

**PARTITIVE ne AND THE QP-HYPOTHESIS. A CASE STUDY.\***

**1. Introduction**

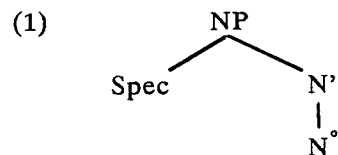
Although the syntax of the Italian clitic ne has received much attention in the generative literature (cf. Belletti and Rizzi (1981) and Burzio (1986) among others), it still represents a challenging topic of research, for a great number of questions have either remained unanswered or have not been raised at all. In this study we will focus on partitive ne and in particular on two closely related issues: the first concerning the internal structure of quantified nominals, the second concerning the categorial status of the empty category linked to ne in partitive constructions.

Belletti and Rizzi's analysis of ne as an N', which is still assumed in current literature, is unsatisfactory in the present framework which restricts movement to maximal and zero projections (cf. Chomsky (1986)). The goal of this paper will be first to propose a theory of quantified nominals along the lines of the recently developed DP-analysis, and add Q to the inventory of functional heads; and, second, to suggest that ne is a maximal projection, namely an NP in the complement of Q, selected and assigned partitive Case by it.

The paper is organized as follows: In §2. we will examine evidence that seems to indicate that ne is not a maximal category. We will show that there are not only theoretical, but also empirical reasons to exclude this analysis. In §3., we introduce the hypothesis that Q is a functional head which selects the maximal projection linked to ne. In §4., we discuss and dismiss the possibility that this projection is a PP, concluding that ne is linked to a NP. In §5., we show that this NP must be distinguished from the partitive PP that appears in some cases, which must be considered as a second argument of Q. In §6., we finally address the question as to what kind of empty category appears in the complement of a bare Q when ne is not present.

**2. The N'-analysis**

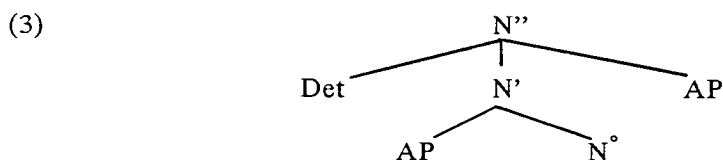
Belletti and Rizzi (1981) treat ne as an N' in a structure like (1) on the grounds that the quantifier in the Spec of NP remains in place after ne-cliticization. In (2), the quantifier tre, supposed to be in the Spec of the NP tre racconti del nonno, is stranded when ne-cliticization applies:



- (2)
- a. Maria conosce tre racconti del nonno  
Mary knows three stories of grandpa
  - b. Maria ne conosce tre  
Mary NE knows three

A second argument for the N'-status of ne is given by Rizzi (1979). Assuming a structure like (3), where prenominal APs are under N' and postnominal APs are under N'', he argues that prenominal adjectives cannot be stranded by ne cliticization, as shown

by the contrast in (4):



- (4)
- a. Ho letto un lunghissimo libro  
[I] read a very-long book
  - b. \*Ne ho letto un lunghissimo
  - c. Ne ho letto uno lunghissimo

According to Rizzi, the ungrammaticality of (4b) is expected if ne is an N'. In other words, ne cannot be an N', leaving a prenominal adjective under N'. The contrast between (4b) and (4c), is also expected if the adjective in (4c) is placed under N'', like the postnominal AP in (3). In fact, in (4b) the adjective must be prenominal, on a par with (4a), since in both cases the quantifier is un. In (4c), instead, the adjective must be analysed as postnominal, since the quantifier displays the full form uno, which also appears when the quantifier is bare, as in ne ho letto uno ("I read one").<sup>1</sup>

Rizzi's observation is confirmed by the behaviour of other kinds of adjectives and by the appearance of an argument of the noun in the cliticization context. While in the case of a full NP, the AP can be in either prenominal or postnominal position, when ne-cliticization applies, only postnominal adjectives can appear. This is apparent in the case of adjectives, such as mero in (5) and certo in (6). The former can only appear prenominally and is ungrammatical when ne-cliticization applies, the latter has a different interpretation according to the position it occupies and maintains only the postnominal one in the cliticization construction:

- (5)
- a. Si è fatta una mera illusione.
  - b. \*Si è fatta una illusione mera.
  - c. \*Se ne è fatta una mera.  
(she) NE had a mere illusion
- (6)
- a. Ha dato una certa notizia.  
[he] gave a certain (=given) piece of news
  - b. Ha dato una notizia certa.  
[he] gave a certain (=sure) piece of news
  - c. Ne ha data una certa.  
[he] NE gave one certain (=sure)

Furthermore, an argument of the noun can appear in situ, again apparently supporting the hypothesis that ne binds an intermediate projection of N:

- (7)
- Maria ne conosce tre del nonno  
Maria NE knows three of granpa

## 2.1. Against the N'-analysis

Despite the reasons seen above to assume that ne is an N', there are both theoretical and empirical problems with this kind of analysis (see also Cinque (1990b)).

As Chomsky (1986) suggests, movement appears to be restricted to minimal and maximal projections across languages. It would therefore be desirable to dispense with the N'-analysis.

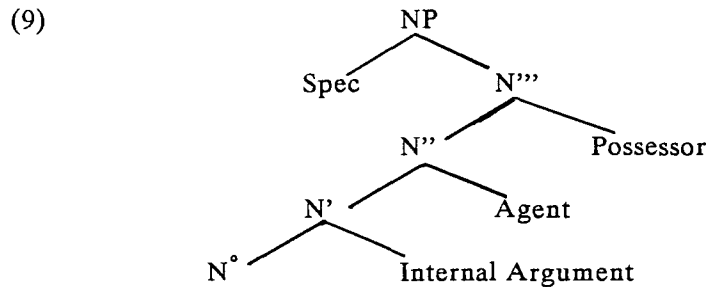
There are also two empirical problems with this kind of approach. One is noticed by Cinque (1990b) and concerns the impossibility of stranding an adjective such as

principale, which can only appear postnominally in the base:<sup>2</sup>

- (8) a. Ho un argomento principale.  
 [I] have a main argument  
 b. \*Ho un principale argomento.  
 c. \*Ne ho uno principale.  
 [I] NE have one main

The ungrammaticality of (8c) cannot be dealt with in an N'-analysis, unless we assume that principale, contrary to other postnominal adjectives, is generated under N', in a structure like (3).

In the second place, recent work by Giorgi and Longobardi (1990) argues for a more structured analysis of NPs and shows that there is a hierarchy among the arguments of a noun, as represented in a structure like (9):



The possibility of leaving any argument of the noun stranded forces one to the assumption that ne can resume any projection of N, from N° to N''':

- (10) a. Di ritratti, ne possiedo due di mio nonno.  
 b. Di ritratti, ne possiedo due di Picasso.  
 c. Di ritratti, ne possiedo due di quel collezionista  
 of pictures [I] NE own two of  
 a. [Theme]/ b. [Agent]/ c. [Poss]  
 d. Di ritratti di quel collezionista, ne possiedo due  
 of pictures of that collectionist, [I] NE own two

However, for a lexical item to stand for different projectional levels is theoretically undesirable. Furthermore, the fact that ne can also link an N° mars the argument built on the non- occurrence of prenominal adjectives, seen above in (4), (5) and (6). In fact, ne would stand for a lower projection than the one to which the AP is attached, predicting, contrary to fact, the grammaticality of (4b), (5c), and (6c) meaning the same as (6a).

### 3. An alternative proposal

In this section, we will first propose that ne is always linked to a maximal projection in the complement of Q, which is taken here as a functional projection (cf. §3.1). In order to analyse the (apparent) cases of N'-projections seen above, we will appeal to the "modifier hypothesis", which analyses all material left in place by ne cliticization as modifying the maximal projection linked to ne (cf. §3.2).

#### 3.1. The QP-hypothesis

The incompatibility of the N'-analysis with the restriction of movement to minimal



- (13) a. una notizia certa (cf.(6b))  
 b. Ne ho sentita una certa (cf.(6c))
- (14) a. Questa notizia è certa  
 this piece of news is certain (=sure)  
 b. Ritengo questa notizia certa  
 (I) believe this piece of news certain

We can now explain why principale, although postnominal (15a), does not enter the ne-cliticization construction (15b). Since it can only be attributive (cf. Cinque (1990, citing Bolinger (1967))), it cannot appear in configuration (12), an observation independently supported by its ungrammaticality in predicative constructions (16):

- (15) a. Ho dato un argomento principale (= (8a))  
 b. \*Ne ho dato uno principale (=8c))
- (16) a. \*Questo argomento è principale  
 b. \*Ritengo questo argomento principale

Notice now the class of nationality adjectives that can only appear postnominally (cf. \*un tedesco libro, "a German book"), and can generally be the head of a predication construction:

- (17) a. un libro tedesco  
 a book German  
 b. Ne ho letto uno tedesco  
 [I] NE read one German
- (18) a. Questo libro è tedesco  
 this book is German  
 b. Ritengo questo libro tipicamente tedesco  
 [I] believe this book typically German

Nationality adjectives can also bear the agent  $\Theta$ -role assigned by a deverbative nominal (cf. Giorgi and Longobardi (1990)). In this case, although always postnominal, they cannot be left in place by ne-cliticization nor enter the predicative constructions:

- (19) a. l'invasione tedesca della Polonia  
 the German invasion of Poland  
 b. \*Ne ho vista una tedesca (della Polonia)
- (20) a. \*L'invasione (della Polonia) fu tedesca  
 b. \*Ritengo questa invasione tedesca

The ungrammaticality of (19b)-(20) is to be reduced to the fact that the adjective tedesco, in order to be assigned a  $\Theta$ -role, must occupy the canonical subject position under N" and cannot be found in configurations such as those in (12).

### 3.2.2. Clauses

Relative clauses are generally assumed to be adjoined to NP in the same fashion as the modifier in (12a). The prediction is then that they can be stranded by ne-cliticization, as is actually the case:<sup>7</sup>

- (21) a. un argomento che ho discusso ieri  
 an argument that [I] discussed yesterday  
 b. Ne è rimasto uno che ho discusso ieri  
 NE remained one that [I] discussed yesterday

Interestingly, argument clauses, which are internal to NP, give the opposite results, as predicted again by our hypothesis:

- (22) a. C'è una possibilità che Maria venga  
there is a possibility that Mary comes  
b. \*Ce n'è una che Maria venga  
there is one that Mary comes

### 3.2.3. Nominals

The discussion up to now leads us to a reinterpretation of the sentences presented in (7) and (10). Under the interaction of the QP-hypothesis with the modifier hypothesis, the material stranded by ne-cliticization cannot be internal to NP, but must occur in the adjoined position, namely it must be reanalysed as modificational/ predicational. What we expect is that this process is restricted to some elements, and that exactly the same kind of elements can also enter a predicative construction. This prediction is borne out.

First consider internal arguments. In (23)-(26), we see the case respectively of a prepositional and nominal argument of an unergative noun, in (27)-(28) the case of the argument of an ergative noun. Both stranding in ne-cliticization and predicative constructions are ungrammatical:

- (23) a. l'appello (del presidente) a tutto il popolo  
the appeal (of the president) to all the people  
b. \*Ne hanno pubblicato uno (del presidente) a tutto il popolo  
[they] NE published one (of the president) to all the people  
(24) a. \*L'appello (del presidente) è stato a tutto il popolo  
the appeal (of the president) was to all the people  
b. \*Ritengo l'appello (del presidente) a tutto il popolo  
[I] believe the appeal (of the president) to all the people  
(25) a. la descrizione di Maria di Gianni  
the description by Mary of John  
b. \*Ne ho sentite due diverse di Gianni  
[I] NE heard two different of John  
(26) a. \*Questa descrizione è di Gianni  
this description is of John  
b. \*Ritengo questa descrizione di Gianni  
[I] believe this description of John  
(27) a. l'arrivo di Maria  
the arrival of Mary  
b. \*Ne ho visto uno di Maria  
[I] NE saw one of Maria  
(28) a. \*L'arrivo è di Maria  
the arrival is of Maria  
b. \*Ritengo l'arrivo di Maria  
[I] believe the arrival of Maria

In (29)-(30) we see the case of the subject of an intransitive noun, in (31)-(32) the case of the subject of a transitive noun. In both, the external argument cannot be left stranded by ne-cliticization nor appear in predication constructions:

- (29) a. la telefonata/camminata di Gianni  
the call/walk of John  
b. \*Ne ho sentita/vista una di Gianni  
[I] NE heard/saw one of John  
(30) a. \*Quella telefonata/camminata era di Gianni

- that call/ walk was of John
- (31) a. \*Ritengo quella telefonata/camminata di Gianni  
[I] believe that call / walk of John  
la rinuncia di Gianni (ad una carica importante)  
the renunciation of John to an important office
- b. \*Ne approvo una di Gianni  
[I] NE approve one of John
- (32) a. \*La rinuncia è stata solo di Gianni  
the renunciation was only of John
- b. \*Ritengo la rinuncia solo di Gianni  
[I] believe the renunciation only of John

Notice that in cases such as (7) and (10) in which an argument of the noun is left by ne-cliticization, the argument can also appear in predication constructions:

- (33) a. i racconti di Cesare Pavese  
the stories by Cesare Pavese
- b. Ne ho sentiti due di Cesare Pavese  
[I] NE heard two by Cesare Pavese
- (34) a. Il racconto è di Cesare Pavese  
the story is by Cesare Pavese
- b. Ritengo questo racconto di Cesare Pavese  
[I] believe this story by Cesare Pavese
- (35) a. il ritratto di Raffaello del Duca di Urbino  
the portrait by Raffaello of the Duke of Urbino
- b. Ne ho visto uno del Duca di Urbino nella Galleria Comunale  
[I] NE saw one of the D. of U. in the city Gallery
- (36) a. Questo ritratto è del Duca di Urbino  
this portrait is of the Duke of Urbino
- b. Ritengo questo ritratto del Duca di Urbino  
[I] believe this portrait of the Duke of U.

We propose that the NPs introduced by di in (33a)-(35a) and the like are not real arguments of the noun, but modifiers which are linked to the noun by means of an R-relation of the kind Higginbotham (1983) suggests for the prenominal possessor. The context and knowledge of the world will make it possible to interpret them, respectively, as agent and theme.

A theory of modification and R-relation is independently needed to account for the interpretation of possessors in underived nominals, such as casa and libro in (37):

- (37) a. la casa di Maria di LeCorbusier  
the house of Mary by LeCorbusier
- b. il libro di Pavese di Gianni  
the book by Pavese of John

The nominals in (33a)-(35a), therefore, have two possible interpretations: one as derived nominals with their own argument structure, the other as underived nominals, with modifiers in an R-relation with the noun (cf. Bottari (1989), Grimshaw (1990) and the references quoted there). Only the second analysis allows (33b) and (35b), as well as (34) and (36). This is indirectly supported by the fact that only in the second analysis, a derived nominal such as racconto is quasi-synonym to an underived nominal such as storia:

- (38) a. le storie di Cesare Pavese
- b. Ne ho sentite due di Cesare Pavese
- (39) a. Questa storia è di Cesare Pavese

- b. Ritengo questa storia di Cesare Pavese

We can therefore conclude that ne binds a maximal projection in the complement of Q and that all evidence to the contrary is only apparent and can be dealt with in a theory of modification and R-relation.

The problem now is to establish which kind of category this maximal projection is. So far, we have assumed for ease of exposition that it is of category NP. In what follows, we will substantiate this hypothesis.

#### 4. The categorial status of the complement of Q

In previous literature, the hypothesis that ne is a prepositional clitic has been proposed more than once (cf. Kayne (1975), Belletti (1978)). In this section, we will consider the possibility that the complement of Q' can be a PP. It will be clear that, although appealing at first sight, this analysis must be rejected. Instead, we will conclude that Q' always selects an NP, which must be distinguished from the partitive PP that appears in certain cases.

##### 4.1. The PP-analysis

The fact that in some cases, the preposition di appears in partitive contexts, as in (40), may suggest that the complement of Q is a PP:

- (40) a. Ho visto molti di quei ragazzi  
           [I] saw many of those boys  
       b. Di ragazzi inglesi, ne ho visti molti la settimana scorsa.  
           of English boys [I] NE have seen many last week  
       c. Di quei ragazzi, ne ho visti molti la settimana scorsa.  
           of those boys [I] NE have seen many last week

Although di is excluded in the basic position when the partitive is indefinite:

- (41) Ho visto molti (\*di) ragazzi.  
       I saw many (\*of) boys

it could appear nevertheless desirable to assume the same structure (42) for both (40) and (41) and ascribe the different distribution of the preposition to independent factors. A structure like this has been proposed for English by Jackendoff (1968) to unify partitive phrases such as many of the books and many books:

- (42)
- ```

      QP
     /  \
    Q    PP
         /  \
        (di) NP
  
```

This hypothesis would have the advantage of unifying all uses of ne. Partitive ne in (40) appears to be a prepositional clitic on a par with non-partitive ne in (43), which stands for PPs introduced by di or da, as the glosses in parentheses show:

- (43) a. Ne ho parlato                   (ne = del progetto)  
           [I] NE have spoken        (NE = of the project)



- b. Ne ho comprato un ritratto (ne = della regina)  
 [I] NE have bought a picture (NE = of the queen)
- c. Ne uscì un uomo (ne = dalla casa)  
 [there] NE came out a man (NE = from the house)
- d. Non riesce ad uscirne (ne = da questa situazione)  
 [he] cannot get out NE (NE = from this situation)

However, the hypothesis of the categorial uniformity of ne must be rejected on the basis of empirical evidence, since the case of a definite partitive as in (40a) and that of an indefinite partitive as in (41) display some further differences which could not be explained if they were to be analysed in terms of the same syntactic structure.

#### 4.2. Against the PP-analysis

First notice that, if a PP is always structurally present in partitive constructions, extraction of a wh-phrase and of genitive ne from inside the NP is predicted to be always ungrammatical. But, as the contrasts in (44)-(45) indicate, it is ungrammatical only in the case of a partitive phrase containing a definite NP:<sup>8</sup>

- (44) a. Di chi hai comprato [<sub>QP</sub> molti [<sub>α</sub> quadri [<sub>PP</sub> t]]]?  
 whom did you buy many pictures of?  
 b. \*Di chi hai comprato [<sub>QP</sub> molti [<sub>PP</sub> dei quadri [<sub>PP</sub> t]]]?  
 whom did you buy many of the pictures of?
- (45) a. ne ho comprato [<sub>QP</sub> molti [<sub>α</sub> quadri [<sub>PP</sub> t]]]?  
 [I] NE bought many pictures  
 b. \*ne ho comprato [<sub>QP</sub> molti [<sub>PP</sub> dei quadri [<sub>PP</sub> t]]]?  
 [I] NE bought many of the pictures

Given that it does not seem feasible to reduce the contrast in (44)-(45) to the lexical vs. non-lexical status of the preposition, the ungrammaticality of the b-sentences suggests that a PP node is not transparent for extraction and, when extraction is possible as in (44a)-(45a), it is not to be assumed. Therefore  $\alpha$  in (44a) and (45a) is not a PP, so it is NP.

Another problem with a unified analysis such as (42) is the contrast in (46). (46b) shows that a definite partitive phrase must be plural and cannot agree in number with the singular quantifier.<sup>9</sup> This is not the case in (46a), where an indefinite partitive appears:

- (46) a. una ragazza/ \*una ragazze  
 a/one girl(\*s)  
 b. una delle ragazze/ \*una della ragazza  
 one of the girl\*(s)

In (46b), a PP is present and no agreement is required (or, as a matter of fact, possible) between the quantifier and the noun phrase inside the PP. If a PP node were present also in (46a), we would expect the same pattern as in (46b) to hold. Instead, in (46a), no PP is structurally represented, and the quantifier obligatorily agrees with the (head of the) noun phrase.

As the following contrasts show, the lexical form of the quantifier is different in the case of the indefinite and the definite partitive. If a PP were always structurally present, we would expect the pattern in (47b) to hold also in (47a):<sup>10</sup>

- (47) a. un ragazzo/\*uno ragazzo  
 a boy/ one boy  
 b. uno dei ragazzi/\*un dei ragazzi  
 one of the boys

Notice, finally, that the interpretation of the clitic ne and that of the tonic pronominal form nearest to it di loro are different: The former refers to some non-specific individuals, the latter refers to a specific group:

- (48) a. Ne ho visti molti.  
           [I] NE saw many  
       b. Ho visto molti di loro.  
           [I] saw many of them

It seems undesirable to derive this semantic contrast from some intrinsic property of the clitic pronoun with respect to the tonic one. Under the hypothesis that di loro is a PP, given the fact that the tonic pronoun loro is definite, the contrast in (48) follows from the different syntactic structure in the two cases. It can thus be regarded as a further argument for the assumption of two categorially different partitive phrases in Italian.

Up to this point, we have excluded the possibility that the complement of Q° is always a PP. We have also reached the conclusion that the indefinite partitive is an NP and the definite one a PP. However, this still leaves the possibility open that both can occur in the complement of Q, and that when ne-cliticization applies, ne is ambiguous between the two.

#### 4.3. For the NP-analysis of "ne"

(49)-(53) below provide empirical evidence to exclude the selection of a PP by Q° and the PP-status of ne. In (49) we see that in a left-dislocation construction, a PP is only optionally resumed by a clitic, if this exists at all, whereas a resumptive clitic must be present when the dislocated element is an NP, (50) (cf. Cinque (1990a)). Partitive ne behaves like this latter case (51), which shows that it is unambiguously an NP:

- (49) a. A Milano, (ci) sono andata ieri  
           to Milan, there I went yesterday  
       b. Di questo libro (ne) hanno parlato molto bene  
           of this book [they] NE spoke very well  
       c. Per Mario, è andata perfino a New York.  
           for Mario [she] went even to New York  
       (50) I ragazzi, \*(li) ho visti  
           the boys [I] them saw  
       (51) a. Di ragazzi francesi, \*(ne) ho conosciuti molti  
           b. Di quei ragazzi francesi, \*(ne) ho conosciuti molti  
           of those French boys [I] NE met many

Another crucial difference between partitive ne and all other prepositional clitics, including non-partitive ne, concerns the surfacing of agreement on the past participle. Prepositional clitics do not trigger agreement on the past participle, which displays the unmarked morpheme -o, while ne in (53b) does, on a par with NP-clitics like the one in (53a):<sup>11</sup>

- (52) a. Ci ho parlato/\*a/\*i/\*e  
           [I] with him/her/them spoke  
       b. Ne ho parlato/\*a/\*i/\*e  
           [I] NE have spoken  
       (53) a. Li ho visti/\*o  
           [I] them saw  
       b. Ne ho visti/\*o molti  
           [I] NE saw many

Notice that in a more recent framework, the clitic *lo/ la*/etc. must be considered linked to a DP. The parallelisms discussed in this paragraph could suggest that the same holds for partitive *ne*. Since this assumption is not uncontroversial (cf. also the discussion in note 7), and since the conclusions we have reached so far do not hinge on either possibility, in the following we will continue to treat *ne* as a NP, for ease of exposition.

## 5. The complex structure of QP

We have just shown that partitive phrases are categorially different, depending on their definite or indefinite status. In the case of an indefinite partitive, no P is present and we are dealing with an NP; in the case of a definite partitive, we have a PP.

The position of the NP-complement, which is linked to *ne*, must be distinguished from the one occupied by the definite partitive, since they can cooccur:<sup>12</sup>

- (54) (talking of books)  
*Ne ho letti molti e [di quelli che mi hai dato tu].*  
 [I] NE have read many of those you gave me

The definite partitive phrase in (54) is crucially not right-dislocated, as there is no pause between it and the quantifier and it can be contrasted, contrary to right-dislocated elements:

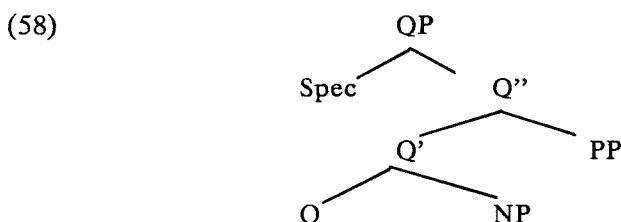
- (55) a. *Ne ho letti molti di QUESTI, non di quelli.*  
 [I] NE have read many of these, not of those  
 b. *\*Ne ho letto un libro di GIANNI, non di Maria.*  
 [I] NE have read a book of G., not of M.

Furthermore, a definite partitive can also cooccur with an overt NP complement (Giuseppe Longobardi, p.c.)<sup>13</sup>:

- (56) *Ho letto molti libri [di quelli che mi hai consigliato tu]*  
 [I] have read many books of those you recommended to me

These data clearly show that the NP and the PP have two different positions. We suggest that the NP is directly selected by Q, hence obligatory, as in (57a), and that the PP is an indirect complement of Q and appears optionally, as in (57b); the structure we propose is that in (58):<sup>14</sup>

- (57) a. *Ho letto molti \*(libri).*  
 [I] read many books  
 b. *Ho letto molti libri (di quelli che mi hai dato tu).*  
 [I] read many books (of those that you gave me)



Given some version of the Uniformity of Theta Assignment Hypothesis (UTAH) (cf. Baker (1988:46)):

- (59) Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.

we suggest that the position of the PP is always the same, no matter whether the NP is realized, as in (54) and (56), or is empty, as in molti [e] di quelli, "many of those". This proposal also implies that the two partitives have different thematic relationships to the quantifier. In the same fashion as an NP is saturated by the determiner (cf. Longobardi (1990)), the NP in (58) is the predicate saturated by the quantifier. On the other hand, the PP represents the set of quantification.

Given that partitive ne has proven to be the NP complement of Q, one may wonder why it surfaces with genitive morphology. The only plausible assumption is that this Case is the realization of an abstract partitive Case assigned by Q.<sup>15</sup> This is also suggested by the fact that indefinite Qs assign a partitive interpretation to their complement.

Since partitive Case is only compatible with an indefinite NP (cf. Belletti (1988)), the complement of Q can only be indefinite. For a definite nominal to have partitive interpretation, it must be embedded under a preposition and assigned Case by it. This provides a straightforward explanation for the necessity of the preposition in (60a) and its impossibility in (60b):<sup>16</sup>

- (60) a. Ho visto molti \*(di) quei ragazzi che mi hai presentato la settimana scorsa.  
[I] saw many \*(of) those boys that you introduced me last week  
b. Ho visto molti (\*di) ragazzi.  
[I] saw many (\*of) boys

## 6. The empty category

Under the analysis proposed above, according to which an indefinite Q obligatorily selects a NP complement, a phrase such as molti dei tuoi libri must contain an empty category, as in (61):<sup>17</sup>

- (61) Ho letto [[molti [ e]] dei tuoi libri]  
[I] read many of your books

It would be theoretically plausible that molti can function as a pronominal, taking no complement at all, hence there would be no empty category involved. This possible analysis must be excluded on empirical grounds, since the bare quantifier in (62a) is unacceptable and ne is obligatory:

- (62) a. \*Ho letto molti.  
[I] read many  
b. Ne ho letti molti.  
[I] NE read many

The ungrammaticality of (62a) is to be reduced to some condition on the licensing of empty categories. Following Rizzi (1986), we assume that the licensing of an empty category consists in two requirements: formal licensing, i.e. government by a proper head, and identification, i.e. recovery of its feature content. Since (61)-(62) display the same structural configuration, we assume that formal licensing is satisfied in all the three cases: the empty category is head-governed by the quantifier.

The difference between (61) and (62b) on the one hand and (62a) on the other must then follow from the identification requirement, which appears to be met in the former but not in the latter. What seems to allow the identification of the empty category in (62b) is the presence of an antecedent, namely ne. In (61), the empty category, which can be nothing else than pro (since it is in a governed position and is not derived by move-

ment), appears to be assigned a content by the partitive PP. Given that there is obligatory feature matching between the NP complement to Q and the NP in the partitive PP (cf. note 13), we suggest that the empty category is identified by the same process. In other words, if for some reason UG requires that the two partitives must be non-distinct from each other when they are lexical, it is reasonable to suppose that they are interpreted as non-distinct when one of them is non-overt.

The identification requirement seems to be relaxed in some cases, in which ne does not appear when the quantified nominal is in object position. However, in this case, there is a restriction on the possible interpretation, which is limited to human beings:<sup>18</sup>

- (63) a. Ieri ho incontrato [molti [e]] per la strada  
yesterday [I] met many [people] on the street  
b. \*Ieri ho letto [molti [e]] in biblioteca  
yesterday [I] read many [things] in the library

This suggests that a special mechanism is at work here, namely that the pro is identified by assignment of a quasi-existential arbitrary interpretation.

Contrary to the obligatory generic time reference that is found with quasi-universal arbitrary pros, as those discussed by Rizzi (1986) and reported in (64), the quasi-existential interpretation of pro in (63) is also compatible with specific time reference, as in (65b). This is consistent with the pattern of properties attributed by Cinque (1988) to quasi-existentials:

- (64) a. La buona musica invoglia [e] a restare  
the good music induces to stay  
b. \*La buona musica ha invogliato [e] a restare  
(65) a. La buona musica invoglia [molti [e]] a restare  
b. La buona musica ha invogliato [molti [e]] a restare

The object position contrasts with the preverbal subject position, where ne is impossible and the interpretation is not restricted to human beings:

- (66) \*[molti [e]] ne hanno telefonato/abbaiato  
(67) a. [molti [e]] hanno telefonato  
many called  
b. [molti [e]] hanno abbaiato  
many barked

We agree with Belletti and Rizzi (1981) in analysing the impossibility of ne in (66) as due to ECP, namely the lack of c-command of the trace in preverbal subject position by the clitic attached to I°. However, the lack of ne in (67) does not lead to arbitrary interpretation, as in (63a). We propose that the empty category in preverbal subject position is identified by coindexation of Q with Agr. Agr provides person features to the quantifier which is equipped only with number and gender features. This allows Q to identify the empty category, making the arbitrary interpretation unnecessary.<sup>19</sup>

Since in Italian, feature sharing with Agr can only take place via spec-head agreement, the feature sharing between Q and Agr only applies to the preverbal subject. Therefore, it is expected that a bare Q in postverbal subject position behaves in a different way. In fact, the interpretation is, again, restricted to human beings:

- (68) a. Hanno telefonato [molti [e]]  
called many [people]  
b. \*Hanno abbaiato [molti [e]]  
barked many [dogs]

This interpretation is to be reduced to the same mechanism which is operative in object

position in (63a).

Notice now that the postverbal subject position patterns with the preverbal one with respect to the presence of ne. In (69) ne is excluded on a par with (66):

(69) \*Ne hanno telefonato/abbaiato molti

This parallelism should be explained in terms of ECP. The ungrammaticality of (69) seems to show that the postverbal subject position in Italian is not a L-marked position, hence a barrier for extraction. The case of a left-dislocated quantified nominal, as in (70), is very similar to that of the preverbal subject position in (67):

(70) [Molte [pro]] le ho lette.  
many [I] them read

The left-dislocated QP is coindexed with the definite clitic pronoun le, which provides the head Q with the necessary features to identify the empty category.

Finally, Belletti and Rizzi (1981) notice that in the case of the object of a preposition, ne cannot be extracted, as expected, but a bare quantifier can marginally appear:

(71) a. \*Ne ho discusso su alcuni  
b. ?Ho discusso su alcuni  
[I] discussed on some

In (71b) the interpretation of the empty category is not [+human], as in the case of bare quantifiers in object and post-verbal subject position above, but must depend on some rescue mechanism which assigns a content to *pro* by means of the information present in the discourse. The marked status of this strategy is revealed by the marginality of the construction. As expected, if the empty category embedded under Q is interpreted as [+human], the sentence in (71b) becomes completely acceptable.

## 7. Concluding Remarks

The simple hypothesis that Q is a head which selects an NP complement has proven to have a number of welcome consequences. It permits a straightforward account of the syntax of ne and, more generally, a principled analysis of quantified nominals.

Given that partitive ne behaves as a nominal (see §4.3) and therefore cannot be linked to a PP, current analyses would be forced to assume N'-movement, which is excluded both on theoretical and empirical grounds, as we have shown in §2.1. The QP-hypothesis, combined with the modifier hypothesis (see §3.2), permits us to analyse ne as linked to the NP-complement of Q.

The investigation of the syntax of ne has revealed some properties of the head Q. It selects a complement NP to which it assigns partitive Case (that surfaces in Italian in the genitive morphology of ne). It also selects a partitive PP, introduced by the preposition di and containing a definite nominal. This nominal must be non-distinct from the NP complement of Q, a property that is possibly connected with the semantics of indefinite quantifiers. This property seems to play a crucial role in the identification of the empty category when the complement NP happens to be not lexically realized.

We have also investigated some other cases in which a bare quantifier seems to be possible. In the object position we have seen that two possibilities hold: either ne must be present, or the quantified nominal has quasi-existential arbitrary interpretation. In postverbal subject position ne cannot appear and only the arbitrary interpretation is possible. In preverbal subject position, on the other hand, ne is excluded, but any interpretation is allowed.

This pattern can be explained in our framework by the simple observation that Q, being the selecting head, satisfies the government requirement in the formal licensing of

the empty NP position. With regard to the identification requirement, Q does not carry all the features necessary for a referential interpretation, displaying number and gender features and crucially lacking person features. Number and gender features are sufficient to instantiate the arbitrary interpretation. When Q receives person features through coindexation with some other element in the clause, the quantifier can fully identify the empty category in its complement. We have suggested that a process of this kind is operative when QP is in SpecAgrP and when it is coindexed with a resumptive clitic in left-dislocation constructions. Finally, whatever theory is assumed for the relation between a clitic and its base position, the clitic ne is sufficient to give a content to the empty category it is linked to.

### Footnotes

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1. For a possible explanation of the complementary distribution of un/ uno in terms of phosyntactic rules, see Rizzi (1979) and Vanelli (1979).
2. Sentence (8a) is grammatical only if principale, which usually means "the most important", is reanalysed as "very important".
3. For a further discussion of this proposal and the extension of it to definite Qs such as tutti, "all", see Giusti (1991).

For the sake of exposition, we suggest in the text that Q is a functional category on a par with D. However, we must notice that the parallelism should rather be with P, in that the class of quantifiers is not as restricted as other functional classes, such as complementizers, determiners, and inflectional elements, but it is more similar to prepositions which are usually considered lexical categories although they fall into a closed class. This parallelism has already been suggested by Pesetsky (1982), who also notices that Q, as well as P, can be a Case-assigner. A way to capture these observations would be to characterize heads by means of the features [ $\pm$ lexical], [ $\pm$ functional]. V, N, A would be [+lexical, -functional], D, C, I [-lexical, +functional], P and Q [+lexical, +functional], while a [-lexical, -functional] category cannot exist for obvious reasons.

4. We are elaborating here on an idea of Cinque (1990b).
5. Interestingly, the hypothesis that it is not an N' that moves leaving modifiers or arguments in place is supported by the fact that the intonation can display a pause between the Q and what follows.
6. Some other adjectives which behave in the same way are: diversi, "different", grande, "big", numerosi, "numerous", nuovo, "new", semplice, "simple", unico, "unique", etc.
7. Relative clauses do not appear in predicative constructions, for independent reasons. The pro in the SpecCP of the relative clause (see Cinque 1990a) would not be licensed given the lack of a local identifier.

Notice that the relative clause can also be included in the NP resumed by ne, as in:

- (i) Di argomenti che ho discusso ieri, ne è rimasto uno  
of arguments that [I] discussed yesterday NE remained one

This shows that under the assumption that the relative clause is Chomsky-adjoined to

NP, ne can stand for either the internal or the external NP. Cinque (1990b), alternatively, claims that for the A-over-A principle only the higher segment of a maximal projection can be moved. A relative clause, in order to be strandable, must therefore be adjoined to a projection higher than NP, which Cinque takes to be DP. However, (i) shows that a relative clause can also be included in the constituent resumed by ne, supporting our suggestion that there are two maximal segments and that ne can resume either of them. Their status of NP or DP is not crucial for our hypothesis.

8. The English correspondents to the wh-extractions in (44) have already been noticed by Selkirk (1977).

Notice crucially that (i) is better than (44b), showing that the ungrammaticality of the latter example does not depend on the definiteness of the partitive phrase, but on the presence of a PP-barrier, as argued for in the text:

(i) Di chi hai comprato i quadri?  
of whom have [you] bought the pictures

9. This can be easily interpreted as a consequence of the inherent semantics of a partitive phrase, which requires a plural NP in order for the partitive reading to be stated.

10. Thanks to Luigi Rizzi for having pointed out to us the relevance of example (47). Rizzi (1979) noticed that the full form uno is a hint for the presence of an empty category intervening between the quantifier and the PP. We will argue for the existence of this empty category on independent grounds in section 6.

11. In northern varieties of Italian, the past participle may not agree with partitive ne, although the agreeing form is always preferred. In these varieties too, the crucial difference between NP-ne and PP-ne is found in that the latter never triggers agreement on the past participle.

12. Notice that in this case the partitive phrase can only contain a pronominal form like quelli, whereas it is ungrammatical if a full NP occurs:

(i) \*Ne<sub>i</sub> ho visti molti dei ragazzi<sub>i</sub> che mi hai presentato ieri.

The ungrammaticality of (i) can be regarded as a violation of principle C of the binding theory, since the pronominal ne binds the R-expression i ragazzi. This is not the case in (ii), since quelli is a pronoun, not an R-expression:

(ii) Ne ho visti molti di quelli

13. The head of the NP in the PP complement must be coindexed with the head of the NP complement, possibly for semantic reasons:

(i) \*Ho letto molti romanzi dei libri che mi hai consigliato  
[I] read many novels of the books that [you] to-me recommended

14. Evidence that the partitive PP introduced by di, "of", is also selected comes from the fact that this PP is only present with an indefinite Q:

(i) a. molti libri di quelli che mi hai dato tu  
many books of those you gave me  
b. \*i libri di quelli che mi hai dato tu  
the books of those you gave me

The contrast in (i) could not be explained by semantic incompatibility of a partitive phrase and a definite nominal, since a partitive phrase introduced by a different preposition, namely tra, "among", gives grammatical results:



- (ii) a. molti libri tra quelli che mi hai dato tu  
many books among those you gave me  
b. i libri di linguistica tra quelli che mi hai dato tu  
the books of linguistics among those you gave me
15. For the proposal that quantifiers can assign Case see Pesetsky (1982, ch.1), Kayne (1979, Appendix), Belletti (1988, fn. 58).
16. The preposition di functions as a Case assigner for the left-dislocated indefinite partitive in (40c) in the text above, since, for some reason, partitive Case cannot be inherited in the chain consisting of the left-dislocated element and the base position (for Case-inheritance in Left-Dislocation chains, see Cinque (1990a)).
17. In a different framework, Milner (1978) suggests that in French, un de ces livres is transformationally derived from un <livre> de ces livres. This is equivalent to our assumption of an empty category.
18. Cf. Cinque (1988, fn.36) and the references cited there.
19. Notice that this mechanism is very similar to, but not exactly the same as in the licensing of null subjects. It is in fact not restricted to null-subject languages such as Italian. In French, a non null-subject language as (i) shows, en is required when Q is in object position, and is impossible when Q occupies the subject position, (ii):
- (i) \*pro ont téléphoné.  
called
- (ii) a. J\*(en) ai vu [trois [e]].  
I EN saw three  
b. [Trois [pro]] (\*en) ont téléphoné.  
three EN called

Both examples in (ii) can be explained in the same terms as their Italian correspondents. The contrast between (i) and (iib) is due to the fact that in French, Agr is not able to license an empty pronominal in (i), whereas Q governs pro in (iib). Coindexing of Agr and Q via spec-head agreement enables Q to also identify pro, hence the grammaticality of (iib).

## References

- Abney, S. (1987), The English Noun Phrase in its Sentential Aspect, MIT Ph. D. dissertation.
- Baker, M. (1988), Incorporation, The University of Chicago Press, Chicago.
- Belletti, A. (1978), "Sintagmi nominali quantificati e costruzioni dislocate a sinistra", Annali della Scuola Normale Superiore, Pisa.
- Belletti, A. (1988), "The Case of Unaccusatives", Linguistic Inquiry, 19, pp. 1-34.
- Belletti, A. and L. Rizzi (1981), "The Syntax of "ne": Some Theoretical Implications", The Linguistic Review, 1, pp. 117-154.
- Bolinger, D. (1967), "Adjectives in English: Attribution and Predication", Lingua, 18, pp. 1-34.
- Bottari, P. (1989), Livelli di rappresentazione lessicale: complementazione nominale e complementazione frasale, Ph.D. dissertation, Universities of Padua and Venice.
- Burzio, L. (1986), Italian Syntax. A Government-Binding Approach, Reidel, Dordrecht.
- Chomsky, N. (1986), Barriers, The MIT Press, Cambridge, Mass.
- Cinque, G. (1988), "On Si Constructions and the Theory of Arb", Linguistic Inquiry, 19, pp. 521-581.
- Cinque, G. (1990a), Types of A'-dependencies, MIT Press, Cambridge, Mass.
- Cinque, G. (1990b), "Lo statuto categoriale di ne", Miscellanea di studi in memoria di Paolo Zolli, Università di Venezia.
- Giorgi, A. and G. Longobardi (1990), The Syntax of Noun Phrases: Configuration, Parameters and Empty Categories, Cambridge University Press, Cambridge.

- Giusti, G. (1991), "The Categorical Status of Quantified Nominals", Linguistische Berichte 136.
- Grimshaw, J. (1990), Argument Structure, MIT Press, Cambridge, Mass.
- Higginbotham, J. (1983), "Logical Form Binding and Nominals" Linguistic Inquiry 14, 395-420.
- Jackendoff, R. S. (1968), "Quantifiers in English", Foundations of Language, 4, pp. 422-442.
- Kayne, R.S. (1979), "ECP Extensions" (revised version without the appendix published in Linguistic Inquiry, 12, pp. 93-133.
- Longobardi, G. (1990), "Evidence for the the Structure of Determiner Phrases and N-movement in the Syntax and in LF", GLOW Newsletter 14.
- Milner, J.-C. (1978), De la syntaxe à l'interprétation, Editions du Seuil, Paris.
- Pesetsky, D. (1982), Paths and Categories, MIT Ph.D. dissertation.
- Ritter, E. (1989), "A Head-movement Approach to Construct-state Noun Phrases", Linguistics, 26, pp. 909-929.
- Rizzi, L. (1979), "Teoria della traccia e processi fonosintattici", Rivista di Grammatica Generativa, 4, pp. 165-181.
- Rizzi, L. (1986), "Null Objects and the Theory of *pro*", Linguistic Inquiry, 17, pp. 501-557.
- Selkirk, E. (1977), "Some Remarks on Noun Phrase Structure" in P. Culicover, Th. Wasow, A. Akmajian (eds.), Formal Syntax, Academic Press, London, pp. 285-316.
- Vanelli, L. (1979), "Una forma suppletiva dell'articolo e la sua fonosintassi", Rivista di Grammatica Generativa, 4, pp. 183-206.