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The 'Antisymmetric' Program: Theoretical and Typological Implications [1]

Guglielmo Cinque
University of Venice

R.S.Kayne's *The Antisymmetry of Syntax* **(Linguistic Inquiry Monograph 25), Cambridge, Mass.: MIT Press, 1994, Pp.xv+195**

In more mature fields of inquiry, the existence of anomalies is no reason to reject a theory which provides non trivial explanations for a significant set of relevant phenomena. It may, however, decree the superiority of one theory over another when one but not the other is able to explain the anomalies away (while retaining an explanation for the same basic set of phenomena). [2]

A well-known anomaly of all theories of syntax in the Sixties, Seventies and Eighties was the existence of various (unexpected) left-right asymmetries in the syntax of natural languages, both within single languages, and cross-linguistically. For example, it was known since the mid Sixties that while movement to the left (in a 'right branching' language like English) could apply over an unbounded domain, apparent movement to the right was "upward bounded" (Ross, 1967, 307).

More puzzling still was the subsequent observation that in what were then analysed as the mirror-image left branching languages of the OV type (cf. Chomsky 1964, 123, fn.9), no mirror-image unbounded movement to the right was attested either (cf. Bach 1971,161; Bresnan 1972,42ff), despite a few occasional claims to the contrary. [3]

The various theories proposed, up to the Principles and Parameters theory of the

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Eighties and early Nineties, were unable to provide an answer to these (as well as other) anomalies, due to their excessively unconstrained character.

In Kayne's *The antisymmetry of Syntax* (AS), a drastic tightening of the theory is proposed, which, among other things, appears to be able to derive the 'anomaly' of the general left-right asymmetry of natural languages. [4] This tightening involves a particular view of the mapping between hierarchical structure and linear order, which - Kayne suggests - used to be conceived of in an overly permissive way, with precedence entirely dissociated from hierarchical relations such as c-command. Kayne proposes interlocking the two, in such a way that the fundamental antisymmetry of linear order (not (A>B and B>A)) be rigidly matched by a corresponding antisymmetry in the underlying hierarchical structure: namely, *asymmetric c-command* (not (A c-commands B and B c-commands A)). The idea is that, given two nonterminals, X and Y, and the terminals they dominate, x and y, "if X asymmetrically c-commands Y, x precedes y" (p.33). [5]

The fact that all terminals must be ordered in a (consistent) precedence relation, and the assumption that asymmetric c-command between nonterminals maps to linear precedence between the respective terminals (formulated by Kayne in a "Linear Correspondence Axiom" (LCA) - cf. p.5f), have a number of non-trivial theoretical and empirical consequences; first and foremost, the exclusion of many hierarchical configurations which are "too symmetric", and which thus fail to determine a unique precedence relation between their terminals.

For example, the case of a phrase (K) exhaustively dominating two phrases (M and P) is ruled out for this reason:

```
            K
         ___/\___
        M         P
        |         |
        N         Q
        |         |
        n         q
```
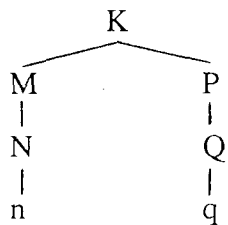
The nonterminal M asymmetrically c-commands the nonterminal Q, thus implying

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4.   This follows Kayne's (1984) earlier attempt to constrain the theory of phrase structure by excluding all but binary branching configurations, with the effect of reducing the possibilities made available by UG.

5.   Strictly speaking, asymmetric c-command could translate into precedence or subsequence, but Kayne shows that it is precedence rather than subsequence, due to the fundamental asymmetry of time (see his discussion in § 4.3).

that M's terminal, *n, precedes* Q's terminal, *q*. On the other hand, the nonterminal P also asymmetrically c-commands the nonterminal N, thus implying that P's terminal, *q, precedes* N's terminal, *n*: a contradictory result.

A phrase (K) dominating a head (N) and another phrase (P) instead permits assigning a non-contradictory precedence relation among the respective terminals (as N alone asymmetrically c-commands Q):

```
                K
        _____^_____
        N               P
        |               |
        n               Q
                        |
                        q
```
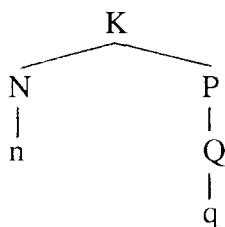
This has the effect of deriving part of the basic tenet of X-bar theory that all phrases be headed (be endocentric).

2. Deriving X-bar theory

Kayne's LCA, in fact, derives most stipulated properties of X-bar theory: in addition to (1)a, just mentioned, the properties (1)b-d:

(1) a There can be no phrase dominating two (or more) phrases (p.11)

 b There cannot be more than one head per phrase (p.8)

 c A head cannot take another head as complement (p.8)

 d A head cannot have more than one complement (p.136, fn.28) [6]

Moreover, the adoption of a particular definition of c-command, exclusively referring

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6.   That a head cannot be a specifier is also derived, albeit via a further assumption ("that the highest element of a chain of heads must have a specifier" - p.31). If a head, in order to be licensed, needs to project (and discharge its theta-role(s)), it follows that the source of a head in specifier position must be a lower head position. But then the possibility arises of excluding its moving to a specifier position as a violation of Relativised Minimality (Rizzi 1990) (or "Shortest Movement"- Chomsky 1995). A closer potential landing site (the head of the phrase it adjoins to) is skipped (this still does not exclude a head becoming the specifier of itself).

to categories rather than segments [7], achieves the interesting related properties in (2):

(2) a   A specifier is an adjunct (p.17)

b   There can at most be one adjunct/specifier per phrase (p.22)

c   At most one head can adjoin to another head (p.20f)

d   No non-head can adjoin to a head (p.19)

e   Adjuncts/specifiers c-command out of the category they are adjoined to (p.18)

f   An X' (the sister node of a specifier) cannot be moved (p.17)

Note that the identification of adjuncts with specifiers, and the prohibition against more than one adjunct/specifier per phrase, are by no means logically necessary properties of X-bar theory. It could well be that natural languages allow for phrases with multiple specifiers, and multiple adjuncts (Chomsky 1995). In fact, a definition of 'c-command' slightly different from the one assumed in AS would seem to achieve just that, while retaining most other features of Kayne's system. [8]

It is however clear that the one-specifier/one-head theory is more restrictive (in that it gives a principled limit to the number of adjuncts/specifiers available), and hence should be preferred, it seems, if empirically adequate.

In fact, were no such limit imposed, some desirable empirical consequences of Kayne's system would seemingly be lost. Consider one example discussed in AS

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7.   Namely: "X c-commands Y iff *X and Y are categories* and X excludes [footnote omitted, G.C.] Y and every category that dominates X dominates Y" (p.16), where, as in Chomsky (1986, 9), "X excludes Y if no segment of X dominates Y".

8.   Compare the AS definition of c-command given in the previous footnote with (i) below, where *segment* replaces the second mention of *category*:

(i)   "X c-commands Y iff X and Y are categories and X excludes Y and every **segment** that dominates X dominates Y".

This change ensures that the second (higher) adjunct/specifier asymmetrically c-commands the first adjunct/specifier since every segment that dominates X in (ii) dominates Y, but not viceversa:

(ii)   L
          /⟍
        X   L
            /⟍
          Y   L
              /⟍
            Z   W
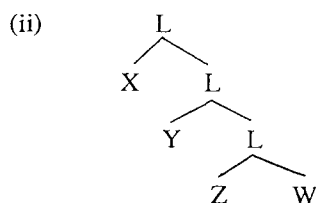
This alternative however loses property (2)e (cf. AS 133f, fn.3), an empirically undesirable move.

(p.54).

If C° is the highest clausal head (necessarily preceding its complement), languages with final complementizers must be analysed as requiring movement of the IP complement of C° to its left, plausibly into Spec,CP. (This, incidentally, accords well with the general OV character of such languages, where the complement of V can also be taken to move leftward over V). If so, Spec,CP is no longer available for a wh-phrase to move to: a desirable consequence, as it was observed in Bach (1971,161) [9] that interrogative wh-movement is generally absent from SOV languages. [10]

A system which systematically allows for multiple specifiers derives instead no such consequence, as more landing sites could in principle be available, one for the IP complement of C°, and one for wh-phrases. [11]

Besides the theoretical advantage of deriving (hence 'explaining') the basic properties of X-bar theory, the AS system has the important theoretical consequence of introducing severe restrictions on the possible phrase structures (and derivations) admitted by UG.

3. A universal (specifier > head > complement) order and left/right asymmetries

If asymmetric c-command maps to linear precedence, as noted, adjuncts/specifiers, which asymmetrically c-command their head, necessarily precede it; analogously, heads, which asymmetrically c-command their complement, necessarily precede it; and this imposes a rigid *specifier > head > complement* order. A complement which is to the left of its head cannot be in 'complement position', but

---

9. Also see Greenberg's (1966) Universal 12 "If a language has dominant order VSO in declarative sentences, it always puts interrogative words or phrases first in interrogative word questions; if it has dominant order SOV in declarative sentences, there is never such an invariant rule".

10. As Kayne himself notes (p.142,fn20), the prediction is actually more delicate in a theory allowing for more than one CP, and more work is clearly needed to sharpen the contours of the 'split COMP' space. Cf. Rizzi (1995). But it seems that the tendency is robust enough to warrant the conclusion he draws.

11. For some empirical evidence apparently favoring the 'one-specifier/one-head' theory over the 'multiple specifier' theory, see Cinque (forthcoming).

must have raised to an (adjunct/specifier) position which asymmetrically c-commands (its trace and) the head. Analogously, a head which is to the left of its specifier must have raised to a head position asymmetrically c-commanding (its trace and) the specifier.

This clearly requires a radical rethinking of many traditional analyses and assumptions (a typical feature of a change of paradigm). OV languages can no longer be seen as mirror images of VO languages, but rather as VO languages whose objects have raised across their heads. Moreover, all apparent movements of X to the right of Y must be rethought of as movement of Y to the left of X, or in terms of independent 'base generation' of X to the right of Y.

Kayne shows that in most cases independent considerations are against a rightward movement analysis of "Right Node Raising" (p.67f), "Heavy NP Shift" (p.71ff), "Subject Inversion (or postposing)" in Romance (p.77f), "Right Dislocation" (p.78ff), Relative Clause (and PP) Extraposition (p.117ff), Result and Comparative Clause Extraposition (p.126ff), and in favor of either an independent base generation or stranding of the (apparently) "moved" constituent in a c-commanded position.

As anticipated above, a general consequence of the AS system is a principled account of many left/right asymmetries in natural languages. The general "upward boundedness" of all (apparent) movements to the right, which has to be stipulated in theories that allow for such movements, follows if no adjunction (hence no movement) to *a c-commanding position to the right* is permitted. [12]

From the same ban against rightward movement/adjunction also follows the mentioned absence of wh-movements to final position in OV languages (as opposed to leftward wh-movements to initial position in VO languages).

It is impressive how many standard analyses have to be reconsidered and reanalysed in the light of the AS system, with illuminating results.

In addition to the consequences already mentioned, the AS system forces the adoption of a 'promotion' analysis of relative clauses (where the relative CP is a sister of D° and the relative clause 'head' raises from inside the relative CP to Spec,CP - p.86ff), and opens up alternative analyses for possessive phrases (p.85,101ff), and adjective phrases (p.97ff), within the DP. As Kayne succinctly and aptly puts it, if one adopts the AS system, one has "the all too infrequent

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12. Movement to the right to a *c-commanded* position (lowering) is also excluded, by the general Proper Binding Condition (Fiengo 1977), whether this is a primitive, or derives from some other abstract principle(s).

pleasure of seeing the theory choose the analysis" (p.132), with obvious desirable repercussions for the rational reconstruction of language acquisition.

Any attempt to discuss the many language specific and typological consequences of the AS system is clearly out of the question here. In what follows, I will limit myself to four points: first, to discussing one additional case of left/right asymmetry which appears to find an interesting account in the AS system (§ 4); secondly, to pointing out certain areas where a further tightening of the AS system may be possible (§ 5); thirdly, to discussing the AS analysis of clitics, for which I will suggest an alternative compatible with the antisymmetric program (§ 6), and finally to suggesting a possible extension of the LCA to phonology (§ 7).

4. *An additional left/right asymmetry*

One more left/right asymmetry which the AS system appears to accomodate naturally is Greenberg's (1966,87) Universal 20: "When any or all of the items (demonstrative, numeral, and descriptive adjective) precede the noun, they are always found in that order. If they follow, the order is either the same or its exact opposite."

The left/right asymmetry consists in the fact that while to the right of the N both the order Dem(onstrative) Num(eral) A(djective), and its mirror-image A Num Dem, are possible, to the left of the N only the order Dem Num A is attested.

How can we make sense of this asymmetry? A clue comes from the finer grained study of Hawkins' (1983). [13] Hawkins points out that in prepositional languages "if the demonstrative determiner follows the noun, the adjective follows the noun; i.e. Prep ⊃ (NDem ⊃ NA)" (p.71). In other terms, we have prepositional languages displaying the orders in (3), but no prepositional language displaying the order in (4) (also see Greenberg's 1966, 86, table 6):

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13. Hawkins' study is based on an expanded sample, with data from over 150 languages (compared with Greenberg's 30 language sample) for the word orders of demonstrative, numeral, adjective and noun (cf. Hawkins 1983, 9 and chap.8).

(3) a. NDem &NA   (Swahili, Fulani,Bahasa Indonesian,..)
     b. DemN & NA   (Maori, Baure, Douala, Tunen,..)
     c. DemN & AN   (Greek, Maya, Norwegian,..)

(4)   *NDem & AN

Likewise, considering the relative order of numerals and adjectives, Hawkins points out that in prepositional languages "if the numeral follows the noun, the adjective follows the noun; i.e. Prep $\supset$ (NNum $\supset$ NA)" (p.72). In other terms, there are prepositional languages displaying one of the orders in (5), but none displaying the order in (6):

(5) a. NNum & NA   (Swahili, Douala, Tunen,..)
     b. NumN & NA   (Maori, Baure, Bahasa Indonesian,..)
     c. NumN & AN   (Greek, Maya, Norwegian,..)

(6)   *NNum & AN

The pattern of attested (and unattested) word orders in (3) through (6), and Hawkins' implicational universals based on them (Prep $\supset$ (NDem $\supset$ NA) and Prep $\supset$ (NNum $\supset$ NA)) appear to follow from the two simple assumptions in (7):

(7) a. The base structure is:

       ... $[_{XP} [_{XP}$ X $[_{YP}$ Dem $[_{YP}$ Y $[_{WP}$ Num $[_{WP}$ W $[_{ZP}$ Adj $[_{ZP}$ Z $[_{NP}$ N $]]]]]]]]]]$

       i.e. with demonstratives in a Spec higher than the one containing numerals, which in turn is higher than the Spec containing adjectives.[14]

     b. N either remains in situ or raises to one of the higher (functional) heads (W in Maori - cf. (3)b, (5)b -, Y in Douala -cf. (3)b, (5)a -, X

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14. Evidence for the location of Demonstratives and Adjectives in specifier positions within the extended projection of the N is discussed in Giusti (1992, 1993) and Cinque (1994), respectively. Additional evidence for Giusti's idea that Demonstratives are in specifier position as opposed to determiners (articles) - which are in head position within the extended projection of the N - appears to come from certain typological findings of Dryer's. While, as Dryer (1989) notes, article-N order correlates with V-O order (as one would expect if the article is a head taking a projection of the N as its complement), no such correlation exists for the order Demonstrative-N (Dryer 1992, 96 and 120ff), as is also the case with other nominal modifiers (Adj-N, Numeral-N, Intensifier-Adj, etc. - Dryer 1988, 1992,95,97, and 118ff).

in Swahili -cf. (3)a, (5)a. [15]

This implies that whenever N precedes Num (is in Y or higher) it will a fortiori precede A; whence the theoretical impossibility of (prepositional) languages displaying the word order correlation in (6). Similarly, whenever N precedes Dem (is in X, or higher), it will a fortiori precede A; whence the theoretical impossibility of the word order correlation in (4) above. [16]

Consider now postpositional languages. As Hawkins notes, "[i]nstead of the expected mirror-image implication, Post ⊃ (DemN ⊃ AN), we find that postpositional languages obey the same implicational regularity as prepositional languages: NDem ⊃ NA" (p.81). Analogously, NNum implies NA (p.82). In other words, while there are postpositional languages with the orders (8) and (9), there are none with the orders (10) and (11) (cf. Hawkins 1983, 81f):

> (8) a. NDem &NA   (Selepet, Mojave, Diegueño,..)
>
>   b. DemN & NA   (Burmese, Kabardian, Warao,..)
>
>   c. DemN & AN   (Burushaski, Hindi, Japanese,..)

---

15. For an analogous proposal concerning the position of the N w.r.t. different classes of adjectives in Romance vs. Germanic, cf. Cinque (1994).

16. On the basis of (7), we should also expect the existence of prepositional languages with one of the orders in (i), and the non existence of prepositional languages with the order in (ii):

> (i) a. NDem & NNum
>
>   b. DemN &NNum
>
>   c. DemN &NumN
>
> (ii)   *NDem & NumN

This word order is not explicitly discussed in Hawkins (1983). To judge from Greenberg's (1966) 30 language sample, it would seem to be largely observed (It is in 10 out of the 16 prepositional languages of the sample), although there are some counterexamples (Berber, Hebrew, Welsh, Zapotec), apparently instantiating (ii). These, however, may turn out to be spurious if demonstratives, rather than being 'base-generated' in a Spec to the left of Numerals as in (7a), are *moved* there from a lower position, and may/must remain in situ in certain languages. On the basis of Spanish, Brugè (1995), in fact argues that they are generated in a position between the rightmost AdjectiveP and the subject of the NP (cf. *El libro viejo este suyo de syntaxis* 'the book old this his of syntax'), possibly the same position hosting -*ci* of *ce-ci* 'this here' and *là* of *quello là* 'that there', in French and Italian.

Interestingly, among the apparently problematic cases in Greenberg's sample, both Welsh and Hebrew have demonstratives only in situ, in this low position within the DP (*Y pump llyfr newydd hyn gan John ar wleidyddiaeth* 'The five books new these of J. on politics' (These five new books by J. on politics) - M. Parry p.c.; and *Shloshet ha-yeladim ha-ktanim ha-elu* 'Three the-children the-small these' (These three small children) - U. Shlonsky and T. Siloni p.c.).

(9) a. NNum & NA   (Selepet, Mojave, Kabardian, Warao,..)

b. NumN &NA   (Burmese, Hixkaryana, Ubykh,..)

c. NumN & AN   (Burushaski, Hindi, Japanese,..)

(10)   *NDem & AN

(11)   *NNum & AN

If postpositional (OV) languages were 'symmetric' to prepositional (VO) languages, with Spec's on the right and with rightward movement, as illustrated in (12), one would expect that DemN implied AN, thus ruling out the existence of postpositional languages with both DemN and NA. But these are attested (cf. 8b above): [17]

(12) [$_{NP}$ N] Z $_{ZP}$] Adj $_{ZP}$] W $_{WP}$] Num $_{WP}$] Y $_{YP}$] Dem] X $_{XP}$] $_{XP}$]...

The AS system, in ruling out any such mirror-image structures and derivations, leaves only two general possibilities, beginning from the structure in (7)a (shared with prepositional languages). [18] Either nothing moves, in which case we have the order: Dem > Num > Adj > N, as found in, e.g., Hindi - cf. Hawkins 1983, 119 - (the same order as that yielded by prepositional languages where nothing moves); or we have a number of successive leftward movements of the complements of the functional heads Z, W, Y of (7)a to Spec positions of intermediate (possibly Agreement) XPs, as shown in (13). This gives the N Adj Num Dem order possibility of Greenberg's Universal 20 displayed by postpositional OV languages like Selepet (Hawkins 1983, 119): [19]

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17. In the 'symmetric' view, we would also expect the existence of postpositional languages with the orders Adj N Num Dem and Adj Num N Dem (with N raised to W and Y of (12), respectively). But none exist, as we should expect, given the implication holding of postpositional (and prepositional) languages, that NDem ⊃ NAdj (cf. Hawkins' 1983,81, already quoted).

18. Whitman (1981) shows that the case of adjectives occasionally preceding the demonstrative and the numeral in head-final languages does not contradict Greenberg's finding concerning the order of pre-N Dem Num Adj, as pre-Dem adjectives can only be interpreted non-restrictively in head-final languages, just like pre-Dem relative clauses (which suggests that pre-Dem adjectives are in fact reduced relatives).

19. These (successive) leftward movements of XPs are typical of postpositional (OV) languages. Cf. the AS discussion of agglutination and final complementizers in head-final languages (p. 52ff).

(13) $...[_{XP} [_{XP}X ..[_{YP}Dem[_{YP}Y ..[_{WP}Num [_{WP}W ..[_{ZP}Adj [_{ZP}Z [_{NP}N]]]]]]]]]]$
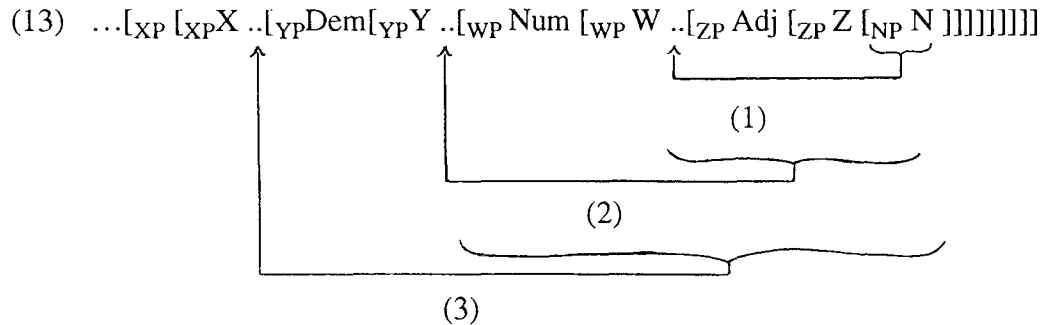
Evidence apparently supporting the derivation shown in (13) is provided by the fact that one of the intermediate steps of (13) is also attested; namely the order: Dem N Adj Num found in such postpositional languages as Kabardian and Warao (Hawkins 1983,119), derived via the steps (1) and (2) of (13). [20]

Burmese, Kokama and Ubykh, with the order Dem Num N Adj, could instead be taken to instantiate the other intermediate case, with only step (1) of (13) applied. That it is NP raising to the left of the Adj in these postpositional languages (rather than N raising, as in prepositional languages) may be indicated by the fact that in these languages the Genitive (in Spec,NP) precedes the N, whereas in prepositional languages when the adjective follows the N so does the Genitive (cf. Hawkins' 1983, 66). This follows if we have N raising across the Adjective in prepositional languages ((14)a), and NP raising across the Adjective in postpositional languages ((14)b):

(14) a. $..[_{WP}W [_{ZP}Adj [_{ZP}Z [_{NP}Gen [_{NP}N]]]]]$

b. $..[_{WP}W [_{ZP}Adj [_{ZP}Z [_{NP}Gen [_{NP}N]]]]]$
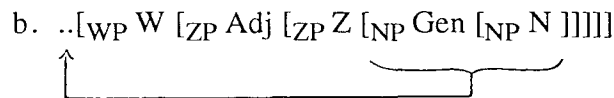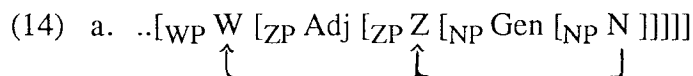
It should be noted that whereas postpositional languages have (successive)

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20. It seems that step 2 (and 3) of (13) cannot apply unless step (1) has also applied. Otherwise, the unattested order Adj N Num Dem (cf. fn.16) would be derived.
The Num N Adj Dem order found in Basque (Hawkins 1983,119) would seem to be derivable via steps (1) and (3) of (13), without the application of the intermediate step (2), possibly a marked option. The same order in prepositional languages (Welsh, Hebrew, and the others cited in Rijkhoff 1990,27) should instead be interpreted as seen in fn.15 above, with the demonstrative occurring in the lower 'base generation' position. It remains to be seen whether the exceptions to Hawkins' NDem ⊃ NAdj that Dryer (1988,208) found in his sample are amenable to a similar account. For a case (Aghem), which appears problematic from the present perpective, cf. Hawkins (1983,119).

leftward XP movements, as seen (and, possibly, no leftward movement of just the N), prepositional languages have N raising, but crucially no leftward XP movements here. If they could move the XP complements of the functional heads W and Y, as illustrated in (15), orders should be possible which are not attested, namely Dem Adj N Num, and Num Adj N Dem:

(15) ..[$_{XP}$ [$_{XP}$X ..[$_{YP}$ Dem [$_{YP}$Y ..[$_{WP}$ Num [$_{WP}$W ..[$_{ZP}$ Adj [$_{ZP}$ Z [$_{NP}$ N]]]]]]]]]
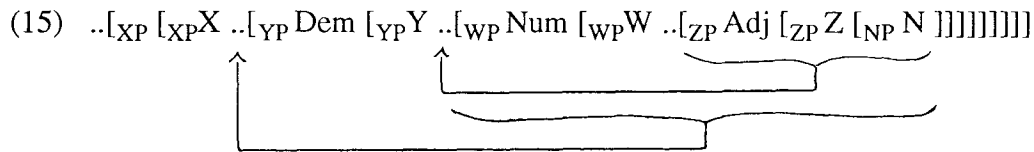
Hawkins (1983, 118) explicitly notes that no such orders are attested in his data.[21]

In sum, in as much as it is able to derive the Dem Num A N order, as well as the N Dem Num A and the N A Num Dem orders, but is unable to derive the unattested A Num Dem N order (among others), the AS system affords a principled explanation for Greenberg's Universal 20 (with its left/right asymmetry), and Hawkins' refinements of it; a remarkable feat.

5. *Possible further restrictions of the AS system*

The system proposed in AS drastically limits, as seen, the possibilities made available by UG. Nonetheless, it is possibly susceptible of still further restrictions. For example the targets of many leftward movements are left open, as is the general architecture of the clause, certainly because determining their status is largely an empirical question that has barely begun to be investigated.

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21. Although they are allowed by Greenberg's (1966) "any or all" clause in his Universal 20 - see Hawkins' 1983,117ff for discussion -. Dem Num N Adj is attested (in Romance), but as a function of the movement of the N alone, not of NP, as shown by the impossibility of Dem Num [Gen N] Adj.

That postpositional, but no prepositional, languages *can* move XP complements of functional heads leftward (successively) seems to be at the basis of two more left/right asymmetries between the two types of languages - cf. Hawkins (1988), Dryer (1992,86 and 102) -: 1) while, in postpositional languages, complementizers may be either to the left of the clause (initial), or to its right (final), in prepositional languages, they are invariably to its left (initial) (pace Chinese, which has many features of postpositional languages, such as relative clause-N, Standard-Adj, etc.); 2) while postpositional languages have either relative clauses preceding the N, or following it, prepositional languages only have relative clauses following the N (again pace Chinese).

Clearly, the predictions made by the system will be all the more precise as these questions are ultimately settled one way or the other.

If projections were not 'functionally specialised' (and labeled), and were not limited in stock, the derivation of the left/right asymmetry in wh-movement discussed above in §2 would not be straightforward. For example, the possibility must be excluded that a head be freely created, to host a wh-phrase in its specifier, above the CP in whose specifier IP has raised. If the structure of the clause is fixed once and for all, this possibility may be excluded as a matter of principle.

The existence of more than one CP does not by itself jeopardize the account of the left/right asymmetry of wh-movement, at least if the various CPs are 'functionally specialized', and, for example, IP were to raise to the Spec of a CP higher than the WH CP. [22] Once again, this ultimately reduces to an empirical issue (within a more general matter of principle). The same is clearly desirable for the 'space' below C. [23]

I will now turn to another apparent consequence of the AS system discussed by Kayne, suggesting a possible alternative which is still compatible with the 'antisymmetric' spirit.

6. *The adjunction site of clitics (in Romance)*

Differently from Kayne (1975, chap.2), AS takes clitics not to adjoin directly to verbs; a conclusion based on the following *reductio ad absurdum*. If the LCA extends to subword structure, a verb of the form *stem + thematic vowel + suffix* must have the thematic vowel adjoined to the suffix, the head of the word, and the stem adjoined to the thematic vowel:

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22. In this case, there would be no landing site for the wh-phrase higher than the fronted IP, nor could the wh-phrase move to the WH COMP leaving its trace unbound within the IP moved higher than the wh-phrase.

23. For a specific proposal in this direction, see Cinque (forthcoming). At first sight, the 'multiple specifier' and the 'one head/one specifier' theories would seem to be equivalent, at least if one were to introduce a functional specialization, and a rigid relative order of the multiple specifiers. But the two theories can be empirically distinguished on other counts, and the facts seem to support the 'one head/one specifier' theory (cf. Cinque, forthcoming, for discussion).

(16)

```
              W
           ╱─┐
        T     W
      ╱─┐     │
    S   T     │
    │   │     │
   ved-  -e-   -te
```
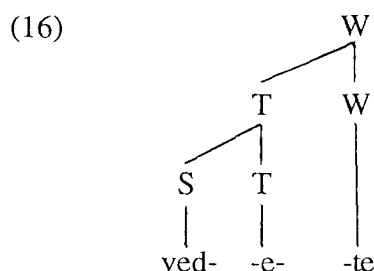
A clitic could not adjoin to the nonterminal dominating the suffix nor to that dominating the thematic vowel as it would qualify as a second adjunct. It could only adjoin to the stem. By the same token, however, if the stem were preceded by a prefix (which would have to be adjoined to the stem) the clitic could only be adjoined to the prefix, not to the stem; thus giving an apparently unnatural result.

So, either the LCA does not extend to subword structure, or clitics adjoin to an (empty) functional head higher than the verb. [24]

Since they clearly adjoin to higher heads in certain cases (e.g. *En fort bien parler* 'of-it strong well to-speak' - Kayne 1991, 654fn.18 -), taking them to always do so allows the LCA to hold of subword structure: a welcome (because restrictive) result. This implies, then, that in a French subject clitic - verb inversion like (17) the verb is not in C, as there must be a distinct higher head, between Spec,C and the verb, to which the (object) clitic *la* is adjoined:

(17)   *Depuis quand la connais-tu?*
         'Since when her know you'
         Since when do you know her?

If it may have the desirable effect of giving an account for complex inversion (*Quand Jean est-il arrivé* 'When has J. arrived?'), and the impossibility of **Est Jean à Paris?* 'Is J. in Paris?' in French (cf. AS, p.44), this assumption does not extend as straightforwardly to other Romance constructions, where a clitic still precedes a verb which has arguably raised to C. For example, in Italian, the construction in (18), which displays the order *complementizer + subject + subjunctive verb*, has an alternative where the subjunctive verb precedes the subject and no complementizer can be present, thus suggesting that the V has raised to C. Cf. (18) and (19): [25]

---

24. I am restricting attention to proclitics. For enclitics, see AS, 139 fn.19.

25. An argument of this type for V to C raising is discussed in relation to a similar construction in Rizzi (1982,83f). Here we have additional evidence that it is the verb that has raised over the subject (to C°), as the 2nd person sing. of the present subjunctive can not be a null personal pronominal, and can be a null expletive in construction with an inverted subject only marginally. See:

(18)   **(Che) tu sia convinto di questo, o no, fa poca differenza*
         'Whether (lit. 'that') you are convinced of this, or not, makes little
         difference'

(19)   *(*Che) sia tu convinto di questo, o no, fa poca differenza*
         'Whether you are (lit. 'Be you') convinced of this, or not, makes little
         difference'

Crucially, if a clitic is present it must precede the verb (in C):

(20)   *Ne sia tu convinto, o no, fa poca differenza*
         'Whether you are convinced of this, or not, makes little difference'

As a matter of fact, French presents a comparable construction:

(21) a. *Peut-être qu'il l'a reçu*
          Maybe that he it has received

      b. *Peut-être (*que) l'a-t-il reçu*

In both cases, the order *clitic verb subject* follows automatically if the clitic is indeed
adjoined to the verb in I, before its movement to C across the subject.

In the AS system, there must be a higher C to which the clitic independently
moves, and a separate principle that demands that clitics always attach to a head
preceding the position of the finite verb, whatever that is, I or C. Note however that
in the latter analysis one could in principle expect some element to intervene between
the clitic and the verb even in the COMP space (as it does in the IP space, as seen
above). But no such case (as **Le peut-être a-t-il reçu* 'It maybe has he received') is
attested, as far as we know, in any regional, stylistic, or ancient variety of French.

Suppose we were to conclude then that clitics can adjoin to a verb (when this has

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(i)   a. *Credono che (io)/*(tu)/(lui) mi/ti/si sia sbagliato*
           they think that (I)/(you)/(he) was/were/was mistaken
       b. *Credono che mi/ti/si sia sbagliato io/? ?tu/lui*
           they think that was/were/was mistaken I/you/he

The marginality of the variant of (i)b with *tu* thus contrasts with the perfect status (at a high
stylistic level) of (19).

raised to the relevant functional category). [26] Would that exclude an extension of the LCA to subword structure? Not necessarily. It seems possible to retain the extension of the LCA to subword structure while at the same time permitting clitics to adjoin to verbs; namely, by having the LCA apply in the subword (morphological) component with results that are 'invisible' to the syntactic component.

This amounts to saying that a verb, even if morphologically complex ([re[at[test[s]]]]) is syntactically simplex; merely a V.

Under a "checking by raising" theory (Chomsky 1995; AS, p.140, fn.10), this conclusion is in fact almost forced, it seems. If words come fully inflected from the lexicon, should the *syntactic* category of the word be determined by its rightmost morphological element, we would never have a VP, but, directly TenseP (in a case like *reattested*); or NumberP, in a case like *reattests*, if -*s* codes number (Kayne 1989): not a fully satisfactory result.

Moreover, if the LCA were to extend to phonology, as I tentatively put forth in the next section, there would be one more reason for separating the application of the LCA to subword (morphological) and above word (syntactic) structure. For, in that case, I think, we would have little doubt about the essential irrelevance of any internal phonological structure of the word to syntax. By the same token, our view of morphological subword structure vis-à-vis syntactic structure should probably be no different.

7. *The LCA in phonology*

As seen, the LCA implies that the antisymmetry of linear order reflects a comparable antisymmetry in underlying hierarchical structure. In AS, Kayne considers the consequences of this idea for syntax and morphology. Suppose we took it to hold of phonology as well. That would mean that the linear order of segments should reflect a comparable antisymmetric underlying hierarchical structure. As a matter of fact, such structure is (virtually) already given if one thinks of syllable structure, which a rich tradition views in an X-bar format, with the *onset*

---

26. Under this view, the clitic, which I take to move as a head in the last step of its movement, after moving within a DP (cf. AS, 61), either adjoins to the relevant F°, if this is empty, or to the V which has adjoined to F°, in either case complying with the LCA.

as the Specifier of a head (the *nucleus*), which is taken to form a constituent (the *rhyme*) together with a complement (the *coda*): [$_{syllable}$ onset [$_{rhyme}$ nucleus coda]] where syllable = NucleusP, or, for simplicity, V(owel)P. Cf. Kenstowicz (1994, chap. 6 and 8), and references cited there.

Needless to say, a proper extension of the LCA to the syllable plane requires a number of non trivial modifications of standard assumptions, whose phonological significance would have to be ascertained. That cannot be done here. Here I will limit myself to some of the implications that ensue from such an extension.

For example, to give a total linear order of all the C's and V's, the representation of a plurisyllabic word would have to look something like the tree in (22):

(22)

```
         VP
        /  \
       C    VP
       |   /  \
       |  V    VP
       |  |   /  \
       |  |  C    VP
       |  |  |   /  \
       |  |  |  V    VP
       |  |  |  |   /  \
       |  |  |  |  C    VP
       |  |  |  |  |    |
       |  |  |  |  |    V
       |  |  |  |  |    |
       p  a  p  a  l    e
```
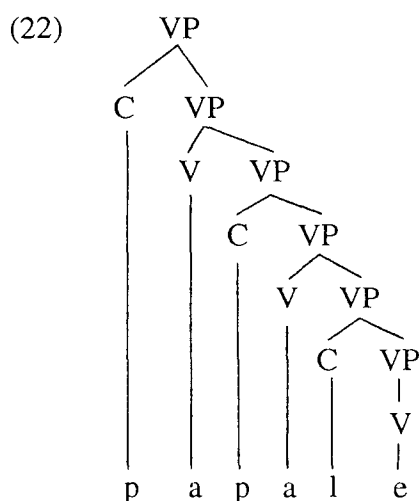
Although CV is the unmarked syllable (in some languages, the only type of syllable), departures from it, involving complex onsets and codas, are very common. For onsets, this could imply replacing C with a *nonterminal* C(onsonant)P (actually expected under the LCA) dominating C with an optional CP complement: [27]

---

27. Alternatively, complex onsets could be treated as must complex codas, as the outcome of CV.CV.. structures with empty nuclei. But this alternative would seem to lose the property that codas, but not onsets, contribute (moras) to the weight of the syllable. Cf. below.

(23)

```
                    VP
                  /    \
               CP       VP
              / \      /  \
            C   CP    V    VP
                |         /  \
                C        CP   VP
                         |    |
                         C    V
                         |    |
             |    |    |  |    |
             t    r    a  m    a
```
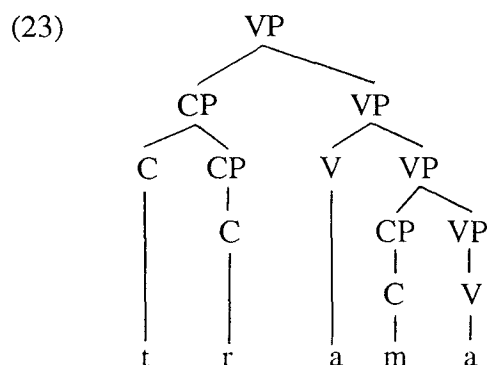
Codas would instead have to consist of VPs with empty V's (nuclei) - cf. (24) -:

(24)

```
                    VP
                  /    \
               CP       VP
               |       /  \
               C      V    VP
                          /  \
                        CP    VP
                        |    /  \
                        C   V    VP
                               /  \
                             CP    VP
                             |     |
                             C     V
                             |     |
          |     |     |   |   |     |
          t     o     r   ø   t     o
```
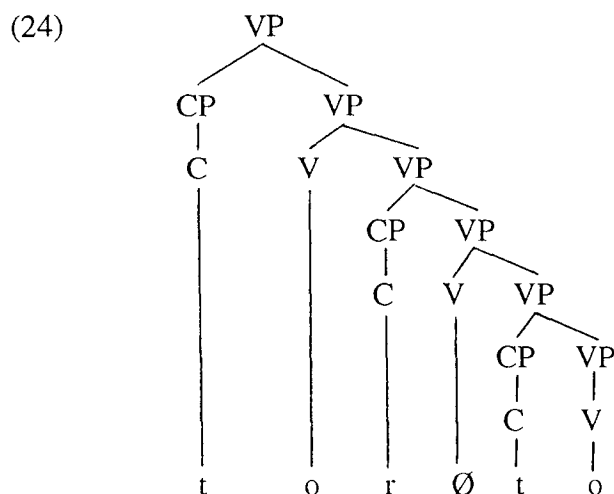
The postulation of empty nuclei is not unprecedented. It is in fact systematically employed in Government Phonology (Kaye, Lowenstamm and Vergnaud 1990, Kaye 1990, Charette 1991, and related work), where consonant clusters are indeed analysed as CV.CV.CV sequences, with general and language particular principles determining where nuclei can be empty, or must be phonetically realized (with an interesting unified analysis of such apparently independent processes as syncope, epenthesis, harmony, metathesis, etc.).

Moreover, the general format of (22)/(23)/(24) lets us see a possible way to unify the X-bar and moraic theories of the syllable, which are currently taken to be alternatives. This can apparently be achieved by taking each VP to count as a mora (with the direct consequence that codas - which are onsets of empty nucleus VPs - contribute to the weight of the syllable, a structure consisting of up to 2 (or 3) VPs, while onsets (of overt nucleus VPs) do not by themselves).

Other adjustments would be necessary if we were to follow up this extension,

which, needless to say, at this stage, can only be a promissory note.

8. *Conclusion*

Even if I have decided to focus here on a very limited number of consequences of Kayne's work, I hope I have at least given a sense of the extremely far-reaching implications of his overall theoretical program. If one were not to feel uneasy when comparing the theory of syntax with the theories of more mature sciences, one could picture Kayne's theory as our closest approximation to a revolution, which will be followed by a period of normal science trying out all of its consequences and implications (until the next revolution).

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On the Syntax of Quantity Expressions in Bosnian [1]

Giuliana Giusti - University of Venice
Nedžad Leko - University of Venice and Sarajevo

In this paper, we will distinguish three types of quantity expressions in Bosnian:[2] (i) quantity nouns such as *većina*, 'majority' and *količina* 'quantity' in (1), (ii) quantifiers proper, such as *nekoliko* 'some' in (2), and quantity adjectives such as *mnogi, mnoge, mnoga* 'manyM/F/N' in (3):

(1) a. *većina*   *mojih*   *prijatelja*
         majority-NOM   my-GEN   friends-GEN PL
     b. *Vidio sam* *većinu*   *mojih*   *prijatelja.*
         (I) saw   majority-ACC   my-GEN   friends-GEN PL
     c. *Potrošili smo* *veliku*   *količinu*   *brašna.*
         (we) used   big-ACC   quantity-ACC   flour-GEN SG

(2) a. *nekoliko*   *mojih*   *prijatelja*
         several   my-GEN   friends-GEN PL
     b. *Vidio sam*   *nekoliko* *mojih*   *prijatelja.*
         (I) saw   several   my-GEN   friends-GEN PL
     c. *Potrošli smo* *mnogo*   *brašna.*
         (we) used   much   flour-GEN SG

(3) a. *mnogi*   *hrabri*   *dječaci*
         many-NOM MASC   brave   boys-NOM MASC

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2.   For the sake of brevity we will call Bosnian the Slavic language spoken in Sarajevo, which should actually be called Bosnian/Serbian/Croatian and which is refered to in previous linguistic literature as Serbo-Croatian.

b. *mnoge*   *hrabre*   *djevojčice*
    many-NOM FEM   brave   girls-NOM FEM
c. *mnoga*   *hrabra*   *djeca*
    many-NOM NEUT   brave   children-NOM NEUT

Quantity nouns and quantifiers are lexical heads that select a full noun phrase as their complement imposing features such as genitive case and plural number for countable nouns as in (1a,b), (2a,b), singular for mass nouns as in (1c), (2c). Despite the many similarities that will be highlighted in section 1, it will be argued that it is not desirable to unify these two categories. The structures proposed will be Roman (I) for quantity nouns and Roman (II) for quantifiers:

(I)

```
          DP/KP
     Spec       D/K'
          D/K°        NP
             Spec       N'
                 N°         DP/KP[GEN]
                 |      Spec        D'/K'
                 |           D°/K°        NP
                /\              Spec       N'
               /  \                        N°
              /____\                        |
          većina mojih                  prijatelja
```

(II)

```
          KP
     Spec      K'
          K°        QP
             Spec       Q'
                 Q°         DP/KP[GEN]
                 |      Spec        D'/K'
                 |           D°/K°        NP
                /\              Spec       N'
               /  \                         N°
              /____\                         |
       nekoliko  mojih                  prijatelja
```

These two structures differ minimally but in crucial features: In (I), the highest lexical head is a noun projecting a full extended nominal projection in the sense of Grimshaw (1991), which we represent as DP/KP. In (II), the highest lexial head is a quantifier, which projects its own extended projection, which we label just as KP to differentiate it from the nominal extended projection. The label DP/KP metaphorically unifies the highest nominal functional

projection in languages with articles (supposed to be in D) with languages that do not have articles but have case, like Bosnian and most Slavic languages. We assume, following Giusti (1992), that at an abstract level of representation, articles and case morphology on the noun are one and the same category.

In Bosnian, case morphology is generated directly on the noun and is later checked in D/K at LF. All modifiers are prenominal and agree with the head noun by means of their being in Spec-Head-Agreement configuration with a functional head of the extended nominal projection. We also assume that each adjective has its own functional projection where case morphology is checked. The Spec-Head-Agreement configuration that takes care for case agreement between the noun and its modifiers is therefore checked in functional heads.[3] Notice that these assumptions are needed at this point only to provide a framework for the discussion on the syntax of quantity expressions. They will not be motivated in this paper because the analysis of quantity expressions we are going to propose is largely indepedent from them.

In section 2, we will present the properties of quantity adjectives and justify the different categorization with respect to quantifiers. The structural position of quantitaty adjectives is given in Roman (III):

(III)
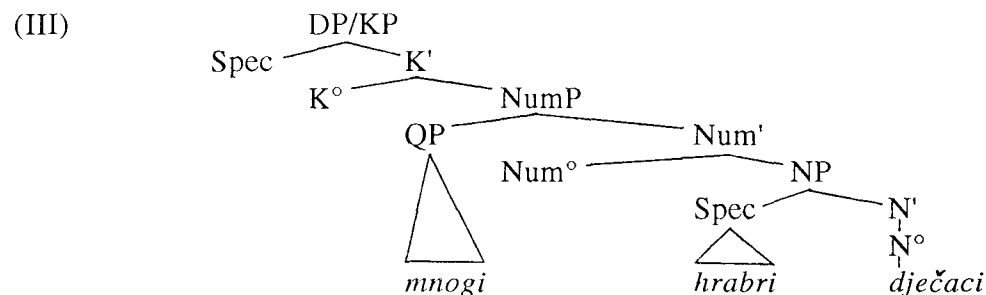
We will see that quantity adjectives always agree in gender, number and Case with the head noun and in that respect behave like all other adjectives.

In section 3, finally, we will show that the complex syntax of numerals can be straightforwardly analysed by classifying numerals into the three different classes singled out in the course of the paper.

This classification will prove not to be language specific but, in fact, universal. Bosnian will ultimately provide evidence for a theory of quantity expressions that was put forth for Romance and Germanic in Giusti (1991) and following work on totally independent grounds.

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3.   This was independently proposed in Leko (1995) for Bosnian and Giusti (1992) for Romance and Germanic. We refer to these papers for a justification of this hypothesis.

1. *Quantifiers vs. quantity nouns vs. regular nouns*

All of these three categories can select a genitive complement:

(4)   *nekoliko/ većina/ neprijatelji*   *mojih*   *prijatelja*
         several/ majority/enemies   my-GEN PL   friends-GEN PL

However there are good reasons to claim that they do not belong to the same syntactic category, although they have many characteristics in common.

    i) Quantity nouns do not agree in φ-features such as number, gender and case with their complement noun in a large group of languages among which Slavic, Romance and Germanic:

(5) a. *većina*   *mojih*   *prijatelja*
         majority-NOM SG FEM   my-GEN PL   friends-GEN PL MASC
     b. *la maggioranza dei miei amici*
     c. *the majority of my friends*

Quantifiers in Romance and Germanic generally agree with their complement for these features, so that they apparently behave like modifiers. In Slavic, on the other hand, and in Bosnian in particular, they are clearly independent heads in that they do not share the features of their complement:[4]

(6) a. *Nekoliko muškaraca/žena/goveda*   *je spavalo.*
         several men-GEN PL/women-GEN PL/cattle GEN PL N slept-N SG
     b. (i) *Muškarci*   *su*   *spavali.*
              men-NOM PL MASC   AUX-3 PL slept-MASC PL
          (ii) *žene*   *su*   *spavale.*
              women-NOM PL FEM   AUX-3 PL slept-FEM PL
          (iii) *Goveda*   *su*   *spavala.*
              cattle-NOM PL NEUT   AUX-3PL   slept-NEUT PL

It is clear from (6a) that the form *nekoliko* does not agree in gender, number and case with the following noun which may be of any gender, but must be

---

4.   Comparative Morpho-syntax, therefore, helps us distinguish among the three different classes of quantity expressions. Romance and Germanic apparently distinguish between quantity nouns on the one hand vs. quantifiers and quantity adjectives on the other. Slavic languages apparently distinguish betwee quantity nouns and quantifiers on the one hand vs. quantity adjectives on the other. In any case, the three classes prove to be needed in every single langauge. Language specific unifications are to be avoided both from the theoretical and the empirical point of view. We will focus on Bosnian, as a Slavic language, in this paper. For some Romance-Germanic parallelisms cf. Giusti (1991, 1992, 1994).

genitive plural.

It is also a property of regular nouns that they do not agree with their complements:

(7)   a. *l'autore di questi libri*
       b. *pisac*   *ovih*   *knjiga*
           writer-NOM SG MASC   these-GEN PL   book-GEN PL FEM

ii) Quantity nouns, quantifiers, and regular nouns are case-assigners in Bosnian. But quantity nouns and quantifiers assign exclusively genitive to their complements (8a-b), whereas regular nouns in addition to genitive (the default case) may assign other inherent cases (8c), cf. Leko (1990, 1991):

(8)   a. *većina*   *mojih*   *prijatelja*
           majority   my-GEN   friends-GEN
       b. *nekoliko*   *mojih*   *prijatelja*
           several   my-GEN   friends-GEN
       c. (i) *dijete*   *mojih*   *prijatelja*
                child   my-GEN   friends-GEN
           (ii) *spomenik*   *miru*
                monument   peace-DAT

iii) Quantity nouns and quantifiers are mutually exclusive (9)-(10), in contrast to regular nouns which co-occur with either quantity nouns or quantifiers (11).

(9)   a. **broj mnogo prijatelja*
           *a number of many friends
       b. **količina nešto brašna*
           *the quantity of some flour
       c. **većina stotinu delegata*
           *the majority of a hundred delegates

(10)   a. **dva broj prijatelja*
           *two numbers of friends
       b. **mnogo količina brašna*
           *much quantity of flour
       c. **svi većina delegata*
           *all the majority of the delegates

(11) a. *dvije grupe prijatelja*
         two groups of friends
      b. *nekoliko grupa studenata*
         several groups of students
      c. *Većina grupa je otišla.*
         Majority of groups left.

iv) Like common nouns, quantity nouns trigger agreement with the predicate: *većina* ("majority"), *količina* ("quantity"), etc. trigger feminine agreement (12a), *broj* ("number"), *dio* ("part"), etc. trigger masculine agreement (12b), quantifiers trigger neuter agreement (12c)

(12) a. *Većina*   *mojih prijatelja*   *je*   *pjevala.*
         majority   my-GEN friends-GEN   AUX-3 SG   sang-FEM SG
      b. *Jedan broj* *mojih prijatelja*   *je*   *pjevao.*
         a number   my-GEN friends-GEN   AUX-3 SG   sang-MASC SG
      c. *Nekoliko*   *mojih prijatelja*   *je*   *pjevalo.*
         several   my-GEN friends-GEN   AUX-3 SG   sang-NEUT SG

Differently from common nouns, if two feminine quantity nouns are conjoined, they cannot trigger feminine plural agreement of the predicate. What we find instead is "semantic" agreement with the complement nouns (13a). However, if the gender of the quantity nouns conjoined is either MASC + MASC (13b) or MASC + FEM / FEM + MASC (13c), masculine agreement on the predicate is possible along with semantic agreement:

(13) a. *Velika većina mojih prijatelja i mala grupa tvojih prijatelja su pjevali/*pjevale.*
         great majority-F of my friends and small group-F of your friends-M sang-M PL
      b. *Veliki broj žena i mali dio djevojaka su pjevali/ pjevale.*
         great number-M of women-F and small part-M of girls-F sang-M PL/ F PL
      c. *Veliki broj žena i mala grupa djevojaka su pjevali/pjevale.*
         great number-M of women-F and small group-F of girls-F sang-M PL/ F PL

Conjoined quantifiers on the other hand do not trigger plural features on the predicate. Instead, the predicate has neuter singular form: [5]

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5.   For a more detailed discussion on factors determining type of agreement in Bosnian cf. Leko (1986), Franks (1994).

(14)   *Mnogo mojih prijatelja   i   nekoliko tvojih susjeda*
       many my friends-M PL   and   several your neighbours-M PL
       je pjevalo/*su pjevali.
       sang-N SG/ M PL

Quantity nouns, therefore, behave differently from common nouns and from quantifiers.

There are other reasons to believe that quantity nouns and quantifiers proper are two distinct categories and that neither of them can be unified with common nouns:

i) Quantifiers allow raising of (part of) their complement to SpecQP. This is impossible with quantity nouns, as well as with regular nouns:

(15)   a. *mnogo vas,*   a'. *mnogo   ovih   studenata*
           many you-GEN   many   these-GEN   students-GEN
       b. *?vas mnogo,*   b'. *?ovih* mnogo studenata

(16)   a. *većina vas,*   a'. *većina   ovih   studenata*
           majority you-GEN   majority   these-GEN   students-GEN
       b. **vas većina,*   b'. **ovih većina studenata*

ii) Quantity nouns can be modified by adjectives as in (17), quantifiers are modified by adverbs as in (18):

(17)   a. *velika   većina   mojih prijatelja*
           the great majority of my friends
       b. *mala   količina   brašna*
           a small quantity of flour
       c. *Parni   broj   stolica je potreban.*
           An even number of chairs is needed

(18)   *vrlo mnogo/ malo prijatelja*
           very many/ few   friends

iii) Quantity nouns must be preceded by a determiner in Romance and Germanic and can be preceded by a demonstrative in Bosnian. In both cases the determiner agrees with the quantity noun. On the other hand in Bosnian, when the quantifier is preceded by a demonstrative, the demonstrative agrees with the following noun, not with the quantifier, showing that we are dealing with a derived structure. Therefore, (15a) is a base-generated structure, as well as (19), while (15b) a derived one, as well as (20):

(19) a. *Ova*   *količina*   *brašna*
           this-FEM SG   quantity-FEM SG   [of] flour-NEUT SG

       b. *Onaj*   *broj*   *stolica*
           that-MASC SG number-MASC SG [of] chairs-FEM PL

(20) a. *Ovih*   *mnogo*   *stolica*
           these-GEN PL many   chairs-GEN PL

       b. *Onog*   *malo*   *brašna*
           that-GEN SG   little   flour-GEN SG

The structure of (19a) is given in (21a), and the structure of (20a) is given in (21b):

(21) a. $[_{FP1}$ *ova* $[_{NP1}$ *količina* $[_{FP2}$ *brašna*$]]]$ ....

       b. $[_{FP1}$ *ovih*$_i$ $[_{QP1}$ *mnogo* $[_{FP2}$ t$_i$ $[_{NP2}$ *stolica*$]]]]$ ...

    iv) Quantity nouns may appear in oblique cases having full nominal declension like all regular nouns, whereas quantifiers lack full declension and may appear in oblique case positions only if preceded by a preposition.

(22) a. (i)   *Bojao se*   *većine*   *djevojaka*
               (he) feared   majority-GEN S girls-GEN PL

          (ii) *Pisao je*   *većini*   *djevojaka.*
               (he) wrote   majority-DAT   girls-GEN PL

         (iii) *Pokazao je prema*   *većini*   *djevojaka.*
               (he) showed towards majority-DAT   girls-GEN PL

       b. (i)   *Bojao se*   *nekoliko*   *djevojaka.*
               (he) feared   several   girls-GEN PL

          (ii) ******Pisao je*   *nekoliko*   *djevojaka.*
               (he) wrote   several   girls-GEN PL

         (iii) *Pokazao je prema*   *nekoliko*   *djevojaka.*
               (he) showed towards several   girls-GEN PL

We do not know the deep reason for this asymmetry between oblique cases (assigned by Vs vs. Ps). We follow Leko (1995) who proposes that the nominal projection needs an explicit case morpheme which is present in the NOM/ACC form on the Q or in the GEN form of the noun. Other Cases must be signalled by the presence of a P.

    In this section we have tried to show that there are interesting similarities between regular nouns, quantity nouns and quantifiers. However, these categories cannot be unified under the same lexical class. What they have in common is the fact that they all are lexical heads, taking a full extended nominal projection as their complement, assigning it case, and imposing other selectional features on their complement according to their semantic properties. They, however, differ in morpho-syntactic (inflectional) properties. They are

therefore taken to project different functional heads. Furthermore, quantity nouns are of category N while quantifiers are of category Q.

They also differ in the possibility of raising their complement or part of it into their Spec. In order to account for this difference we must shortly discuss the properties of SpecQP and SpecDP.

1.1. *The properties of SpecDP*

In Giusti (1992, 1994) it is argued that demonstratives, differently from articles, are not functional heads. They cannot be in D°. They are, on the contrary, modifiers of the head noun generated in adjectival position and further moved to SpecDP. This movement is triggered by the necessity at LF for the whole DP to be interpreted as referential, on the assumption that referential features are checked in SpecDP at LF. This property of SpecDP parallels the property of SpecCP to check the wh-features in the clause.

This proposal can account for the word order variation that arise in noun phrases when a demonstrative is present in several related and unrelated languages such as Rumanian (23), Spanish (24), and Modern Greek (25) among others:

(23) Rum.: a. *acest frumos băiat de la Bucureşti*
            this nice boy of from Bucarest
         b. *băiatul acesta frumos de la Bucureşti*
            boy-the this+A nice of from Bucarest
         c. *frumosul (*acesta) băiat de la Bucureşti*
         d. *băiatul frumos (*acesta) de la Bucureşti*

(24) Span.: a. *este/ese chico antipático*
            this/that boy disagreeable
         b. *el chico antipático este/ese*
         c. **el chico este/ese antipático*
         d. *el hermano este/ese de Juan*   'the brother this/that of Juan'
         e. **el hermano de Juan este/ese* [6]

(25) M. Gr.: a. *afto to kalo to vivlvio to oreo*
            this the nice the book the good
         b. *to kalo afto to vivlio to oreo*
         c. *to kalo to vivlio afto to oreo*
         d. *to kalo to vivlio to oreo afto* [7]

---

6. These data are taken from Brugè (1994).

7. These data are due to Melita Stavrou (p.c.).

In these three languages the demonstrative can appear either as the first element in the noun phrase or in a different position. Variation is found whether it can be followed by an article when it is in first nominal position. This can be accounted for by assuming that the demonstrative is in SpecDP in all cases and that languages vary with respect to whether D° must or cannot be lexically realized when its Spec is filled. Rumanian and Spanish cannot realize D° when SpecDP is filled while Modern Greek must. Notice that the presence of the article is never optional, showing that, at least in this construction, it does not have semantic relevance, but its occurrence is governed by syntactic principles.

The impossibility of the article in Rumanian (23a) and in Spanish (24a) cannot be accounted for by just assuming that demonstratives and articles are of one and the same category (so-called determiners), as often assumed without discussion for other well-studied languages such as English and French. This assumption, in fact, would be immediately disproved by the cooccurrence of demonstrative and article in (23b) and (24c,d).

Spanish (24c,d) show that the demonstrative starts in a very low Spec, which looks postnominal after N movement à la Cinque (1994). Rumanian shows that it can land in an intermediate Spec immediately lower than D. Comparison with Modern Greek (25) shows that the demonstrative can actually appear in either of these positions in the same language.

A derivative analysis of all positions of the demonstrative in each separate language is forced to take this element as a maximal projection that can cross X°-positions (N° in Agr°, and D°). Once the Specifier status of the demonstrative is independently needed, a unified analysis of the cross-linguistic data in (23)-(25) can be entertained. The structure obtained is sketched in (26):

(26) $[_{DP}$ dem$_i$ $[D$ $[_{AgrP}$ t$'_i$ $[_{Agr°}N_j$ $[AgrP$ t$_i$ $[_{Agr°}$ t$'_j]$ $[_{NP}$ t$_j]]]]]]$

Demonstratives are not the only elements that can appear in SpecDP. A similar phenomenology appears in connection with pronouns. Pronouns cooccur with articles in some languages among which French (27a), Spanish (27b), Rumanian (27c). Of course, such data can be taken to be instances of adpositions. However, at the present state of the theory, it is not clear what an adposition actually is. For example Kayne (1993) has seriously questioned the possibility of right adjunction in UG. An alternative analysis that does not need make recourse to right adjunction to predict that in some languages pronouns can co-occur with articles, is one that takes pronouns to have the same distribution as the demonstrative in (27).

(27) a. *vous les enfants*
  b. *vosotros los chicos*
  c. *voi băieţi-i*
    you [the] boys

A direct piece of evidence in favour of this proposal is the actual impossiblity of the co-occurrence of pronouns and demonstratives which would be predicted both by an analysis that takes the sequence "pronoun + Art + N" in (27) as an adposition, and by an analysis that takes demonstratives and articles to belong to the same class of elements and to occur in the same structural position:

(28) a.   *vous ces enfants*
    b.   *vosotros estos chicos*
    c.   *voi băieţi-i aceştia*

SpecDP is the highest position in the extended nominal projection in the sense of Grimshaw (1991). However, it can be preceded by a certain number of quantifiers. This is one of the reasons why Q is taken in Giusti (1991) to be external to the DP and having a DP as its complement.

As a matter of fact, the quantifiers that appear to precede lexical articles in well-known languages are the few that select a definite DP like *all* in (29):
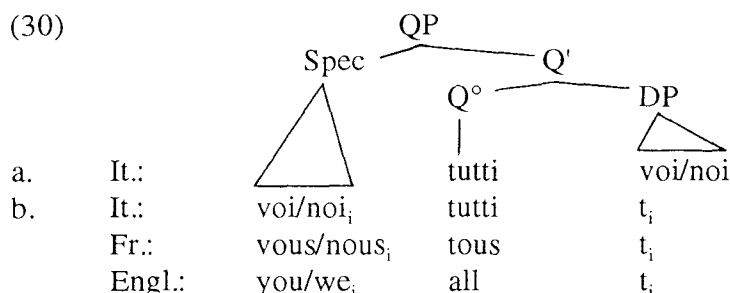
(29) a. Fr.:   *tous les enfants*
    b. Sp.:   *todos los chicos*
    c. Rum.:   *toţi băieţi-i*
              'all the boys'

Notice that in these languages the presence of the article (or of a demonstrative) is obligatory in (29).

On the other hand, quantitative adjectives appear at the right side of an article or a demonstrative as in *the many boys*. Their position is therefore inside the extended nominal projection, as depicted in (III), and as will be argued for in 2. below.

1.2. *The properties of SpecQP*

One piece of evidence to distinguish quantifiers from quantitative adjectives, as discussed in Giusti (1994, 1995), is the possibility for the complement of the quantifier to raise to SpecQP. In (30) roughly corresponding to (II) above, the complement DP of the quantifier can raise in Italian and must raise in French and English if it is a pronoun:

(30)

```
                           QP
                 Spec  ―――――― Q'
                 /\        Q° ―――――― DP
                /  \        |         /\
   a.   It.:   /____\     tutti     voi/noi
   b.   It.:   voi/noiᵢ   tutti     tᵢ
        Fr.:   vous/nousᵢ tous      tᵢ
        Engl.: you/weᵢ    all       tᵢ
```

In all these three languages, movement of a non-pronominal DP is disallowed. It is not clear at the moment what determines this pronoun vs. full DP asymmetry. For a quantitative adjective this possibility is ruled out on general principles, since it is inserted in a configuration where there is no proper object of movement that excludes the quantifier and includes the string that follows it and there is no proper position that such movement could target.

Let us go back to Bosnian now. It is expected that the demonstrative preceding a quantity noun agrees with the noun in that it is part of its extended projection. It is also not surprising that quantifiers cannot be modified by a demonstrative, considered that quantifiers can be modified only by adverbs. On the other hand, SpecQP is available for the movement either of a pronoun, as in (15) above, or of a demonstrative that has previously landed in the SpecDP of its complement noun phrase in (21). Movement of a demonstrative from the embedded SpecDP to the SpecDP of a quantity noun is possibly ruled out by the mismatch in features that would arise. The demonstrative would have to agree with the embedded noun in its basic position and with the quantity noun in the landing site.

What is to be explained is the absence of such movement in other languages such as French, Italian, Rumanian. Once again, it appears to be reasonable to reduce this property of Bosnian to its rich case morphology. In French, Italian, Rumanian, the quantifier assigns abstract partitive case. The demonstrative, therefore, needs to remain inside the DP where such case is assigned. In Bosnian, on the other hand, the quantifier assigns morphological genitive to its complement. The demonstrative can therefore escape the DP, given that its case is fully recoverable. Notice that it can escape the DP even if QP is not present, and that it can move out of the QP as well:

(32)   a.   *ovu knjigu*   *čitam*
            this book   read-1PS SING
            'I read this book.'
       b.   *čitam ovu knjigu*
       c.   *OVU*   *čitam*   *knjigu (ne onu)*
            this   read-1PS SING   book not that
       d.   *OVIH*   *čitam*   *mnogo knjiga (ne onih)*
            these GEN read-1PS SING   many books GEN (not those)

Giuliana Giusti and Nedžad Leko

2. Quantifiers vs. quantity adjectives

In Giusti (1991) it is argued that a lexical entry such as *many* in English or *molti* in Italian has ambiguous status between two different categories and, consequently, can appear in two different structural positions: in (33a) it is a quantifier, it selects the following noun and assigns it (abstract) partitive case; in (33b) it is a modifier of the noun and, as such, cannot impose selectional restrictions on it. This proposal is supported, among other facts, by the contrast that arises with *ne*-cliticization in Italian, which is possible in the presence of a quantifier such as *molti* as in (34a) but not in the presence of an adjectival quantifier such as *molti* in (34b):

(33)   a.   *sono arrivati molti ragazzi*
          are   arrived many boys
          "many boys have arrived"
       b.   *sono arrivati i molti ragazzi che conosco*
          are arrived the many boy I know
          "the many boys I know have arrived"

(34)   a.   *ne sono arrivati molti*
          CL-GEN are arrived many
          "many (of them) arrived"
       b.   **ne sono arrivati i molti*
          CL-GEN are arrived the many

In (34a) *ne* binds a full DP position in the complement of *molti*. In (34b) no such position exists, given that *molti* is an adjective inside the DP projection.

2.1. Bosnian evidence

Bosnian gives us stronger evidence in favour of this hypothesis.
       i) Bosnian has two different lexical items having the same root *mnog-* and expressing the meaning 'many': a real quantifier *mnogo* (uninflected) and an adjectival quantifier *mnogi* (fully inflected for gender, number and case):

(35)   a. *Mnogo studenata/ studentica/ goveda je došlo.*
          many students-M/ students-F/ cattle-N GEN AUX-3 SG came-N SG
       b. *Vidio sam mnogo studenata/studentica/goveda.*
          (I) saw AUX 1SG many students GEN PL M/ F/cattle GEN PL N
       c. (i) *Mnogi studenti su došli.*
          many NOM PL MASC students NOM PL MASC AUX 3PL came PL MASC

    (ii) *Mnoge studentice su došle.*
        many-NOM PL FEM students-NOM PL F AUX-3 PL came-PL F
    (iii) *Mnoga goveda su došla.*
        many-NOM PL NEUT cattle-NOM PL NEUT AUX-3 PL came-PL NEUT
  d. *Vidio sam mnoge studente.*
    (I) saw AUX-1 SG many-ACC PL students-ACC PL

From these examples it is obvious that *mnogo* behaves as a head assigning genitive to its complement in (35a,b), whereas *mnogi, mnoge mnoga* in (35c,d) is an adjective which agrees in number, gender and case with the head noun. This conclusion is supported by the form we find in the predicate. In (35c(i)) it is masculine plural in agreement with the head of the subject phrase *studenti*. In (35c(ii)) it is feminine plural in agreement with the head of the subject phrase *studentice*. In (35c(iii)) it is neuter plural in agreement with the head of the subject phrase *goveda*. On the other hand, in (35a,b) we find the default agreement form neuter singular (*je došlo*). It may be treated either as a default agrement form or as an agrement form with the head of the subject phrase *mnogo*. From this we conclude that *mnogo* creates opacity for agreement with its complement noun. (35d), finally, shows that *mnogi* also inflects for case.

    In contrast to *mnogo*, which has the adjectival counterpart *mnogi*, the majority of other quantifying expressions belong to only one category: *malo, nešto, dovoljno, dosta* are only quantifiers and have no adjectival counterpart; *neki, brojni, svaki* are only adjectives and have no quantifier counterpart:

(36) a. *Malo/ nešto/ dovoljno/ dosta hrane*
      little some enough enough food-GEN FEM
      je   ostalo.
      AUX-3 SG left-NEUT SG
  b. *Hrana   je ostala.*
      food-FEM SG AUX-3 SG left-FEM SG
  c. **Mala/ nešta/ dovoljna/ dosta hrana je ostala*

(37) a. *Neka/svaka hrana   je ostala.*
      some /each food   AUX-3 SG left-FEM SG
  b. **Neko/ svako hrane je ostalo.*
      some /each food-GEN AUX-3 SG left-NEUT SG

(38) a. *Brojni   studenti   su došli.*
      numerous-MASC   students-MASC AUX-3 PL came-MASC PL
  b. **Brojno   studenata   je došlo.*
      numerous-NEUT   students-GEN   AUX-3 SG came-NEUT SG

The ungrammaticality of (36c), (37b) and (38b) is not due to a defective declension of these quantifiers, since the feminine forms of *malo, dovoljno, brojni* exist as descriptive adjectives that mean 'small', 'sufficient' and

'numerical', cf. (39):

(39) a. (i) mali   čovjek
               little-MASC   man
           (ii) *mala*   *žena*
                little-FEM   woman
           (iii) *malo*   *dijete*
                 little-NEUT   child
      b. (i) *On je dovoljan*   učenik.
               He is sufficient-MASC pupil-MASC
           (ii) *Ona je dovoljna*   učenica.
                she is sufficient-FEM pupil-FEM
           (iii) *On je napredovao od dovoljnog do odličnog učenika.*
                 he progressed from sufficient-GEN M to excellent-GEN M pupil-GEN M
      c.   *brojno   stanje   neprijateljskih   vojnika*
              numerical state enemy-GEN(Adj) soldiers-GEN PL

ii) Another contrast that we find in connection with these two different classes of quantity expressions is the possibility of pronominalization of the complement noun:

(40) a. *Vidio sam*   *mnogo*   *studenata/njih.*
          (I) saw AUX-1 SG   many   students-GEN PL/them-GEN PL
      b.. *Vidio sam ih*   *mnogo.*
           (I) saw AUX-1 SG   them-GEN PL Cl many
      c. *Vidio   ih*   *je*   *mnogo.*
          (he) saw   them-GEN PL Cl AUX-3 SG many

(41) a. *Vidio sam*   *mnoge/ neke*   *studente/*njih.*
          (I) saw AUX-1 SG   many/some-ACC   students-ACC PL/them-ACC PL
      b. *Vidio   sam*   *(*ih)*   *mnoge/ neke.*
          (I) saw   AUX-1 SG   them-GEN PL Cl many some

The impossibility to pronominalize the complement of *mnoge/neke* is explained by the hypothesis that *mnoge* is an adjective, parallel to *dobre* 'good' in (42). Adjectives cannot be left in place by movement of the noun phrase since they are part of the projection moved. On the other hand, *mnogo* allows its complement to move out of the quantifier phrase.

(42) a. *Vidio   sam*   *dobre*   *studente/ *njih.*
          (I) saw   AUX-1 SG   good-ACC PL MASC students-ACC PL MASC/them
      b. **Vidio sam studente dobre/ ih dobre.*

Svi ('all') has an ambiguous behaviour: It behaves like an adjective in that it agrees with the noun and does not allow a pronoun in the basic position of its complement, as shown in (43a). However, it behaves like a quantifier in that it can modify a weak pronoun preceding

it or moved further up, as shown in (43b-c):

(43) a. *Vidio*   *sam*   *sve studente/*njih.*[8]
          (I) saw   AUX-1 SG   all students-ACC PL/them
      b. *Vidio*   *sam*   *ih   sve.*
          (I) saw   AUX-1 SG   them-ACC PL Cl all
      c. *Vidio   ih   je   sve.*
          (he) saw them-ACC PL Cl AUX-3 SG   all

This peculiar behaviour of *svi* can be explained along the following lines. *Svi* as a quantifier is the only quantifier that does not assign GEN due to its semantics. In fact, it does not select a partitive complement.[9] Since *svi* does not assign Case, it cannot select a full DP. An adjectival counterpart completes the paradigm. The adjective can modify a noun but not a pronoun (43a). *Svi* as a quantifier can have a pronominal complement that moves out of the basic position into SpecKP^Q. In this position it can receive Case by Spec-Head agreement with K^Q, e.g. ACC in (43). It can stay in SpecKP^Q, as in (43b) or move further up, as in (43c). A full noun cannot move the way a weak pronoun does, it is therefore excluded in this configuration.

2.2. *Apparent problems*

Up to this point we have discussed the evidence supporting our proposal. We now look at some possible couterexamples. We think that we are able to show that they are only apparent.

i) In our proposal, it is not expected that adjectival quantifiers can appear floating, if floating is the result of movement of the DP embedded into the QP. However, floating adjectival quantifiers are found in Bosnian (44) along with floating quantifiers (45):[10]

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8.   Notice that *njih/ih* in this case is possibly ACC, not GEN. It is impossible to check this morphologically, due to the syncretic form of the two cases on the pronoun.

9.   In Italian this can be tested by cliticizing the DP complement of the quantifier:
          (i)   ne ho visti molti
                    CL-GEN [I] saw many
          (ii)   li ho visti tutti
                    CL-ACC [I] saw all

10.   Notice that example (45b) shows that nominative case assignment and subject-predicate agreement is done in a position which is lower than the final position of the DP. In fact, in this position we can find a DP marked for any case, showing that this is not a case assigning position. This explains the contrast between Bosnian (45b) on the one hand and Italian (i) and English (ii) on the other:

          (i)   a.   *Studenti sono arrivati molti.*
                  b.   *Gli studenti sono arrivati tutti.*
          (ii)   a.   *Students have many arrived.*
                  b.   *The students have all arrived.*

(44)   a.   *Svi/ mnogi/ neki studenti su*   *stigli.*
                all many some students   AUX-3 PL   arrived-PL MASC
         b.   *Studenti*   *su*   *svi/ mnogi/ neki*   *stigli.*

(45)   a.   *Mnogo studenata*   *je*   *stiglo.*
                many students-GEN PL   AUX-3 SG   arrived-NEUT SG
         b.   *Studenata*   *je*   *mnogo*   *stiglo.*

(44) is not a serious counterexample to our proposal, since also descriptive adjectives can appear floated in the same construction:

(46)   a.   *Dobri studenti su*   *stigli.*
                good students AUX-3 PL   arrived-PL MASC
         b.   *?Studenti su dobri stigli.*

      ii) Another and more serious problem is the possibility of the genitive complement introduced by a preposition with indefinite adjectival quantifiers:

(47)   a.   *Neki od studenata*   *su*   *spavali.*
                some of students-GEN PL   AUX-3 PL   slept-PL MASC
         b.   *Vidio*   *sam*   *neke od studenata.*
                (I) saw   AUX-1 SG   some of students-GEN PL

The presence/absence of a prepositional partitive complement in Italian can be used to test the head status of a quantifier.

(48)   a.   *Conosco molti degli amici di Maria.*
                [I] know many of the friends of Mary
         b.   **Conosco i molti degli amici di Maria.*
                [I] know the many of the friends of Mary

The presence of such a prepositional phrase appears to be dependent on the indefinite status of the quantifier both in Italian and in Bosnian and contrary to English:

(49)   a.   **Conosco tutti degli amici di Maria.*
                [I] know all of the friends of Mary
         b.   **Vidio sam*   *sve od Marijinih prijatelja.*
                (I) saw AUX-1 SG   all of Mary's friends
         c.   *I know all of Mary's friends*

The complement of the quantifier *molti/many* in (i)-(ii) cannot move to the subject position where nominative is assigned because it already has (abstract) partitive case (which in Italian surfaces as *ne* when it is pronominal, cf. (34a)).

This problem can be solved along the following lines. There is an important difference between Bosnian and Italian adjectival quantifiers: in Italian they can only appear in definite noun phrases, losing their indefinite/partitive meaning, in Bosnian this is not the case. There is no interpretive difference between *mnogo studenata* and *mnogi studenti*. Let us assume that the partitive prepositional phrase introduced by *od/ di* 'of' can only appear with an indefinite noun phrase. This explains the impossibility of (49b) and the possibility of (48a). (49c) shows that in English a partitive PP introduced by *of* is possible even with definite DPs.

iii) The fact that adjectival quantifiers in Italian only appear in definite noun phrases while in Bosnian can also appear in indefinite noun phrases, also explains the incompatibility of a demonstrative with *neki* 'some' which was classified as an adjectival quantifier:

(50) a. *neki oni studenti*
          some those students
      b. *oni neki studenti*

(50) contrasts sharply with Italian (51a) and patterns with (51b):

(51) a. *questi molti studenti*
          these many students
      b. *questi alcuni studenti*
          these some students

In Giusti (1991) the impossibility of *alcuni* in adjectival position was related to an idiosyncratic property of the Italian lexicon that was taken to have *alcuni* listed only under the class of quantifiers. Bosnian shows us that the semantics of 'some' is intrinsically incompatible with a referential expression (the demonstrative).

3. Numerals

3.1. Numerals that behave like quantity nouns

(i) *Desetina* 'ten', *stotina* 'hundred', *hiljada* 'thousand', *milion* 'million', *milijarda* 'billion' have full declension as feminine nouns, except *milion* that declines as a masculine noun. They agree for gender with a predicate in the singular. They also have selectional requirements on the noun that follows which must be genitive plural.

(52) a. *Stotina*   *muškaraca*   *je*   *stigla.*
          hundred-NOM   men-GEN PL   AUX-3 SG   arrived-FEM SG
      b. *Vidio je*   *stotinu*   *muškaraca.*
          (he) saw   hundred-ACC   men-GEN PL
      c. *Bojao se*   *stotine*   *muškaraca.*
          (he) was afraid   hundred-GEN   men-GEN PL

d.   *Pisao je*   *stotini*   *muškaraca.*
      (he) wrote   hundred-DAT   men-GEN PL

These numerals can be modified by a demonstrative or by an adjective that agrees with the numeral for φ-features:

(53)   a.   *Ona stotina*   *muškaraca*   *je*   *stigla.*
              that hundred men-GEN PL   AUX-3 SG arrived-FEM SG

        b.   *Vidio*   *je*   *onu*   *stotinu*   *muškaraca.*
              (he) saw AUX-3 SG that-ACC hundred-ACC   men-GEN PL

(54)   a.   *Imali*   *smo*   *jadnu*   *stotinu*   *nenaoružanih muškaraca.*
              (we) had   AUX-1 PL miserable-ACC hundred-ACC unarmed men GEN PL
              "we hardly had a hundred unarmed man"

        b.   *Imali smo*   *stotinu*   *jadnih*   *nenaouružanih muškaraca.*
              (we) had   hundred-ACC miserable-GEN unarmed-GEN men-GEN PL

Notice the different meaning of *jadnu*: in (54a) where it modifies the numeral it means "scarce", in (54b) where it modifies the noun it means "miserable".

They do not allow for movement of the demonstrative or the pronoun out of their complement:

(55)   a.   *Stotina*   *ovih*   *muškaraca je*   *stigla.*
              hundred this-GEN   men-GEN   AUX-3 SG arrived-FEM SG

        b.   *Ovih stotina muškaraca je stigla.

(ii) There is a group of numerals ending in *-ica* that also have full nominal feminine declension, like certain neuter plural nouns. These optionally trigger agreement for these features with the predicate (but "semantic agreement" is allowed), and select exclusively a human masculine plural noun as their complement to which they assign genitive:

(56)   a.   *Dvojica/ trojica/ četvorica/ petorica/...* *muškaraca*   *su stigla.*
              two   three four   five   men-GEN PL arrived-NEUT PL

        b.   *Ova*   *dvojica muškaraca*   *su stigla.*
               this-NEUT PL two   men-GEN PL arrived-NEUT PL

The complement of both kinds of numeral nouns can be a pronoun. It can only follow (57) and never precede (58) the numeral noun:

(57)   a.   *Stotina*   *vas*   *je*   *stigla.*
              hundred   you-GEN   AUX-3 SG   arrived-FEM SG

        b.   *Dvojica*   *vas*   *su*   *stigla.*
              two   you-GEN   AUX-3 PL   arrived-NEUT PL

(58) a.   *Vas stotina je stigla.*
      b.   *Vas dvojica su stigla.*

We propose that the structural position of these numerals is that of a quantity noun. They have, in fact, their own functional projection where gender and case are realized. The demonstrative that precedes them agrees with them, it is therefore in SpecDP, in our framework. Furthermore, they do not allow movement of their complement to a high Spec, parallel to quantity nouns and differently from real quantifiers.

The structure is given in (59):

(59)

```
        DP/KP
   Spec ⌢ D'/K'
    △   D°/K° ⌢ NP
   / \         N° ⌢ DP/KP[GEN]
  /___\        |      ◠
   ovu        stotinu   muškaraca
```
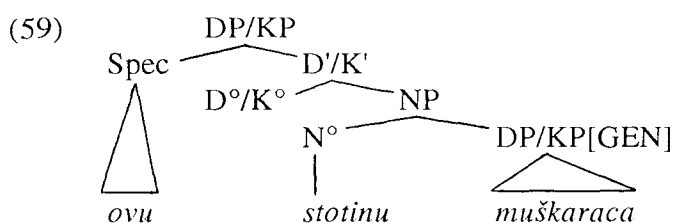
3.2. Numeral Quantifiers

(i) Numerals from 'five' onwards, excluding compounds with 'one', 'two', 'three', 'four' behave like quantifiers in that they are indeclinable (60), they cannot be modified by an agreeing adjective (61), they allow a part of the complement noun phrase to move to their specifier (62):

(60)   *Pet/sto   muškaraca/ žena/ goveda   je   stiglo.*
        five/hundred men/women/cattle-GEN PL   AUX-3 SG   arrived-N SG

(61) a.   *ovo pet/ sto muškaraca*
      b.   *jadno pet/ sto muškaraca*

(62) a.   *Ovih/ jadnih   sto   muškaraca   je stiglo.*
            these/miserable-GEN   hundred   men-GEN   AUX-3 SG arrived-NEUT SG
      b.   *Sto ovih/ jadnih muškaraca je stiglo.*

Notice that in (62a,b) we do not have the same contrast in the different meaning of *jadnih* 'miserable' (GEN PL) that we find in (54). There, in (54a) *jadnu* modified the numeral noun, while in (54b) it modified the complement of the numeral. In (62), on the other hand, it always modifies the complement of the numeral. The structure in (62a) derives from (62b) by movement of *ovih/ jadnih* to the Spec of QP. For this reason, the interpretation of the two examples is basically the same.

If a pronoun appears as a complement of these numerals, it can move to SpecQP, even though marginally:

(63) a. *Pet vas je stiglo.*
          five you-GEN AUX-3 SG arrived-NEUT SG
      b. *?Vas pet je stiglo.*

These numerals can appear in nominative, accusative and genitive contexts but not in other oblique cases, parallel to what we have noticed for real quantifiers:

(64) a. *Pet muškaraca   je   stiglo.*
          five men-GEN PL   AUX-3 SG   arrived-NEUT SG
      b. *Vidio   je   pet muškaraca.*
          (he) saw   AUX-3 SG   five men-GEN PL
      c. *Bojao se   pet muškaraca.*
          (he) feared   five men-GEN PL
      d. **Pisao je   pet muškaraca.*
          (he) wrote (to)   five men-GEN PL

(ii) The collective numerals *dvoje, troje, četvoro, petoro,* etc. also belong to this class. These numerals require so-called collective nouns such as *djeca* 'children', *pilad* 'chicken' *telad* 'calves', *dugmad* 'buttons', etc. as their complement.

The examples in (65) show that these numerals assign genitive to their complement and trigger neuter singular agreement with the predicate. These elements too can appear only in nominative (65a), accusative (66a) and genitive (66b) and in the complement of prepositions (66c), not in dative (66d) or other inherent cases:

(65) a. *Dvoje djece   je   stiglo.*
          two   children-GEN AUX-3 SG   arrived-NEUT SG
      b. *Djeca   su   stigla.*
          children-NOM N PL AUX-3 PL   arrived-NEUT PL

(66) a. *Vidio sam   dvoje djece.*
          (I) saw   two children-GEN
      b. *Bojao se   dvoje   djece.*
          (he)feared two   children-GEN
      c. *Pokazao je   prema   dvoje   djece.*
          (he) pointed   towards   two   children-GEN
      d. **Pisao je   dvoje   djece.*
          (he) wrote (to)   two   children-GEN

Furthermore, movement of a pronominal complement is obligatory:

(67) a. *Vidio sam   vas   dvoje.*
          (I) saw AUX-1 SG you-GEN   two
      b. **Vidio sam dvoje vas.*

(iii) Finally, in this group we shall include the nominative and accusative forms of 'two', 'three', and 'four': *dvije, dva, tri, četiri.*

(68)	a.	*Dva muškarca/goveda*	*su*	*stigla.*
		two man/cattle-GEN PAUC	AUX-3 PL	arrived-NEUT PL
	b.	*Dvije žene*	*su*	*stigle.*
		two woman-GEN PAUC	AUX-3 PL	arrived-FEM PL
	c.	*Tri/ četiri muškarca/goveda*	*su*	*stigla.*
		three four man/cattle-GEN PAUC	AUX-3 PL	arrived-NEUT PL
	d.	*Tri/četiri žene*	*su*	*stigle.*
		three/four woman-GEN PAUC	AUX-3 PL	arrived-FEM PL

This group assigns what we could call paucal genitive (cf. also Franks (1994)). Bosnian used to have three grammatical numbers singular, plural, and dual. Dual was lost in the development of the language, but the remnants survive in contexts with numerals *two, three* and *four*. Leko (1995) shows that the forms found after *dva, tri, četiri* should be treated as genitive paucal, not genitive singular forms, although in the majority of cases the two forms are not distinct.

These numerals behave like quantifiers proper in that they can appear only in nominative, accusative and genitive contexts:

(69)	a.	*Vidio sam dva*	*muškarca/ goveda*	'I saw two men/ cattle/ women.'
		dvije	*žene*	I saw two women
	b.	*Bojao se dva*	*muškarca/ goveda.*	'He was afraid of two men/ cattle/ women.'
		dvije	*žene*	
	c.	**Pisao je dva*	*muškarca/ goveda.*	'He wrote to two men/ cattle/ women.'
		dvije	*žene*	

They allow for and actually prefer movement of the modifier of the following noun into their Spec (70). But, differently from the other quantifiers they do not allow pronouns in their complement (71), possibly due to the absence of a paucal form of the pronoun:

(70) a. *Vidio sam dva ona   muškarca.*
          (I) saw   two those-GEN PAUC   man-GEN PAUC
      b. *Vidio sam ona dva muškarca.*
      c. *Vidio sam dva prva   muškarca.*
          (I) saw   two first-GEN PAUC   men-GEN PAUC
      d. *Vidio sam prva dva muškarca.*

(71) a. **Dva vas neka dodje sutra.*
          two you-GEN let come tomorrow

b. **Vas dva neka dodje sutra.*

This is confirmed by comparison with *dvoje* above. *Dvoje* assigns genitive plural and therefore allows a pronoun in its complement.

The structure we propose for this class of numerals is (II), repeted here as (72):

(72)
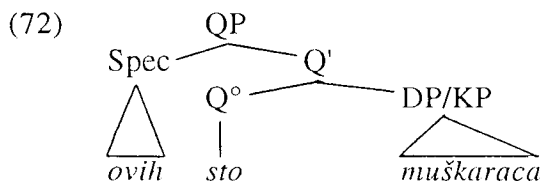
3.3. Adjectival Numerals

Fully adjectival numerals are: (i) all ordinals such as *prvi, prva, prvo* 'first'; (ii) cardinals such as *jedni, jedne, jedna* 'one', *dvoji, dvoje, dvoja* 'two', *troji, troje, troja*, 'three', etc. These numerals are treated in traditional grammars as plural forms of collective numerals and they require as their head noun *pluralia tantum* such as *svatovi* 'wedding procession', *naočale* 'spectacles', *kola* 'carriage', or nouns denoting one whole for use but consisting of a pair of separate items, such as *rukavice* 'gloves', *cipele* 'shoes'; (iii) the oblique forms of *two, three,* and *four* - genitive: *dviju* (FEM), *dvaju, triju, četiriju*; dative/ instrumental/ locative: *dvjema* (FEM), *dvama, trima, četirma*.

First of all they are declinable, and they agree with the noun that follows.

(73) a. *Prvi/ drugi/.. muškarac   je   stigao.*
          first second   man-NOM   AUX-3 SG arrived-MASC SG

      b. *Jedni/ dvoji/... svatovi   su   stigli.*
          one two   wedding procession   AUX-3 PL arrived-MASC PL

      c. *Bojao se   dvaju   muškaraca.*
          (he) feared   two-GEN   men-GEN

      d. Pisao je   dvama   muškarcima.
          (he) was writing (to)   two-DAT   men-DAT

Notice that *svatovi* has the declension of masculine plural nouns and always triggers plural features on the verb.

They cannot modify a pronoun:

(74) a. *Prve   žene   su   stigle.*
          first-FEM   women-NOM   AUX-3 PL arrived-FEM PL

      b. *One   su   stigle.*
          they   AUX-3 PL arrived-FEM PL

c. *Prve one*   *su*   *stigle.*
first-FEM they-FEM AUX-3 PL arrived-FEM PL

d. *Svatovi*   *su*   *stigli.*
wedding procession AUX-3 PL arrived-MASC PL

e. *Oni*   *su*   *stigli.*
they AUX-3 PL arrived-MASC PL

f. *Jedni oni*   *su*   *stigli.*
one they   AUX-3 PL arrived-MASC PL

g. *Bojao se*   *njih.*
(he) feared   them-GEN PL

h. *Bojao se*   *dvaju*   *njih.*
(he) feared   two-GEN them-GEN PL

We conclude that these numerals behave like adjectives. Their structure is given in (75):

(75)
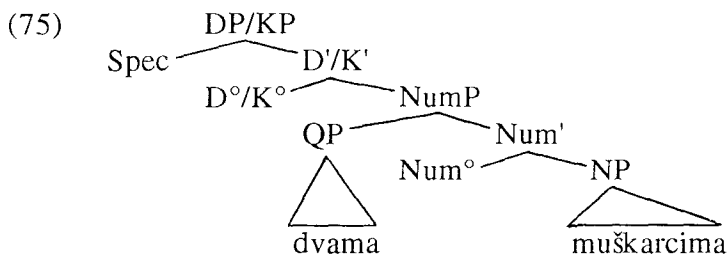
4. Conclusions

Not always a unifying analysis is the correct one. In this paper we have proposed to divide what are usually called "quantifiers" into three different classes: quantity nouns, quantifiers proper, quantity adjectives. This tripartition has proved fruitful in the analysis of different syntactic phenomena that arise when quantifiers are present. The different behaviour of each of the classes proposed with respect to the different syntactic constructions discussed in this paper make the tripartition necessary, at least in the language we have considered, namely Bosnian.

If we lose in categorial economy by subclassifying apparently similar elements into three different classes, we economize in crosslinguistic perpective in that this subclassification has already proven to be necessary also in other languages, as proposed in Giusti (1991) for Romance and Germanic and as briefly summarized in the course of this paper.

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Complementizer Deletion and Verb Movement in Italian

Cecilia Poletto

University of Padua - CNR

1. *Introduction*

In this paper I will examine a well known phenomenon in Standard Italian (cf. Rizzi (1982)) , namely Complementizer Deletion (CD). I will try to put forth an analysis of this effect as verb movement to a position above AgrP which will be specified in the course of the discussion.

I will assume a combination of Cinque (1995) and Rizzi (1995) proposals about functional projections: Rizzi adopts a split CP perpective and gives arguments for at least five distinct CP projections, each of which hosts different types of elements. Cinque (1995) makes a similar move in the IP domain, providing evidence for a very fine grained functional structure on the basis of verb (past participle and inflected verb) and on adverb positions. Combining the two proposals we obtain a very rich structure of the sentence that we will use in order to explain the phenomenon of CD.

The paper is organized as follows: section 2.1 considers the extension of the phenomenon and its restrictions. Section 2.2 presents a first version of the analysis, which assimilates CD to a case of V to C movement and presents three arguments in favour of this view. In section 3. I will present three arguments in favour of the hypothesis adopted here. Section 4 and section 5 both deal with the problem of the subject position. In section 4 I will disucss the problem rearding the position of the subject in CD contexts, in section 5 I will compare CD with other constructions where V to C applies.

2. Complementizer Deletion as V to C

2.1. The data

Complementizer deletion (CD) is possible in Standard Italian under some particular condition. (1) illustrates the case in point:

(1)   a.   *Credo che abbia già parlato con te*

           (I) think that (he) have(Subjunctive) already spoken with you

      b.   *Credo abbia già parlato con te*

CD is optional and stylistically marked: the sentence in (1b) is slightly more formal with respect to (1a). CD is possible only if the embedded verb is inflected for subjunctive (Subj.) (as in (1)), future (Fut.) or conditional (Cond.) as in (2) and (3) respectively: [1, 2]

(2)   *Credo sarà interessante ascoltarlo*

          (I) think it be(Fut.) interesting to listen to him

(3)   *Credo funzionerebbe meglio, se lo riparassi*

          (I) think (it) work(Cond.) better if (you) repaired it

Moreover, CD is possible only if the embedded sentence occupies the basic complement position, as in (4) and not if it is left dislocated as in (5):

(4)   a.   *Tutti credono che sia una spia*

           Everybody thinks that is a spy

      b.   *Tutti credono sia una spia*

---

1.   For some speakers CD is possible only with a subjunctive, but not with a future or a conditional. Even for speakers who accept (2) and (3), they are stylistically more marked than (1b). This seems to suggest that there is a difference between the two types of CD.

2.   Note that future morphology does not distinguish between indicative and subjunctive forms.

(5) a. *Che sia una spia, lo credono tutti*

That (he) be(Subj.) a spy, everybody believes it

b. **Sia una spia, lo credono tutti*

On the basis of these examples we can conclude that CD is submitted to at least two requirements, one regarding the position of the embedded clause, and one regarding the kind of inflection on the embedded verb. Only subjunctive, future and conditional permit CD, and only when the embedded sentence occupies a complement position.

The third restriction on CD regards the selecting verb, which must be of a particular class: [3]

(6) a. **E' pericoloso lo faccia*

It is dangerous (he) it do(Subj.)

b. *Credo lo faccia*

(I) think (he) it do(Subj.)

Note that CD is also possible when the selecting element is an adjective or, at a higher stylistic level, a noun:

(7) a. *Sono certo tu lo possa fare*

(I) am certain you it can do

b. *La probabilità si tratti di uno scambio di persona, è molto remota*

The probability (it) is an exchange of person, is very remote

Thus, CD applies when three distinct conditions are satisfied:

a. the embedded clause must be in a complement position;

b. the embedded verb must be a subjunctive, a conditional or a future indicative;

c. the selecting element must be of a special class.

---

3. We will specify the class in question in the next section.

2.2. *The analysis*

The phenomenon of CD has originally been noted by Rizzi (1982), where he connectes it to Aux to C structures, without explicitely arguing that CD is a case of verb movement to the C° position.

Scorretti (1991) has treated CD as a case similar to raising contexts, where the CP projection is not projected and the structure embedded under the main verb is simply an IP. Verbs like Italian *credere* 'believe' are similar to raising verbs in that they select an IP and not a CP as their complement.

This view, though appealing, is not the one I will take here. Instead, I will capitalize on the observation that the class of Italian verbs permitting CD is the same class that in V2 languages like German (where V2 is a matrix phenomenon) permits V2 in embedded contexts.

It seems interesting to establish a connection between Italian bridge verbs and Germanic bridge verbs, hence between Italian CD and Germanic embedded V2. [4]

I will therefore draw a parallel between the two following sentences:

(8) a. *Credo sia già partito*

(I) think (he) has already gone

b. *Ich glaube er ist schon weg*

Rendering more explicit the hypothesis I want to put forth, I will give arguments to show that CD can be treated as a case of V to C movement. The traditional analysis of V2 in Germanic languages as German, Dutch and mainland Scandinavian is well known: it treats V2 as a case of V to C° movement and movement of an XP into the SpecC position. The fact that V2 is in these languages essentially a matrix phenomenon is immediately captured by the fact that in embedded sentences a complementizer occupies the C° position preventing V to C° movement. What about our cases of embedded V2 selected by a special class of verbs (usually referred to as bridge verbs) in German and mainland Scandinavian (but not in Dutch)? This seems

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4. I will not discuss languages that have unrestricted V2 in embedded contexts, limiting the parallel to German, and mainland Scandinavian, which restrict the context of embedded V2 to the class of verbs we are considering. In the paper I will use German for the examples concerning Germanic languages.

to constitute a counterexample to the claim that the complementizer and the verb can occupy the same position. In the literature we find some proposals to solve this problem. Most proposals refer to the selectional properties of bridge verbs, which are seen as "special" in some sense: it has been proposed that bridge verbs can select a "double CP" where CP recursion occurs or that they are no selectional properties at all, as the CP projection of their complement is free from selectional features and can host V2 exactly as matrix contexts.

We will discuss a possible analysis of this problem later on. Let's assume for the moment that embedded V2 is a case of V to C at least in the subset of Germanic languages we are considering here. Hence, we can maintain the hypothesis that all instances of V2 are cases of V to C movement. This is true even in embedded contexts, where the complementizer is not realized because the inflected verb occupies its position as in (8b).

If we want to adopt this analysis for the Italian CD phenomenon as well, we can formalize our proposal as follows the difference between (1a) and (1b) is thus of syntactic nature and precisely the one illustrated in (9):

(9) a.

```
              CP
            /    \
         SPEC     C'
                /    \
               C      AGRP
               |     /    \
              che  SPEC    AGR'
                         /    \
                       AGR     TP
                        |
                      abbia
```

b.

```
           CP
         /    \
       SPEC    C'
             /    \
            C      AGRP
            |     /    \
          abbia SPEC    AGR'
                            \
                            AGR
                             t
```
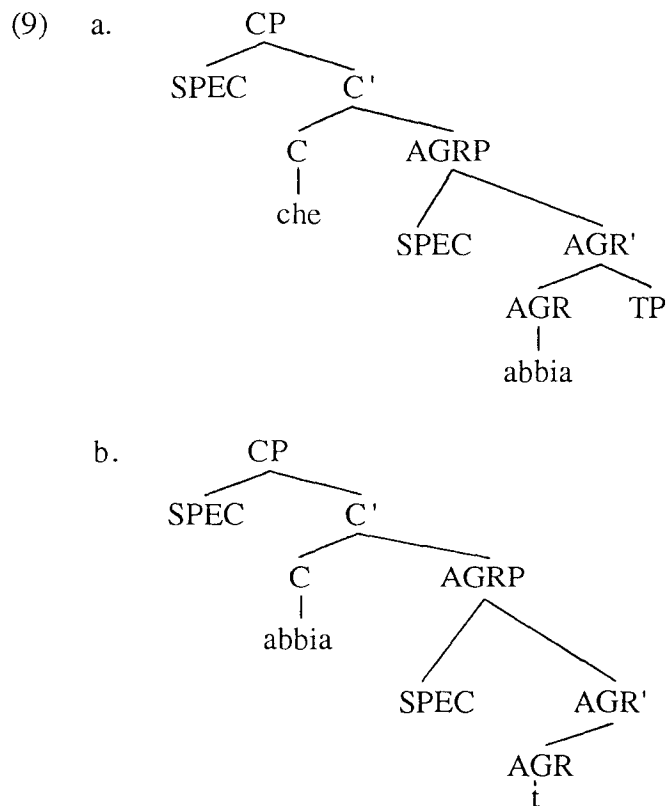
When the complementizer is not realized as in (9b) the inflected verb has moved to C°
and fills this position, exactly as in Germanic V2 contexts. Before this hypothesis can
be applied to Italian CD, we have to solve at least two problems. If CD is a case of
embedded V2:

1. why is standard Italian not a V2 language in all matrix clauses?

2. why do we find in CD contexts only half of the V2 phenomenon, namely V to C°
movement, but we do see not an XP in the SpecC position as it is the case in
Germanic languages? [5]

As for the first problem, many authors (see among others Tomaselli (1990), and
Vikner (1990)) consider V2 as a movement phenomenon triggered by a
morphological feature in C°, which must attract the verb in order to be satisfied.
Standard Italian is not a V2 language, so no morphological feature is realized in C° in
the normal case.

Nevertheless, I will propose that only in the CD phenomenon in standard Italian there
is a feature in C° which can attract the verb to C. We will see later what kind of
feature this can be. This feature must clearly be selected by the main verb. Hence I
will not propose anything new with respect to the analyses that consider embedded
V2 under bridge verbs as a consequence of special selectional properties of these
verbs.

The second problem we have mentioned considers the second half of the V2
phenomenon, namely the movement of the XP to the SpecC position. This is clearly
not possible in Italian as the following example shows:

(10) a. **Credo la mela abbia mangiato*

          (I) think the apple has (he) eaten

    b. *Ich glaube den Apfel hat er gegessen*

If we consider the V2 phenomenon as a combination of two separate types of
movement, namely V° to C° (in order to satisy a morphological feature located in the
C° head, as we have seen above) and movement of an XP to the SpecC position, the
problem disappears. In fact, it is in principle possible to have one type of movement
without the other, as they are triggered by (partially) different mechanisms.

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5.   As for the subject position see section 4.

Therefore, I will provisionally assume that CD can be treated as a case of V to C movement, though it partially differs from Germanic embedded V2, because it does not require the movement of an XP to the SpecC position. In the next section I will provide three arguments in favour of this hypothesis.

3. *Three arguments for V to C*

The first piece of evidence for treating CD as a case of verb movement to C° is constituted, as we seen in the previous section, by the parallel between CD and embedded V2 in V2 languages like Standard German. The class of elements (verbs, adjectives or nouns) which permits CD in Italian is the same class which permits embedded V2 in German:

(11) a. *Ich glaube du hast es getan*
          I think you have it done
     b. *Credo tu l'abbia fatto*
          (I) think you it have(Subj.) done

(12) a. *Es ist gefärhlich, dass du es tuest*
     b. **Es ist gefärhlich du tuest es*
     c. *E' pericoloso *(che) tu reagisca così*

(13) a. *Die Hoffnung, er wird es schaffen, nimmt ständig zu*
          The hope, he will succeed, is increasing
     b. *La speranza si tratti di un errore non è ancora svanita*
          The hope it is an error has not faded yet

Moreover, elements which do not select embedded V2 clauses in German do not permit CD in Italian:

(14) a. **Johann bereut, er konnte nicht kommen*

John regrets he could not come

b. **Mi rammarico non ti abbia parlato*

I regret (he) not to you have(Subj.) spoken

It is interesting to note that both in Italian and in German V to C is a slightly stilistically marked phenomenon. This makes look the two constructions even more the same than it seems at first sight.

The second piece of evidence for assuming that CD is verb movement to C° is provided by adverb positions. As already mentioned in the introduction, I will assume Cinque's analysis of the number and the type of FPs which correspond to IP in more traditional terms. I will not sum up all the arguments Cinque gives for proposing such a complex structure, but will limit myself to briefly sketch the higher portion of the FPs contained in IP which will be relevant to our analysis.

The structure of the higher portion of IP as proposed by Cinque (1995) is the one illustrated in (15):

(15)　　　　CP
　　　　　　　　＼
　　　　　　Eval ModP
　　　　　　luckily　＼
　　　　　　　　　　Epist ModP
　　　　　　　　　　surely　＼
　　　　　　　　　　　　　　TP
　　　　　　　　　　　　now　＼
　　　　　　　　　　　　　　　MoodP
　　　　　　　　　　　　　　perharps　＼
　　　　　　　　　　　　　　　　　　RootModP
　　　　　　　　　　　　　　　　　necessarily　＼
　　　　　　　　　　　　　　　　　　　　　　TP2
　　　　　　　　　　　　　　　　　　　　　already
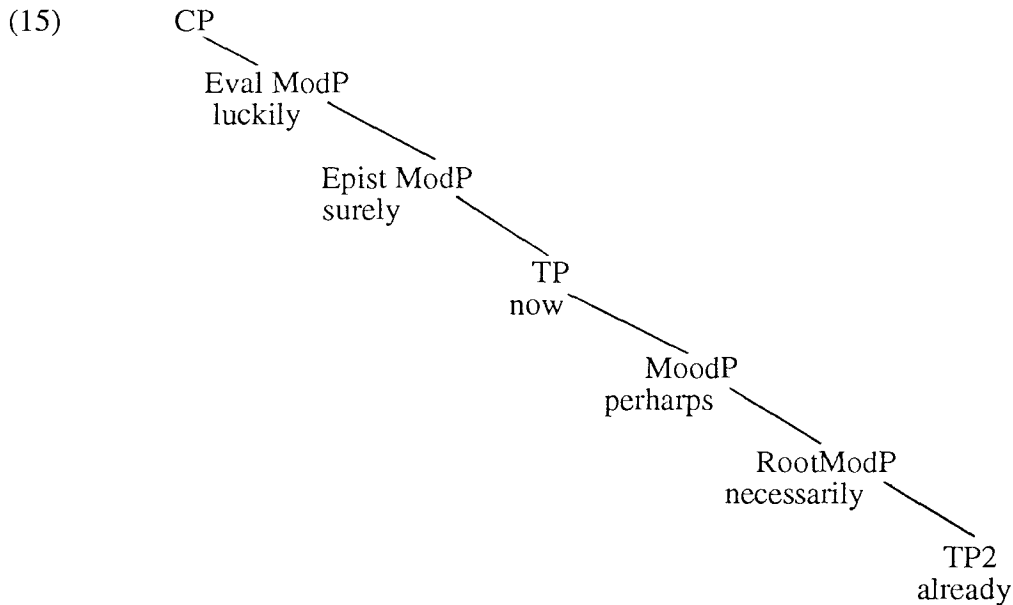
(15) indicates the order of the FPs and the adverbs located in the specifiers position of each FP. [6]

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6. I have not indicated the internal structure of each FP for space reasons.

Hence, we have a quite complex syntactic realization of mood and modality: the highest position is the one occupied by evaluative adverbs like *luckily*, located in the specifier of an evaluative modal head, the following is an epistemic modality projection which hosts epistemic adverbs. These two modal heads are followed by the TP projection where temporal adverbs are located. The following two heads are one of mood, which expresses sintactically an irrealis feature and one of root modality.

Assuming with Cinque that adverbs cannot be moved from the position where they appear (apart from topicalization, which is easily detectable) the position of adverbs with respect to the verb constitutes a good test to establish where the verb is located. As each of these projections has a head position, we could in principle expect that the verb can be found in all possible positions or only in some, perhaps depending on its inflection. [7]

Let's restrict our inquiry to subjunctive, conditional and future under bridge verbs, namely the context where CD can apply. If CD does not apply, a main verb can appear lower or higher than epistemic adverbs:

(16) a. *Credo che sicuramente lo faccia*

        (I) think that surely (he) does it

    b. *Credo che lo faccia sicuramente*

        (I) think that (he) does it surely

Nevertheless, it can occur both at the right of the higher adverb *sicuramente* 'surely' (as expected) or at the left of it as (16b) shows. Following Cinque's proposal we have to postulate that the verb can raise to the EvalMod° head crossing the position of the epistemic adverb or remain below, perhaps in the epistemic head, or even lower down in the structure.

Main verbs cannot move to the left of evaluative adverbs as (17) shows: [8]

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7.   Cinque proposes that the verb can stop in a head position if it is marked strong for the feature corresponding to the head.

8.   The adverb *fortunatamente* 'luckily' can be found in a right dislocated position, with the typical pause intonation. We will not consider this case.

(17) a. *Credo che fortunatamente lo faccia sempre*
          (I) think that luckily (he) does it always

      b. **Credo che lo faccia fortunatamente sempre*
          (I) think that (he) does it luckily always

Again following the structure presented in (15) we can interpret the contrast in (17) as showing that the verb cannot move higher than the evaluative modal head.

Let's now examine the same examples where CD has applied:

(18) a. **Credo sicuramente lo faccia*
          (I) think surely (he) does it

      b. *Credo lo faccia sicuramente*
          (I) think (he) does it surely

Note that if the complementizer is deleted, the verb has to cross the epistemic adverb raising higher, while this movement is not obligatory at all in non-CD contexts. We have seen that in non-CD contexts the verb is not forced to move to the EvalMod° head leaving the epistemic adverb at its left.

However, the movement to the left of epistemic adverbs becomes obligatory when the complementizer is not present. The relevant contrast is thus the one in (19):

(19) a. *Credo che sicuramente lo faccia*
          (I) think that surely (he) does it

      b. **Credo sicuramente lo faccia*
          (I) think surely he does it

This fact has a natural explanation following the idea I am proposing here, namely that CD is an instance of V to C movement. As the verb has to move to C°, it must occur in a higher position with respect to epistemic adverbs. Hence, it must move not only to the EvalMod head, but higher, and precisely to the C° position. This is not the case for the non-CD context, where the verb can move to EvalMod but can also remain in a lower head position.

If our claim that the verb moves to C° in CD contexts is correct, we expect that the same type of judgment is found with evaluative adverbs: they must be found at the

right of the verb which has raised to C° and cannot occur at its left as it is the case in non-CD contexts:

(20) a. **Credo fortunatamente lo faccia sempre*
(I) think luckily (he) does it always

b. **Credo lo faccia fortunatamente sempre*
(I) think he does it luckily always

(20a) is out, but (20b) is also ungrammatical, if a dislocation intonation is excluded. It is not clear why the evaluative adverb cannot occur in (20b). One could think that this type of adverb needs a sort of Spec-head agreement relation as it is the case for other types of elements (see for example Rizzi (1991) for wh elements, Haegemann and Zanuttini (1991) for negative XPs) and that it cannot occur (apart from the right dislocated position) if the verb has not remained in the EvalMod° head. However, as this point needs a detailed discussion on this adverb type, we will leave the problem open, noting that the fact that (19a) is out already confirms our hypothesis that the verb has to raise to C° in CD contexts but not when the complementizer is overtly realized. The relevant contrast is the one between (17a) and (20a), here repeated as (21):

(21) a. *Credo che fortunatamente lo faccia sempre*
(I) think that luckily (he) does it always

b. **Credo fortunatamente lo faccia sempre*

The third argument in favor of CD as verb movement is given by a typological observation: Northern Italian varieties are losing all instances of V to C movement. While in the older varieties V to C is widely attested, all the modern dialects show a tendency to reduce more and more the few cases of V to C movement which are still possible.

In the modern Venetian variety for instance Aux to C and V to C in interrogatives and exclamatives are impossible:

(22) a. **Cossa magnelo?*   Venetian
What eats+he?

   b.   **Avendo Nane parla' co ti*

       Having John spoken with you

   c.   **Quanto magnelo!*

       How much eats+he!

(22) shows that in modern Venetian the C position is not more available to the inflected verb. Note that in this dialect CD is also ungrammatical:

    (23)   **Credo el sia za riva'*

            (I) think he be(Subj.) already come

If CD is taken to be an instance of V to C movement, it is possible to treat it as a subcase of a general tendency, which is shown by all Northern Italian dialects, namely the tendency to lose V to C in all contexts of its application.

In all the contexts represented in (22) and (23) V to C is substituted by a complementizer in C° or by a more complex structure: exclamatives generally show a complementizer, interrogatives a complementizer or a cleft structure and the Aux to C construction is translated as an embedded finite clause.

Not all the dialects are so advanced like Venetian in losing V to C movement: in general the first cases which are lost are Aux to C and exclamative V to C, while the interrogative case is retained, but this is a tendency more than a regularity. More precisely, there seems to be an implication across dialects regarding the phenomenon of subject clitic inversion: this can be found in interrogative, exclamatives and optative clauses. The last case which is retained is always the interrogative. As for the relation between Aux to C and interrogative V to C, it is not possible to formulate a strict implication, but it is a fact that Northern Italian Dialects are generally losing both constructions. [9]

Therefore, if we treat CD as a phenomenon involving V to C movement, we have an immediate explanation of the striking crosslinguistic fact that CD and other V to C movements are being abandoned in all the Northern Italian domain.

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9.   Another interesting observation is given by the fact that Old Italian has much more cases of CD than modern Italian and in a parallel fashion V to C is more widespread see Benincà (1995) on this point.

In this section I have discussed three arguments which support the idea that CD is a case of verb movement: the first regards the parallel between the CD contexts and embedded V2 in German, the second regards adverb positions with respect to the inflected verb. I have shown that it is impossible to leave the inflected verb in the EvalMod° head when the complementizer is omitted, but not when the complementizer is present. The third argument is a typological observation: Northern Italian dialects are losing all instances of V2, and CD as well. In section 4. we will consider a possible fourth piece of evidence for our analysis addressing the problem of the subject position in CD contexts. Before doing this we have to refine our analysis slightly modifying Rizzi's (1995) proposal of a split CP.

3.1. *Refining the proposal*

We have assumed so far that CD is analogous to the verb second phenomenon in the sense that it is an instance of V to C movement. We mentioned German, and mainland Scandinavian languages, which exhibit embedded verb second under bridge verbs. We have seen that in German no complementizer appears when the verb moves to C° in the context just mentioned. However, this is not true of all the Germanic languages we are considering: mainland Scandinavian languages show embedded V2 and a complementizer which appears above the CP where the verb is moved:

(24) a. *Ich glaube du hast es getan*   German
         I think you have it done
     b. *Hun sagde at vi skulle ikke kobe denne bog*   Danish
         She said that we shoud not buy this book

Vikner (1990:103) corresponding to (24b) suggests that there are two C positions in these structures. He considers the phenomenon of embedded V2 as a case of CP recursion. We do not need to postulate CP recursion as Rizzi's Theory of a split CP provides us with the tools to account for cases as (24b).

The claim that there exists more than one C position has been put forth in a number of recent work. Hoekstra (1992) shows that in Dutch dialects three distinct C

positions are available, as three complementizer can cooccor, as illustrated in (25) (which corresponds to Hoekstra (1992):(1b)):

(25) *Dat is niet zo gek als of dat hij gedacht had*
That is not as crazy C1 C2 C3 he tought had

Hoekstra notes that it is possible to coordinate sentences at the level of the first, the second or the third complementizer, as in (26) (Hoekstra (1992):(4)):

(26) a. *Als of dat   hij koning is en   dat zij koningin is*
C1 C2 C3 he   king   is and C3 she queen is

b. *Als of dat   hij koning is en   of dat   zij koningin is*
C1 C2 C3 he   king   is and C2 C3 she   queen is

These examples show that the three complementizers occupy different head positions and force us to assume that the structure of the sentence above AgrP is much more complex than what is normally assumed.

Always on the basis of a Germanic variety, Alber (1994) has proposed a complex structure of the CP domain.

We can find evidence that there are at least two C positions above the IP field inside the Romance domain too. The first piece of evidence comes from Occitan varieties, which show two complementizers in embedded clauses:

(27) *quan credou que la mourt que tustabe au pourtau*   (Ronjat (1937))
when (he) believed that the death that knocked at the door

Note that one complementizer appears at the right of the subject, and the other at the left of it.

Moreover, in main clauses a complementizer is always obligatory in the dialect of Arrens:

(28) a. *You que parli*
I that speak

b. **You parli*

As it appears at the right of the subject, it seems plausible to assume that it is the lower one. As Ronjat (1937) notes, this lower complementizer functions as a host for object clitics, at least at the phonological level:

(29) *Yo que't parli*
      I that+to you speak

Another variety in which two complementizers are visible is Piedmontese. In the dialect of Turin it is possible to observe the same sequence *complementizer+subject+ complementizer* found in Occitan: [10]

(30) a. *A venta che gnun ch'a fasa bordel*
          It needs that nobody that+cl do(Subj.) noise
      b. *A venta che Majo ch'a mangia pi' tant*
          CL need that Majo that cl eat more

As (30) shows, the subject realized at the left of the complementizer can be a Quantifier or an NP, so this cannot be a left dislocated position, as quantifiers cannot be left dislocated.

Another interesting piece of evidence found in Piedmontese that supports the idea of a split CP is the following:

(31) *Ante' ch'a valo?*
      Where that+cl goes+he?

In main interrogative contexts the C position is filled by a complementizer. Nevertheless the inflected verb has been moved to the left of the subject clitic, which appears at the right of the verb. This means that there must be a second C position to which the inflected verb moves in main interrogative contexts in order to appear at the left of the subject clitic. [11]

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10. Theese judgments are not given by all Piedmontese speakers.

11. Note that the movement of the verb higher than AgrP also when the C position is already filled

Another Romance dialect that shows that the CP domain has to be split in more than one structural position is the Salentino variety studied by Calabrese (1991). He shows that in Salentino there are two complementizers, *ka* and *ku*, which occur at two different sides of the preverbal subject. *Ka* is found before the subject while *ku* must follow it:

(32) a. *Oyyu ka lu Marju bbene krai*
          (I) want that the Mariu comes tomorrow
      b. *Oyyu lu Marju ku bbene krai*
          (I) want the Mariu that comes tomorrow

Even tough the two complementizers do not cooccur, it is possible to exploit the difference with respect to the subject position to assume that there are two CP positions in this dialect.

All these data do not give us a precise characterization of the number and the type of CP projections we have to postulate. Rizzi (1995) proposes an analysis of the CP domain on the basis of data from several Romance and Germanic languages. He assumes that the CP projection as it has traditionally been considered has to be split in five distinct projections: [12]

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by a [+wh] complementizer could constitute a problem for Rizzi's theory which binds verb movement to the wh criterion. In (31) the complementizer already satisfies the *Wh criterion*, but the inflected verb moves higher than in assertive clauses.

12. Rizzi assumes that these projections are present only if needed. Rizzi assumes that when the Specifier positions of these CPs are needed to host some element, then the splitting occurs, I will assume that the splitting of the CP projections occurs also when a strong feature must be realized on one specific C° head. As bridge verbs select a modal feature on their complement, this modal feature [-realis] will be realized on Fin°, splitting FinP and ForceP.

(33)　　　　ForceP

```
         ForceP
        /    \
    Force°   TopP
            /   \
         Top°   FocusP
               /    \
          Focus°    TopP
                   /    \
                Top°    FinP
                       /   \
                     Fin°   IP
```
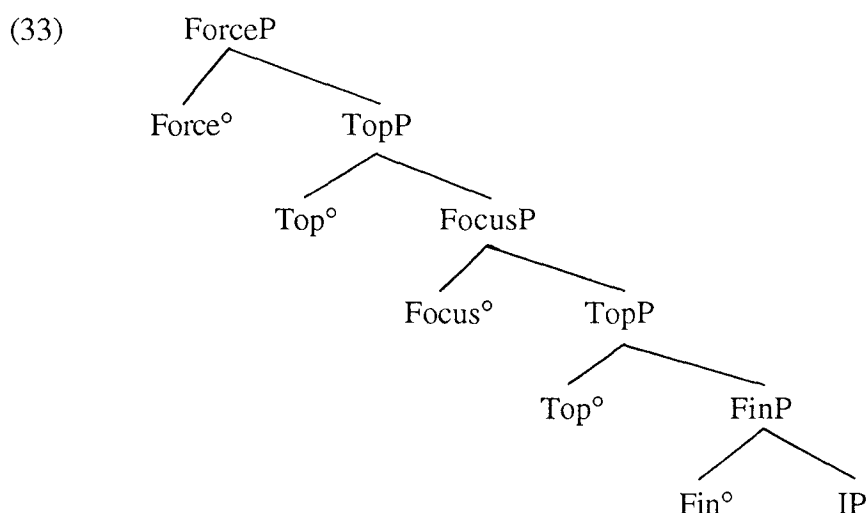
ForceP is the projection where informations about the type of clause (declarative, exclamative, relative, comparative etc.) are encoded, the two TopPs host topic elements which are old information in the discourse, while Focus P hosts focalized elements which are new information. The FinitenessP is defined as "the information facing the inside of the clause" namely the interface with IP, and differenciates between + and - finite clauses.

Rizzi notes that "languages can vary in the extent to which additional IP information is replicated in the complementizer system: some languages rerplicate mood distinctions, some replicate subject agreement ...". If this is correct, we have the possibility of refining our analysis of CD as V to C movement defining precisely the C° position to which the verb moves and which type of feature is selected by the bridge verb that embeds the clause where CD applies.

Recall that CD is subject to three distinct restrictions (see section 2.):

a. the embedded clause must be in a complement position;

b. the embedded verb must be a subjunctive, a conditional or a future indicative;

c. the selecting element must be of a special class.

Note that CD is possible only if the embedded verb is a subjunctive, a future or a conditional form. These forms all have a modal quality, in the sense that they all express a possibility and not a reality. Hence they all express a [-realis] feature.

Moreover the class of selecting elements (verbs, adjectives and nouns) all express an opinion, hence plausibly select a [-realis] feature which is realized on the head of the complement. Therefore, I would like to propose that bridge verbs (adjectives and nouns) select a [-realis] CP and that this is precisely the feature that attracts the verb into the CP domain. Following Rizzi's (1995) observation that modal features are realized in some languages in the FinitnessP, I will assume that this is true for Italian too, and that in CD contexts a [-realis] feature occurs on the head Fin°. This feature must be realized by some overt element: a complementizer or the inflected verb (if this is compatible with it, hence if it can express the [-realis] feature as subjunctive future or conditional). [13] Hence, if the complementizer is not present the verb is forced to move to the lowest C° position, namely Fin°. Following this hypothesis, I must assume that the complementizer can occupy the head of Fin° in the context we are considering. Rizzi (1995) on the contrary, assumes that finite complementizers in standard Italian are realized only on the highest head, namely Force°. As an argument for this claim is considers the following sentence:

(34)   *Credo, il tuo libro, che loro lo apprezzerebbero molto*
         I believe, your book, that they would appreciate it a lot

In this sentence there is a topic element (*il tuo libro* 'your book') which preceds the complementizer. The structure would be the following: [14]

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13. Note that this analysis is compatible with the minimality framework proposed by Chomsky (1995): the feature realized in Fin° is strong and thus attracts the verb into the Fin° head. The apparent optionality of CD is not a problem, as the two initial numerations (the one with the complementizer and the one without it) are not comparable because they contain different items.

14. Recall that Rizzi proposes that the projections are present only if necessary, and in this case we do not need two TopPs and FocusP, therefore they have been left out of the structure.

(35)   ForceP

Force°   TopP

Spec   Top'
il tuo libro

Top°   FinP

Spec   Fin'

Fin°   IP
che
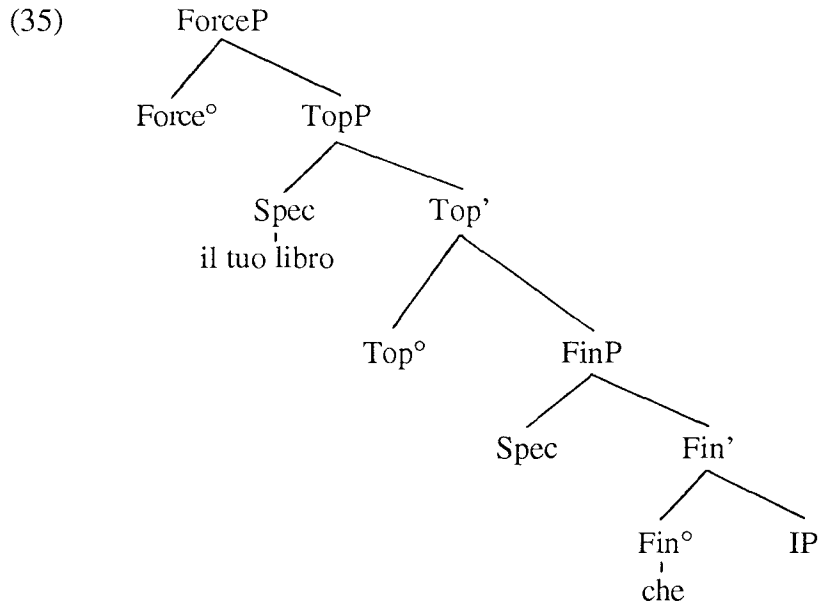
As Rizzi judges this sentence ungrammatical, he concludes that a complementizer such as *che* can only occupy a head position located higher than TopP, namely the head of ForceP. However, the sentence in (34) is judged by many speakers as well formed or at most marginal, hence one could conclude exactly the opposite, namely that the complementizer can be realized in a position lower than TopP. As the data are not clear, I will leave this problem open.

Let us sum up the proposal put forth in this section: verb (adjectives and nouns) which express an opinion select a [-realis] feature located in the Fin° head inside the CP domain. This feature has to be realized by the complementizer or by the verb which moves into Fin°. This analysis could be applied to Germanic languages as well, distinguishing between the core V2 cases found in matrix clauses, where V movement would be triggered by an Agreement feature in the Comp domain (as proposed by many authors cf. section 2.), and embedded V2 under bridge verbs, which would be triggered by a [-realis] feature inside the Fin° head.

4. *A fourth argument : the subject position*

In this section I will discuss an issue which has not been mentioned until now, namely the subject position. If CD is a case of V to C, there should be some effects

visible on the subject.

The data regarding the subject position are rather delicate, as speakers give different judgments. Giorgi and Pianesi (1996) show that speakers split into two classes: those who admit only a pro subject (class I speakers) and those who admit a lexical subject (class II speakers). [15]

For class II speakers, who admit a lexical subject, it can only appear at the left of the inflected verb:

(36) a. *Credo Gianni arrivi stasera*
     (I) think John arrive(Subj.) tonight

   b. *Credevo nessuno arrivasse in tempo*
      (I) thought nobody arrive(Subj.) in time

Noone accept sentences where the subject has inverted as in Germanic V2 contexts:

(37)   *Credevo fosse Gianni arrivato*
        (I) though had John arrived

We will discuss this problem in the next section. Let us concentrate for the moment on class I speakers, who only admit a pro subject. This situation is identical to main interrogative contexts, where no subject can intervene between the wh-element and the inflected verb. Moreover, there is no postverbal position for the subject as in (37):

(38) a. *Cosa Gianni ha fatto?*
     What John has done?

   b. *Cosa ha Gianni fatto?*
      What has John done?

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15. Speakers who admit a *pro* subject also find that the second person pronoun is possible in the preverbal position, but this pronoun has a particular distribution in subjunctive contexts, as it is obligatory and no *pro drop* is licensed. I will not pursue this matter any further, but it is clear that the second person pronoun in these contexts is different from tonic pronouns normally found in standard Italian.

Hence, it seems that this class of speakers treats the subject in interrogative and in CD contexts exactly in the same way: only pro drop subjects are admitted. This fact is immediately captured by our hypothesis that CD is a case of V movement into the CP domain, while it would remain unexplained if we assumed an analysis in terms of CP deletion or of empty complementizers. One problem remains concerning the second class of speakers who admit a lexical subject in CD contexts. Giorgi and Pianesi (1996) give an analysis in terms of "feature scattering": they propose that the two class of speakers differ in the syntactic realization of the features in CP: class II speakers scatters the features on two CP projections, while class I only uses one CP projection. I will not go into this problem but I will limit myself to assume that preverbal lexical subjects in CD contexts move into the SpecC position. This may seem unplausible at first sight, but there is quite a strong argument in favor of this assumption. Let's go back again to Northern Italian varieties: in the Piedmontese of Turin it is possible to find the subject at the left of the complementizer, as in (39) :

(39) a. *Gnun ch'a s'bogia!*
          Nobody that+a cl move(Subj.)!
      b. *Mario ch'a s presenta subit...*
          Mario that+a cl go(Subj.) immediately

Note that the subject can be a Quantifier or an NP, so it is not possible to analyse these cases as instances of Left Dislocation or Topicalization, as the subject does not receive any particular marked intonation. The same is true for Salentino and for Occitan varieties, as we have seen in section 3. Therefore, I will assume that the subject position in CD structures is SpecC. The difference between Standard Italian which do not admit sentences like (39) and Piedmontese remains to be viewed. [16]

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16. The sentences in (39) are the translation of the Standard Italian (i) and (ii):

      (i)   *Che nessuno si muova!*
                That nobody cl. move(Subj.)!
      (ii)   *Nessuno si muova!*
                Nobody moves!

(i) and (ii) are totally equivalent, hence the complementizer seems to be optional here too, exaclty as in CD contexts. It could be possible to express the difference between (i) and (ii) in terms of verb movement to C° as in CD contexts: in (i) the complementizer occupies the C° position, while in (ii) the inflected verb has moved to C° and the subject to the SpecC position. Note that these type of sentences have imperative value, and imperative has been assumed to move to the C° position by

5. CD and other V to C constructions

In this section I will compare CD and other cases of V to C movement with respect to the subject position, showing that the situation is quite complex, as we expect if CP is conceived as a domain and not as a single projection: different CP projections will have different properties with respect to the licencing of a subject. As Rizzi (1995) points out, in order to account for the preverbal or postverbal position of the subject we have to assume here that Case is sensitive to the configuration of head goverment or to the configuration of Spec-head agreement. [17]

The first case of movement to the CP domain I will examine is the Aux to C construction. In Aux to C contexts the subject is found at the right of the verb, (be it a gerund, an infinitive or a subjunctive) as (40) and (41) illustrate:

   (40) a. *Avendo Gianni parlato con te,...*
            Having John spoken with you,

        b. *Per aver Gianni parlato con te,...*
            For have John spoken with you,...

        c. *Avesse Gianni parlato con te, ...*
            Had(Subj.) John spoken with you,...

   (41) a. **Gianni avendo parlato con te,...*

        b. **Per Gianni aver parlato con te,...*

        c. **Gianni avesse parlato con te,...*

Note that absolute past participle constructions with ergative verbs, analyzed by Belletti (1990) as V to C instances, behave like Aux to C.

Rivero (1991) (see also Zanuttini (1996) for a discussion on verb movement in imperatives). Hence, it is plausible to assume that there is a feature in Comp that has to be realized by a complementizer or by a verb.

17. For a different view see Chomsky (1995), who eliminated from his minimalist program both the configuration of government and AgrPs projections for Case assignment, only mantaining Spec-head agreement as a structural relation betwen a head as $T°$ or $V°$ and its specifier.

(42) a. *Arrivata Maria, siamo partiti*

        Come(Agreement) Mary, (we) have left

    b. **Maria arrivata, siamo partiti*

Looking at the contrast between Aux to C and absolute past participial constructions on the one hand and CD cases on the other, it seems that we are in a contradiction.

We have to state that C° assigns case under goverment in (40) and in (42), but that it assigns case through Spec-head Agreement in CD contexts. The contrast between (40c) and CD contexts is particularly problematic, as we see that in both cases the verb is a subjunctive auxiliary, so one cannot assume that C° assigns case through government or through Spec-head Agreement depending on the type of verbal inflection which occupies C°.

We are thus left with the necessity of postulating something like (43):

(43) a. C assigns case under government;

    b. C assigns case through Spec-head agreeement.

Note that it is not possible to postulate a parameter like (43) without imposing some further restriction which explain the contrast between Aux to C and participial clauses on one side and CD contexts on the other.

Let's now and go on with the comparison between CD and other instances of V to C movement.

The second case of V to C movement I will examine is the case of interrogative contexts. As proposed by Rizzi (1991), I will assume that the following is correct:

(44) *Wh criterion:* Rizzi (1991)

    A. A wh operator must be in a Spec-head relation with a +wh head;

    B. A +wh head must be in a Spec-head relation with a wh operator.

(45) Infl is +wh in standard Italian in non embedded contexts.

In a language where (45) is chosen, the inflected verb, which is assigned the feature [+wh], must move to C in order to satisfy the *Wh criterion* that requires a Spec-head

relation between the wh operator and the wh head. Rizzi assumes that in Standard Italian (45) is valid both in main and in embedded interrogatives, and consequently in both cases the inflected verb with the [+wh] feature must move to C°. As noted in the previous section, sentences like (46a) and (46b) are thus ungrammatical because the inflected verb has not moved to C, violating the *Wh criterion.*

(46) a. **Cosa Gianni ha fatto?*
           What John has done?

      b. *??Mi chiedo cosa Gianni ha fatto*
           (I) me ask what John has done

(47) a. **Cosa ha Gianni fatto?*
           What has John done?

      b. **Mi chiedo cosa ha Gianni fatto*
           (I) me ask what has John done

Rizzi notes that sentences like (47) are also ungrammatical, and traces back this fact to a problem in Nominative case assignment. He assumes that in Standard Italian Agr° cannot assign case under government. If the inflected verb under Agr° moves to C° in order to satisfy the wh criterion, it cannot assign case to the subject anymore. Therefore, the subject cannot appear in SpecAgr, but only in postverbal position inside the VP or in a left or right dislocated position. This applies both to main and embedded interrogatives. Note that the same effect is found also in exclamative contexts: [18]

(48)   **Quanto furbo è Gianni stato!*
          How clever has John been!

The hypothesis which considers the ungrammaticality of (47) and (48) as an effect

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18. Some Central Italian speakers accept sentences like (i):

    (i)   *Quanto furbo Gianni è stato!*
           How clever John has been!

In these cases it must be assumed that the verb does not move to C at all.

of a case assignement problem faces the following two problems.

First, as we have seen above, in Aux to C constructions an inflected verb, which has morphological agreement features assigns case to the subject at its right:

(49)   *Avesse Gianni parlato con te, ...*
        Had(Subj.) John spoken with you,...

Moreover, at a higher stylistic level, it is possible to realize a subject in SpecAgr at the right of the inflected verb even in interrogative contexts:

(50) a. *?Cosa mai avrà Gianni fatto in quel frangente?*
         What ever have(Fut.) John done in that occasion
      b. *Cosa mai avrebbe Gianni potuto fare in quel frangente?*
         What ever have(Cond.) John could do in that occasion?

It is possible to solve the problem whithin a split CP hypothesis simply assuming that different CP projections have different Case properties: if Rizzi (1995) is right assuming that Aux to C is a movement into the Fin° head, while verb movement in interrogative structures is a movement into a higher FocusP, we expect that the two projections may differ in licensing a preverbal or a postverbal subject.

Note that CP projections have effects on the position of the subject even in those cases where verb movement into the CP domain has not applied, but some CP projection contains a strong feature specification. In embedded interrogative sentences, where the verb does not move to C°, there subject cannot occur in its preverbal position. This is clear in Northern Italian dialects where the C position of the embedded interrogative sentence is filled by a complementizer, and not by the verb.

(51)   *??Me domando cossa che Nane ga fato*
        (I) me ask what that John has done

In (51) the subject cannot occur after *che* 'that' and before the verb. Both in standard Italian and in Northern varieties the judgement changes if the verb is inflected with a subjunctive, a conditional or a future:

(52) a. *?Mi chiedo cosa Gianni faccia adesso*
            (I) me asked what John do(Subj.) now

      b. *Mi chiedo cosa Gianni avrebbe fatto in quel frangente*
            (I) me asked what John do(Cond.) now

      c. *Mi chiedo cosa Gianni farà mai in quel frangente*
            (I) me asked what John do(Fut.) now

(53) a. *?Me domandavo cossa che Nane fasesse casa*
            (I) me asked what that John do(Subj.) at home

      b. *Me domando cossa che Nane gavaria fato casa*
            (I) me asked what John do(Cond.) now

      c. *Me domando cossa che Nane farà casa*
            (I) me asked what John do(Fut.) now

Note that cases parallel to (54) can be found also in Standard Italian, and precisely in exclamatives:

(54)   *??Che furbo che Gianni è*
            How clever that John is

In (54) the C position is filled by the complementizer. Nevertheless, the subject cannot appear in the preverbal position. It is thus possible to conclude that the effect that blocks the preverbal position in interrogative and exclamative contexts is independent from verb movement to $C°$.

The same effect is found in relative clauses, where the preverbal position is not the preferred one:

(55)   *??La torta che Gianni ha mangiato,...*
            The cake that John ate,...

Hence, we can conclude that a strong feature inside the CP domain (which can be realized by a complementizer or by the verb) has effects on the subject position. Note however, that both in embedded interrogatives and in relative clauses where the verb has not moved into the CP domain, the effect on the subject is weakened with respect

to main interrogatives and exclamatives where the verb has moved into the CP domain.

Let' s now sum up in a schema all the cases we have reviewed:

(56)	preverbal subject	postverbal subject [19]
Aux to C	-	+
Participial clauses	-	+
Main interrogatives	-	-
Exclamative contexts	-	-
Embedded interrogatives	-	-
Relative clauses	-	-
CD contexts for class I speakers	-	-
CD contexts for class II speakers	+	-

The situation represented in (56) is very complex: Aux to C and participial clauses only admit a postverbal subject, CD contexts for class II speakers only admit preverbal subjects, while interrogative, exclamative, relative clauses and CD contexts for class I speakers do not admit any on the two. We have seen that the position of the subject depends neither (1) on the presence of the verb inside the CP domain (cf. relative and embedded interrogative clauses) (2) nor on the type of inflection moved (cf. the contrast between subjunctive forms in Aux to C and in CD contexts).

As mentioned above, the possibility of splitting the CP domain into more than one

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19. With the label postverbal position we do not refer to the postverbal position inside the VP, but simply to the order of the two elements subject and verb.

projection could help us to explain this intricated distributional pattern. In a speculative vein, we could assume that CPs that contain an operator in their specifier position cannot license a lexical subject neither in the preverbal nor in the postverbal position, hence neither through spec-head agreement nor through government (this would include, interrogatives, exclamatives, relative clauses and CD contexts for class I speakers). Those CPs where a strong feature is realized on the head (but not in their specifier) therefore triggering verb movement can licence a subject. This would include Aux to C, participial clauses and CD contexts for class II speakers into one class. [20] However, the difference between Aux to C and participial clauses which require a postverbal subject and CD contexts which require a preverbal subject remains to be explained.

Alternatively, one could imagine that each CP "chooses" the type of configuration in which it assigns case to a lexical subject (spec-head agreement, government or none of the two). Again, this leaves unexplained why Aux to C and participial clauses have postverbal while CD contexts for class II speakers have preverbal subjects, as they are both located in the Fin° head (the lowest of the CP domain). A possible solution would be to split FinP into two projections, one which contains the modal feature and the other which contains the feature (presumably a tense feature of anteriority) of the Aux to C and participial clauses. As I do not have evidence for such a move, for the moment I will leave the problem of the distribution of lexical subjects in the contexts we have examined open for future research.

5. *Conclusion*

In this paper I have considered cases of CD in standard Italian. I have proposed to treat the CD phenomenon as an instance of V to C movement whithin a split CP perspective as the one proposed by Rizzi (1995). The inflected verb moves into the lowest head of the CP domain as the matrix verb selects a [-realis] modal feature

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20. Following this hypothesis the difference between class I and class II speakers could be due to the presence of a modal operator in the specifier position of the relevant CP.

which must be realized in the CP domain. This explains why the matrix verb must be of a particular class and why the embedded verb must have a particular type of inflection, which must be compatible with the modal feature.

The arguments given to support this idea are four: the parallel between the Italian construction and embedded V2 in Germanic languages, the position of epistemic and evaluative adverbs, the typological observation that in the Northern varieties all types of V to C movements are disappearing on a par with CD, and the fact the for a class of speakers no lexical subject can be realized in CD contexts, exactly as in other cases of V to C movement (cf. main interrogatives and exclamatives). I leave two questions open: (1) the differences noted with respect to the subject position whithin the class of constructions that require V to C or realize a strong feature in a CP projection and (2) the distinction between class I and class II speakers regarding the subject position in CD contexts.

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Determiner phrase in a language without determiners [1]

Ljiljana Progovac
Wayne State University

1. *Introduction*

Recently, it has been argued with reasonable force that nouns are not heads of the phrases traditionally referred to as noun phrases (NPs), such as, "the picture." Instead, the article is taken to be the head of this projection, dubbed determiner phrase or DP (e.g. Szabolcsi (1987), Abney (1987)):

(1)

```
            DP
        ___/  \
             D'
            /  \
          D     NP
          |     |
         the   picture
```
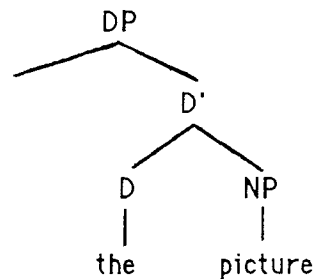
The reasons include, but are not limited to, the following facts: a) articles are heads, and in an optimal model of grammar, every head should project a phrase; b)

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there is systematic paralellism between sentences and NPs (cf. (2)), which can best be captured by introducing functional categories into NPs; c) some languages show possessor/possessed agreement in the NP (cf. (3) from Hungarian (Szabolcsi (1987))), clearly indicating a need for a functional head in the NP:

(2) a. *[S John builds spaceships]*
     b. *[NP John's building a spaceship]* upset me.

(3) a. *az en   kalap-om*   "my hat"
         the I-NOM hat-1sg
     b. *a   te   kalap-od*   "your hat"
         the you-NOM hat-2sg
     c. *a   Peter kalap-ja*   "Peter's hat"
         the   hat-3sg

Articles seem to be the only category which occupies the head D position, uncontroversially and crosslinguistically. Giusti (1993, 1995) shows that demonstratives and possessives can co-occur with articles in many unrelated languages and concludes that they occupy specifier positions, not head of DP:

(4)   *ez a haz*   "this the house"   (Hungarian)

(5)   *ika n anak*   "this the boy"   (Javanese)

(6)   *la mia penna*   "the my pen"   (Italian)

The following questions arise with respect to languages without articles: do they or do they not project a DP; if not, why is it possible to have arguments not headed by D in such languages, but not in say Italian or English (see Longobardi (1994)); if yes, what kind of evidence do children have in acquiring this category, in the absence of a salient head; or is the category D a universal property, and thus need not be learned from the input?

I look at one such language, a language without articles, Serbian/Croatian (SC). Inspite of the lack of articles, and inspite of the fact that demonstratives and possessives act like adjectives in SC, there is support for the existence of a DP. First of all, SC exhibits noun/pronoun asymmetries which are best captured by placing

pronouns in D positions (cf. Postal (1969) and Longobardi (1994)), and nouns in N position. Next, SC provides morphological evidence for the existence of another functional head above NP, which may be a head of some version of "split D". SC also seems to provide evidence that pronouns are generated in N, and then move to D, in the spirit of Cardinaletti's (1993) proposal, rather than being generated in D directly.

2. Noun/Pronoun contrasts

In SC there are some adjectives that can appear with pronouns, in which case pronouns necessarily precede them, in contrast to nouns, which uniformly follow adjectives: [2]

Accusative:

(7)   *I samu Mariju to nervira.*
       "and alone Mary that irritates"
       That irritates even Mary.

(8)   *?*I Mariju samu to nervira.*

(9)   *?*I samu nju/mene to nervira.*
              "her/me"
       That irritates even her/me.

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2.   It is interesting to note in this respect that reflexives seem to pattern with nouns, rather than with pronouns:

(i)   *On ne podnosi ni   samog sebe.*
       "he not stands neither   alone self-ACC"
       He cannot stand even himself.
(ii)   *?? On ne podnosi ni sebe samog.*   (poetic)

In the literature on reflexives, one usually differentiates two broad types of reflexives, simple and complex, e.g. Chinese *ziji* vs. *ta-ziji* ("self" vs. "he-self"). Simple reflexives, on the otherhand, seem to fall into (at least) two distinct types, those situated in D, such as *zich*, *sig*, etc. (cf. Reinhart and Reuland (1993)), and those situated in N, such as *sebja* in Russian and *sebe* in SC (cf. Gohre and Progovac (1994) for arguments).

(10) *I nju/mene samu to nervira.*

Dative:

(11) *Ni   samoj   Mariji   se   to   ne svidja.*
"neither alone-DAT Maria-Dat self this not appleals"
This does not appeal even to Marija.

(12) *?*Ni Mariji samoj se to ne svidja.*

(13) *?*Ni   samoj   njoj/meni   se   to   ne   svidja.*
"neither alone-DAT her/me-DAT   self this not appeals"
This does not appeal even to her/me.

(14) *Ni njoj/meni samoj se to ne svidja.*

Nominative:

(15) *??Ni Marija sama u to ne veruje.*
"neither Mary alone in that not believes"
Not even Mary believes that.

(16) *Ni sama Marija u to ne veruje.*

(17) *Ni ja sama /ona sama u to ne veruje(m).*
"I she"
Not even I/she believe(s) that.

(18) *Ni ?*sama ja / ??sama ona u to ne veruje(m).*

(19) *Mi siti ne verujemo gladnima.*
"we full not believe hungry"

We full do not believe the hungry.

(20) *Siti mi ne verujemo gladnima.*

(21) *Siti ljudi ne veruju gladnima.*

People who are full do not believe the ones who are hungry.

(22) **Ljudi siti ne veruju gladnima.*

From the data above it seems safe to conclude that pronouns and nouns in SC appear in different surface positions. What are those positions?

Longobardi (1994) discusses similar name/pronoun contrasts in Italian, and concludes that pronouns occupy the determiner position (D) underlyingly, following Postal (1969), whereas nouns are generated in N positions, and may, in some languages, under certain circumstances, raise to D. Significantly, this movement can only take place in the absence of articles, suggesting that D position is involved in the pronoun/noun contrasts in Italian:

(23)   *La sola Maria si è presentata.*
        Only Mary showed up."

(24)   **Sola Maria si è presentata.*

(25)   *Maria sola si è presentata.*

(26)   **La sola lei si è presentata.*

(27)   *Lei sola si è presentata.*
        Only she showed up.

(28)   **Sola lei si è presentata.*

The pronoun/noun asymmetries in Italian take a slightly different form from the ones in SC: while adjectives cannot precede pronouns at all, they can precede nouns, but only if there is an article heading the phrase. If the article is missing, the proper name has to precede the adjective, suggesting that it occupies the same position as the pronoun, namely D. Longobardi suggests that this obligatory raising of a proper noun is driven by the strong referential (R) feature of D in Italian (cf. Chomsky's (1993) minimalist program), as opposed to the weak R feature in Germanic, in which languages the N raising takes place only in LF, in accordance with the Principle Procrastinate. It is reasonable to assume that in Serbian/Croatian the referential feature in D is weak, given that no overt category of articles exists in this language. If true, then N raising will not apply in SC, and the difference between, for example, Italian (25) and SC (8) will be accounted for: adjectives will necessarily precede nouns in SC, but can either precede or follow proper nouns in Italian, depending on the presence vs. absence of articles. On the other hand, if pronouns sit in D in both

languages, no difference in adjective placement with respect to pronouns is expected, as confirmed by the data.

Notice that this account of the SC contrasts, as well as the explanation of the differences between SC and Italian, relies on the existence of a DP even in SC. Since SC has no articles, and since proper names do not raise to D in syntax, the only category that occupies D position at an audible level are pronouns. As for learnability - it seems highly improbable that SC children learn that they have a DP on the basis of the contrasts given above. This is because constructions involving pronouns modified by adjectives are extremely rare. This may mean that the category D is a universal property of UG, and thus need not be salient in the input of any particular language.

3. *Pronouns in D: base generation or movement?*

Although many would agree that pronouns appear in D positions at S-structure (or pre-spell-out), there is still disagreement with respect to whether they are generated there (cf. Postal (1969), Longobardi (1994)), or move from N to D (e.g. Cardinaletti (1993)). SC seems to support the latter hypothesis for two reasons: pronouns in SC show morphology, not present in nouns, that would be acquired/checked by head movement through the extended projections of NP all the way to D; next, nominative pronouns in non-argument positions are preceded by adjectives, which would follow from an assumption that they stay in N.

Pronouns in SC show more functional morphology than nouns. This is hardly a quirk of SC. English, e.g., still has case marking on pronouns but not on nouns (cf. *he/him*). In addition, one of Greenberg's universals claims that a pronoun is more likely to have gender morphology than a noun (cf. Greenberg (1966)):

(29)   Greenberg's universal 43: *"If a language has gender categories in the noun, it has gender categories in the pronoun."*

These facts can be explained by the assumption that pronouns move longer way than

nouns, at least before spell-out (i.e. overtly), on their way to a functional projection, thus acquiring/checking their agreement/case/referential features in more projections.

In SC adjectives agree with nouns in gender, number and case (see (30)). Although case markers on adjectives and nouns usually coincide, they do not always, as evident from (33). In case they do not coincide, the agreement on adjectives is heavier, and comprises the nominal agreement. The interesting fact is that pronouns surface with this heavier, adjectival agreement, as shown in (32): *nje-g-a*. Suppose that adjectival agreement is generated in an extended projection of NP, say AgrP (see Cinque (1990, 1992)). If pronouns move to D at S-structure, they will move through the head of this phrase and acquire/check the features of Agr. Nouns, on the other hand, will procrastinate their movement to D until LF, if they move at all, and thus will not show the same agreement overtly.

(30)   *tv-o-g(a) lep-o-g(a) brat-a*
        "your-ACC/GEN/Masc/Sg handsome-ACC/GEN/Masc/Sg brother-ACC/GEN/Masc/Sg"

(31)
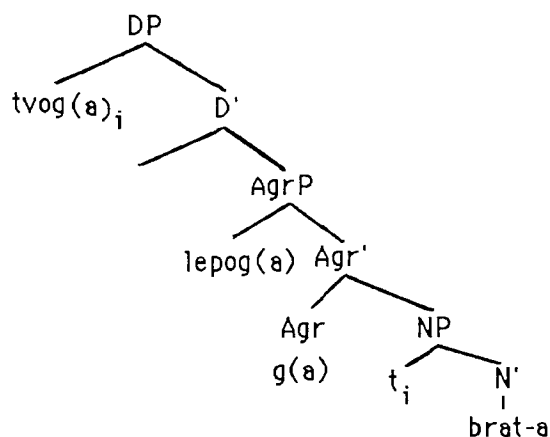
(32)   nje-**ga**   (him)
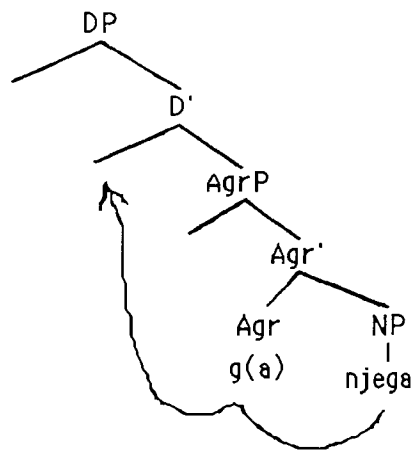
(33) below is a complete paradigm comparing the form of adjectival agreement to the form of the pronoun. Clitic pronouns, if any, are given immediately following the full pronoun. It is particularly striking that clitic pronouns actually consist solely of the adjectival agreement in question (thanks to Anna Cardinaletti, p.c., for pointing this out to me), lending further support to the idea that Agr is an extended projection of the NP. Furthermore, this fact is consistent with Cardinaletti's (1993) claim that weak/clitic pronouns lack some of the structure of DP. It is also interesting to observe that full pronouns cannot refer to inanimate NPs, only clitics can, as indicated with a "*" in the accusative case, which is distinct for animate and inanimate NPs. This is also true of other pronouns, which do not have distinct forms for animante/inanimate distinctions, (cf. Cardinaletti and Starke (1994), who pointed out to this fact in other languages).

(33)   Third Person:
         Nominative:

lep-∅ čovek-∅	(handsome man)	*on-∅*	(he)
lep-a žena	(pretty woman)	*on-a*	(she)
lep-e žene	(pretty women)	*on-e*	(they-F)
lep-i ljudi	(handsome men)	*on-i*	(they-M)

Accusative:

lep-og(a) čoveka -animate   *njega/ga* (cf. Genitive)

lep šešir   (Nominative)-inanimate   **njega / ga* (cf.Genitive)

"nice hat"

lep-u ženu   *nju /ju*-ACC or **je**-GEN

lep-e ljud-e/žen-e   (Nominative)   *njih/ih* (Genitive!)

Dative:

lep-om(u/e) čoveku   *njemu/mu*

lep-oj ženi   *njoj/joj*

lep-im(a) ljudima/ženama   *njima/im*

Genitive:

(od) lepe žene   *nje* (*je*, used only in
                                                     ACC)

(od) lepog(a) čoveka   *njega*

(od) lep-ih ljudi/žena   *njih*

Instrumental:

(sa) lepom ženom   *njom*

(sa) lepim čovekom   *njim*

(sa) lepim ljudima/ženama   *njima*

Possessive:

čovekov kofer/čovekovom koferu-DAT   *njegov/njegovom*

"[the man]'s suitcase"

ženin kofer/ženinom koferu-DAT   *njen/njenom*

                                                     (archaic: *njezin/njezinom*)

No plural possessive!   *njihov/njihovom-DAT*

First person:

ja (I)	*mi* (we)	(Nominative)
mene/me	*nas/nas*	(Accusative)
meni/mi	*nama/nam*	(Dative)
mene	*nas*	(Genitive)
mnom	*nama*	(Instrumental)
moj	*nas*	(Possessive)

Second person:

ti (you)	*vi* (you-PL)	(Nominative)
tebe/te	*vas/vas*	(Accusative)
tebi/ti	*vama/vam*	(Dative)
tebe	*vas*	(Genitive)
tobom	*vama*	(Instrumental)
tvoj	*vas*	(Possessive)

In other words, the facts that pronouns have more moprhology than nouns, and that this morphology coincides with agreement in the extended projection of NP, are best accommodated under the assumption that pronouns move from N to D. In addition, Cardinaletti (1993) points out that pronouns can follow adjectives in Italian if in non-argument positions. This prompted her to conclude that pronouns are actually generated in N, and moved to D only in argument positions. The same argument can be reproduced for SC:

(34)   *Jadan*   *on!*
               "poor-Masc   he-NOM"
               Poor him!

(35)   *Jadna*   *ja-NOM!*
               "poor-Fem   I"
               Poor me!

Tentatively, then, I will conclude that pronouns are normally generated in N, but moved to D in argument positions. Things may be more complicated than this (or

perhaps I should say more minimalist than this). Perhaps ambiguous categories such as pronouns can be generated either in D or in N, whichever is less costly. Below I sketch such a possibility for SC and leave it for further research to choose between the two alternatives. I can only say at this point that the latter option takes me a step further in analyzing the SC data.

Given the conclusion that pronouns are uniformly generated in N, one may wonder what it is that drives the movement of pronouns. If pronouns do not move in order to satisfy their own special features, say referential features, then they do not satisfy Greed. If they do, then we would not expect to have pronouns in non-argument positions such as (34 and 35) above, but we do. We would also not expect to have languages in which pronouns co-occur with articles, but we do (cf. Giusti (1995)). Furthermore, if argument positions just require the D position to be filled, it is not clear why nouns would not do the job just the same, thus obliterating the differences between nouns and pronouns. The intuition seems to be, somehow, that pronouns are associated with D, much more tightly than by movement alone. Suppose that pronouns are either generated in D, or in N, whichever is less costly.

The data dealing with SC pronouns seem to bear on the issue. Nominative case differs systematically from oblique cases in that it does not contain the **j/i** piece (see (33)). In section 4. below I argue that the definite **i**, which surfaces on adjectives, is a head of the functional projection above NP. Since pronouns are definite, it is reasonable to assume that **j** is actually just a phonological variant of **i**. If true, then it may be possible to argue that nominative is generated in D directly, whereas oblique case undergoes movement from N to D. I will return to this question in the following section, after introducing the definite **i** marker.

4. *The definite "i" phrase*

In SC the so-called "definite aspect" is marked on adjectives, and often corresponds

to the use of definite articles in English. [3] This marking is segmentally realized with masculine nouns in the nominative case, taking the form of **i** suffix. In other cases, it can be marked by a shift in accent (cf. Leko (1986) for a more detailed discussion and an analysis in terms of different X' placement of the two types of adjectives):

(36)   *Nedostaje   mi   plavi   kaput.*
         "misses   to-me blue-DEF coat"
         I am missing the blue coat.

(37)   *Nedostaje mi plav kaput.*
         I am missing/I need a blue coat.

(38)   *Mudri   čovek to   ne   bi   uradio.*
         "wise   man   that not would done"
         The/that wise man would not have done that.

(39)   *Mudar   čovek to ne be uradio.*
         A wise man would not have done this.

Predicate positions only license the short form:

(40)   *Ovaj kaput je plav/*plavi.*
         This coat is blue.

Vocatives, on the other hand, only take the long form, being an exception to the

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3.   Definite marking on adjectives was also possible in Old English (thanks to Martha Ratliff for pointing this out to me). The examples below, illustrating weak and strong declension respectively, are from Pyles and Algeo (1993):

(i)   *se dola cyning*
         that foolish king
(ii)   *dol cyning*
         a foolish king (without demonstratives)

It is the weak declension, then, that corresponds to the definite aspect in SC, since the strong declension cannot appear with demonstratives, while the SC definite aspect appears with demonstratives most naturally.

general rule that the definite aspect in SC is translated using *the* in English: [4]

(41)   *Tužni / *tužan čoveče, pridji bliže.*
        "sad   man   come closer"

(42)   (*The) Sad man, come closer.

Definite adjectival forms appear most naturally following possessives or demonstratives, and with some adjectives the short form results in ungrammaticality, as (43-44) illustrate (see also footnote 2). This is reminiscent of Comp/Infl selection at the sentential level, namely the selection of *to* by *for* or a finite Infl by *that*. If so, then embedding the definite phrase under DP seems a natural step (cf. (45)).

(43)   *Tvoj dragi prijatelj je upravo uhapšen.*
        Your dear friend has just been arrested. [5]

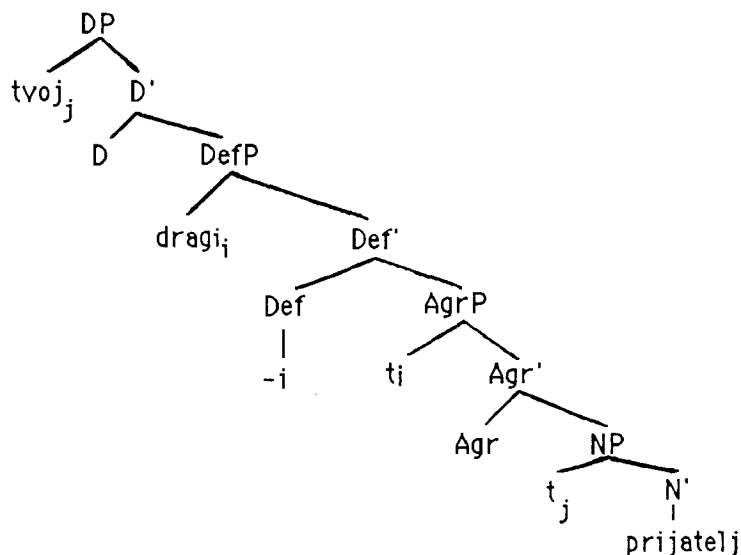(44)   **Tvoj drag prijatelj je upravo uhapšen.*

---

4.   Compounds are another exception to the rule. They necessarily take the long adjectival form, the short form resulting in the literal meaning of the adjective:

(i)   *slepi miš / *slep miš*   ("bat")
        blind mouse
(ii)   *beli luk / *beo luk*   ("garlic")
        white onion

This is also surprizing for another reason - compounds in English do not readily take inflectional morphology, cf: *billiard-table* vs. *??billiards-table*.

5.   The (ironic) interpretation (43) receives is the following: ((to you dear) friend), and is not interpreted as "*your friend, who is dear".

(45)

```
                    DP
                  /    \
              tvoj      D'
                  j   /    \
                     D      DefP
                          /      \
                     dragi        Def'
                          i      /     \
                              Def        AgrP
                               |        /    \
                              -i      t        Agr'
                                       i      /     \
                                          Agr        NP
                                           t       /    \
                                            j     N'
                                                  |
                                            prijatelj
```

Curiosly, although possessives take other adjectival suffixes (e.g. *tvojih* / *plavih* (GEN), *tvojima/plavima*-DAT, etc.), they appear not to take the definite **i** (**tvoji/plavi kaput*). On the assumption that possessives raise from the specifier of NP, being arguments of N (see (45)), they would also presumably move head-to-head through the Def position.

It may be that the definite suffix is already an integral part of possessives and demonstratives, given that they are inherently definite, which is phonologically realized as **j** in both. The possessive forms for masculine gender, nominative, are illustrated in (46), and the demonstrative paradigm for masculine gender, nominative, is given in (47) below:

(46) 1   2   3
      moj (my)   *tvoj* (your)   *njeg-ov* (his) / *Milan-ov*
                                                        (Milan's)
                                        nje-n (her) / *Milen-in*
                                                        (Milena's)

      naš (our)   *vaš* (your)   *njih-ov* (their)

(47) *ovaj* (this-M) *taj* (this/that-M) *onaj-M* (that)

Possessive pronouns in the third person are formed by adding the typical nominal possessive suffix to the genitive form of the pronoun. As I am going to argue later, the pronominal forms may also contain the inherent marking for definitness, in which case **j** in the third person paradigm can be seen as a phonological variant of the definite morpheme. This move would make even more sense in the case of demonstratives (47) and first and second person singular of possessives (46), which all end in **j**. *Naš* and *vaš* in (46) can also be analysed as genitive followed by **j**, which palatalizes the preceding sound. This kind of phonological rule, called Iotation, is common in Slavic (see e.g. Carlton (1990)), and has the effect of **j** palatalizing the preceding consonant and then deleting, predicting exactly the forms in (48):

(48) nas-GEN + j = naš;　　　vas-GEN + j = vaš

It would make sense to think of pronouns, demonstratives and possessives as being inherently definite (none of them can, for example, appear with articles in English). And if this is the correct assumption, it would be too much of a coincidence that exactly these forms have the morpheme which otherwise appears on definite adjectives.

5. Back to pronouns

From there, it remains to examine the paradigm of pronouns in more detail. I concentrate on the third person since it has both feminine and masculine forms, and involves no suppletive forms. I repeat the part of the relevant paradigm in (49) below:

(49)　　*Third Person:*
　　　　Nominative:
　　　　on-∅　(he)
　　　　on-a　(she)
　　　　on-e　(they-F)
　　　　on-i　(they-M)

Accusative:

njega/ga	(cf. Genitive)
*njega / ga	(cf. Genitive)
nju/ju	
njih/ih	(Genitive!)

Dative:

njemu/mu

njoj/joj

njima/im

Genitive:

nje

njega

njih

Instrumental:

njom

njim

njima

It is interesting to note that all the forms expect Nominative have the definite piece **j** in them. What nominative shares with other forms is just the "n" part, the piece that also surfaces on the demonstrative *onaj*, another fact that cannot be just disregarded as coincidence. Suppose that "n" is the epitome of third person features in SC. Suppose, next, that Nominative is a default case in SC, given that it has no case endings, and given that it is the case of NPs used in isolation, as well as the case that surfaces on NP's in non-argument positions, such as (35) repeated below as (50):
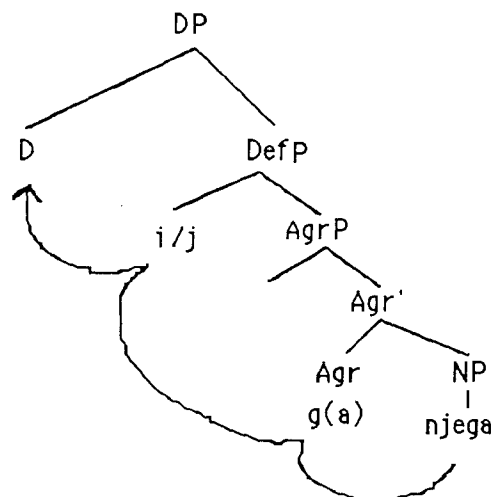
(50)   *Jadan   on!*
        "poor-Masc he-NOM"
        Poor him!

Suppose then that nominative pronouns, having no case features to check, can be

generated in D, unlike other pronouns. Nominative form will be assigned by default, as well as the definite feature, possibly by association to D. The idea is that base generation in D will be less costly than generation in N, and then subsequent movement to D, thus ruling out the latter option by Economy. In the case of (50), on the other hand, if D in non-argument positions is not necessarily realized (cf. Longobardi (1994)), there will be no movement to D, and thus generating the pronoun in N would be the least costly option, since it involves the least elaborate structure. The vowel can be analyzed as a morpheme of support, à la Cardinaletti (1993).
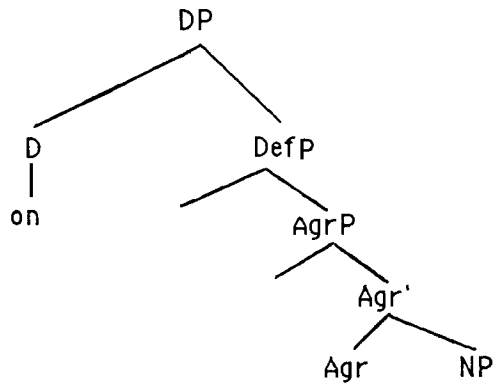
In sum, if indeed oblique pronominal forms (at least in third person) all contain the definite morpheme **i/j**, then *njega* (him) can be represented as in (51) below. Movement from N to D would check the relevant features of the pronoun:

(51)

```
              DP
           ╱      ╲
        D            DefP
        ⬆          ╱    ╲
         ╲     i/j       AgrP
          ╲            ╱    ╲
           ╲         Agr'
            ╲       ╱    ╲
             ╲   Agr      NP
              ╲ g(a)       │
               ╲         njega
                ╲_____╱
```

On the other hand, a nominative pronoun will undergo no movement, and will be directly generated in D in argument positions:

(52)

```
                    DP
                  /    \
                /        \
              D          DefP
              |         /    \
             on       /       \
                    AgrP
                   /    \
                 /       \
               Agr'
              /    \
            /       \
          Agr        NP
```

6. *Pro as a zero clitic?*

If the conclusion above is on the right track, then it explains two things: first, that nominative pronouns lack a definite marker, and, second, that they do not have clitic counterparts. Recall that clitics take the shape of adjectival agreement, situated in Agr above. Since nominative pronouns never move through Agr, they will not have an overt clitic form. Alternatively, on the other hand, one may say that subject *pro-drop* in SC is nothing else but a realization of the null adjectival Agr in the nominative phrase. Note that *pro-drop* and clitics are basically used under similar circumstances.[6] While full/strong pronouns are used for emphasis/contrast, or when coordinated, clitic/weak pronouns, as well as *pro-drop*, are used elsewhere (cf. Cardinaletti and Starke (1994) for a detailed discussion of the distinction between full and weak pronouns).

---

6.   SC places clitics in the clausal second position.

Emphasis/Contrast:

(53)   *Ja ga   poštujem.*

"I him-clitic   respect-1sg"

I respect him.

(54)   *Ja poštujem   njega.*

"I respect-1sg   him"

I respect HIM.   (not some other person around, or another person mentioned before, etc.)

(55)   *Milan želi da pro dodje.*

"Milan wants that 'pro' comes"

(56)   *Milan želi da ON dodje.*

Milan wants that HE comes, not somebody else.

Coordination:

(57)   **Ja je/ju   i   ga   poštujem. / *Ja poštujem ga i je/ju.*

"I   her-Cl and him-Cl respect"

(58)   *Ja poštujem nju i njega.*

(59)   **Milan želi da pro i ona budu prijatelji.*

Milan wants himself and her to be friends.

(60)   *Milan želi da on i ona budu prijatelji.*

The above illustrate that neither *pro* nor clitics can be used for contrast/emphasis or in coordinated structures. The assumption that *pro* is just an empty clitic would complete the clitic paradigm in SC (33), and would trivially capture the similarities between clitics and pro.

On the other hand, it would raise a host of cross-linguistic questions, such as, should subject drop necessarily co-exist with overt oblique clitics in any particular language; why is *pro-drop* more likely to happen in nominative positions; why do

some languages have object drop; should languages with subject clitics not be allowed the option of *pro-drop* as well, etc.

I can only speculate here that subject drop need not coincide with the existence of overt clitics for oblique cases. For example, one can envision a language with null adjectival/case agreement in both nominative and oblique cases, in which situation the "clitic" forms would be null both for objects and subjects. Chinese may be a language of that kind (cf. Huang (1989) for data and an analysis).

French has subject clitics, but not *pro-drop* (see Kayne (1975)), which would be consistent with the expectation that clitics and *pro-drop* do not co-occur for the same case. On the other hand, if Cardinaletti and Starke (1994) are correct in claiming that there is a tripartite division of pronouns, clitic, weak, and strong, it may still be possible to find languages with strong/weak/pro options in the subject position, where the weak pronoun would be (mis)analysed as a clitic, in the absence of a "weaker" overt form.

Nominative *pro-drop* would be more likely than object drop, since nominative is more likely to be realized as a zero morpheme, which is necessary for *pro-drop* (cf. *he/him* in English, *on/njega* in SC). This, of course, immediately raises the question of why English is not a subject drop language. Perhaps zero moprhological marking is a necessary, but not yet sufficient condition for *pro* licensing. I will have to leave it for future research to see if this idea is plausible at all, and if yes, what other conditions are involved.

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