOD } \textit{verb} \left[\begin{array}{ll} \text{WEIGHT } \textit{light} \\ \text{CONT | NUCL [2]} \\ \text{STORE [3]} \end{array} \right] \end{array} \right] \\ \text{CONT [1]} \left[\begin{array}{l} \textit{neg-quant-rel} \\ \text{SCOPE [2]} \end{array} \right] \\ \text{STORE } \{[1]\} \cup [3] \end{array} \right]$$

Italian *non*-2 (stressed)

$$\left[\begin{array}{l} \text{PHON } \textit{full} \\ \text{CAT | HD } \textit{adv} \left[\begin{array}{l} \text{MOD } \textit{verb} \left[\begin{array}{ll} \text{WEIGHT } \textit{light} \\ \text{CONT } \left[\begin{array}{l} \text{QUANTS } \langle [1] \rangle \circ \text{L} \\ \text{NUCL [2]} \end{array} \right] \\ \text{STORE [3]} \end{array} \right] \end{array} \right] \\ \text{CONT [1]} \left[\begin{array}{l} \textit{neg-quant-rel} \\ \text{SCOPE [2]} \end{array} \right] \\ \text{STORE [3]} \end{array} \right]$$

5.2 n-words

The status of n-words (are they negative quantifiers, or indefinites, or ambiguous?) has been extensively discussed, as well as negative concord (NC) and the asymmetry between preverbal and post-verbal n-words as in (1). A full discussion is outside the scope of this paper. We choose an analysis which allows us to implement the asymmetry between preverbal and post-verbal n-words in system (1) and the lack of such an asymmetry in system (2), without claiming that this is the only way to do it. Our choice is as follows:

- (i) N-words are negative quantifiers, which are partitioned between positive-quant-relation and negative-quant-relation (as in de Swart and Sag 2002); quantifiers determine a tripartite structure (index, restriction and scope).
 (ii) Negative concord follows from the formation of a polyadic quantifier (de Swart and Sag 2002): if the different negations are retrieved at the same node, a negative quantifier can be formed or not (noted by the operator 'res', as opposed to 'order', 'retrieve' being neutral), while a DN reading is obligatory if they are not retrieved at the same node.
 (iii) The syntax-semantics interface constraints for negation retrieval account for the asymmetry in the system in (1); the constraints are different for the system in (2).

5.3 Constructions and negation retrieval

Although our analysis is inspired by de Swart and Sag (2002), we depart from them in that quantifier retrieval can be done either at the lexical or the phrasal level. These authors only consider argument negations, and concentrate on French which does not exhibit the asymmetry in (1). Even for French, it is necessary to also allow for phrasal retrieval, when one considers adjunct negations (Godard 2004). In Italian, negative quantifiers are in fact retrieved at the phrasal level in a general way (stressed *non* induces an exception). More precisely, we propose that n-words are retrieved at the level of all headed phrases, except for those which instantiate the head-comps-construction.

Lexical retrieval (used for stressed *non*) is obtained by the STORE Amalgamation:

(17) Lexical STORE Amalgamation Constraint (Ginzburg-Sag 2000 slightly modified)

$$word \Rightarrow / \left[\begin{array}{l} SS | LOC \left[\begin{array}{l} CONT [QUANTS \text{retrieve} ([\Sigma_0]) \ \& \ ([\Sigma_0] = /set(pos-quant-rel))] \\ STORE ([\Sigma_1] \cup \dots \cup [\Sigma_n]) - [\Sigma_0] \end{array} \right] \\ ARG-ST < [STORE [\Sigma_1]], \dots, STORE [\Sigma_n] > \end{array} \right]$$

N-words are found in 4 constructions (cx): head-subject-cx, head-adjunct-cx, head-filler-cx, head-comps-cx. All of them are constrained by the Generalized Head Feature Principle, but with the head-comps-cx the identity of content is a hard constraint (19):

(18) Generalized Head Feature Principle (Ginzburg and Sag 2000)

$$\left[\begin{array}{l} headed-cx \\ SYNSEM / [1] \end{array} \right] \Rightarrow [HD-DTR [SYNSEM / [1]]]$$

(19) Head-comps-construction

(20) Quantifier retrieval and clause (simplified)

$$\left[\begin{array}{l} head-comps-cx \\ MOTHER [CONT [1]] \\ HD-DTR \left[\begin{array}{l} CAT \left[\begin{array}{l} WEIGHT light \\ COMPS nelist([A] \oplus list) \end{array} \right] \\ CONT [1] \end{array} \right] \\ NON-HD-DTRS [A] \end{array} \right] \left[\begin{array}{l} clause \\ CONT message \end{array} \right] \Rightarrow [STORE \text{set}(pos-quant-rel)]$$

In the negative system (1), the content (QUANTS) value of the other headed constructions and of their head violates the default in (18), as described in (21-(i)). This constraint does not hold in system (2), but is replaced by constraint (21-(ii)). Both configurations lead to the same constraints on the mother (SN reading of the negation(s), see the operator *res*).

(21) (i) negative system (1)

(ii) negative system (2)

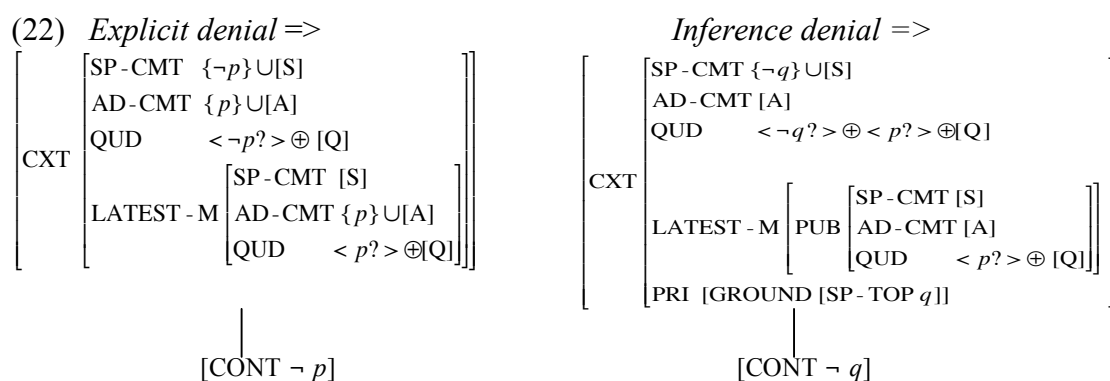
$$\left[\begin{array}{l} negative-headed-cx \\ HD-DTR | CONT [1] \\ NON-HD-DTR | STORE \{ \{3\} \left[\begin{array}{l} neg-quant-rel \\ SCOPE [1] \end{array} \right] \} \cup \Sigma \end{array} \right] \left[\begin{array}{l} re\ inf\ orced\ -\ negation\ -\ headed\ -\ cx \\ HD-DTR \left[\begin{array}{l} CONT [1] \\ STORE [2] \left[\begin{array}{l} neg-quant-rel \\ SCOPE [1] \end{array} \right] \end{array} \right] \\ NON-HD-DTR \left[\begin{array}{l} PROSODY marked-contour \\ STORE \{ \{3\} \left[\begin{array}{l} neg-quant-rel \\ SCOPE [1] \end{array} \right] \} \cup \Sigma \end{array} \right] \end{array} \right]$$

$$\Rightarrow \left[\begin{array}{l} MOTHER \left[\begin{array}{l} CONT | QUANTS \text{res}(\text{set}(neg-quant-rel)) \cup \Sigma 1 \\ STORE \text{set}(pos-quant-rel) \end{array} \right] \right]$$

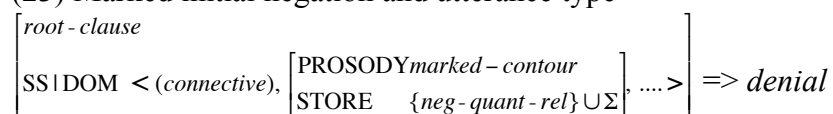
Let us see how system (1) works. The *non-V* head-adjunct phrase obeys (21-(i)), and the negation must be retrieved at that level, with any post-verbal n-word (we assume that post-verbal constituents are complements). If an n-word occurs in the subject, the adjunct or the filler, it is retrieved at the corresponding phrase level; should it co-occur with *non*, no SN reading would be possible. If an n-word occurs post-verbally with no *non*, it cannot be retrieved by the head-comps-phrase, because of (19), or any other phrase, because the conditions in (21-(i)) are not met. Then, the sentence violates the general constraint in (20). We turn to system (2). Constraint (21-(ii)) does not hold. Hence, the *non* in *non-V* remains in the STORE of the head-adjunct-phrase and of the head-comps-phrase (with possible post-verbal n-words). Constraint (21-(ii)) ensures that if there is a negative subject, filler or adjunct, the two negations are interpreted together, hence a SN reading. If there is none, the sentence violates (20), and is out. See (24) below for an illustration.

5.4 Relating construction (2) and the pragmatics

Unlike the negative system in (1), the system of reinforced negation is specialized for proposition denial.¹ We assume an illocutionary typification of utterances. Denial is a subtype of reprise-assertion itself a subtype of assertion, itself a subtype of utterance. The two types of denial are in (22), and the relevant implication, which does justice to the linearization property, in (23). Note that it is valid whether or not speakers have the system in (2). Here, we type utterances directly, with the gameboard in the context of the utterance (slightly departing from Ginzburg and Sag 2000).



(23) Marked initial negation and utterance type



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¹ Since the construction is constrained for a specific conversational move, it may not be embedded:
 (i) **Dovresti sapere che NESSUNO (non) inviterà* (You should know that nobody she.will.invite)

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(24) Illustration of system (1)

Illustration of system (2) (denial)

