

“L-TOUS”, RESTRUCTURING AND QUANTIFIER CLIMBING

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1. Introduction

The aim of this paper is to investigate the distribution of the object quantifier *tout/tutto* in French and Italian. Although in both languages this quantifier can appear in a “low” derived position (which will be argued to be one and the same in both languages), French displays an additional option: in some biclausal structures, *tout* can optionally appear in a high derived position (e.g. (1)), a structure known as “Quantifier Climbing”.

(1) Il a tout voulu manger

The clausal structure adopted in this paper is the highly articulated structure recently put forth by Cinque (1999). In this work, the “spirit” of Pollock’s (1989) “Split-Infl Hypothesis” reaches its most radical formulation. The node traditionally known as “IP” is not just split into two different Functional Projections (see Pollock (1989), Belletti (1990) and much related work), but is made up of about thirty FPs. Cinque’s proposal relies on the individuation of a rigid, crosslinguistically consistent, hierarchical ordering of adverbs. Each FP hosts an adverbial class in its Spec and may allow (*modulo* the different “length” of V movement in different languages) Verb movement through its Head. The existence of a hierarchy of FPs rather than of a (multiple) adjunction structure (see Chomsky (1995), ch.4) is further confirmed by those languages expressing adverbial modification by means of “particles” (therefore, heads) incorporated into the verb: the ordering of these heads is (under Baker’s Mirror Principle) exactly the same found for adverbs in “adverbial languages”¹. We report in (2) the adverbial hierarchy which constitutes the lowest

¹ Cinque’s (1999) account of the adverbial ordering in terms of an FP hierarchy, rather than adjunction, is a welcome conclusion under a restrictive theory of syntax, such as Kayne’s (1994) antisymmetric program. In this system, adjunction to XP is never an option, even though Specs are in general considered elements adjoined to single bar constituents.

part of “IP”, noting, as expected, its consistency in different languages (Italian (2a), French (2b), English (2c) respectively).

- (2) a. *solitamente*>*mica*>*già*>*sempre*>*completamente*>*tutto*>*bene*
b. *généralment*>*pas*>*déjà*>*plus*>*toujours*>*complètement*>*tout*>*bien*
c. *usually*>...>*already*>*always*>*completely*>...>*well*²

The ordering in (2) has been obtained by simply juxtaposing adverbs belonging to different semantic classes and noting that they can only appear in just one of the *n* possible orderings. The mechanics of this process is illustrated by the paradigm (3):

- (3) a. Quando lo andiamo a trovare, Gianni ha **solitamente già** finito di mangiare
When him-cl. go to meet, Gianni has usually already finished to eat
b. *Quando lo andiamo a trovare, Gianni ha **già solitamente** finito di mangiare
c. Gianni ha **già** spiegato **bene** la lezione a Maria
Gianni has already explained well the lecture to Maria
d. *Gianni ha **bene** spiegato **già** la lezione a Maria
e. Gianni capisce **solitamente bene** la lezione
Gianni understands usually well the lecture
f. *Gianni capisce **bene solitamente** la lezione

Examples (3 a-b) show that the adverb *solitamente* must precede the adverb *già*. (3 c-d) show that *già* precedes *bene*. (3e-f) confirm the validity of the ordering *solitamente*>*già*>*bene*, showing that transitivity holds: *solitamente* must in fact precede *bene*. The reiteration of this procedure with all the different adverbial classes yields the highly articulated structure of IP proposed by Cinque (1999)³.

The adoption of this rich clausal architecture poses some preliminary problems of “translation”: given the pre-pollockian clausal structure adopted in classical works on floating quantifiers (such as Sportiche (1988)) or even the not-so-highly-

² The clausal structure proposed by Cinque (1999) is actually even more fine grained than reported in (2). In particular, several adverbs can occupy two distinct positions yielding two different semantic interpretations. Cinque (1999, ch. 1 p. 30) argues that in (ia) “*slowly* qualifies the entire event (each test could well have been rapid), whereas in (ib) it qualifies each test individually”:

- (i) a. He has been slowly testing some bulbs
b. He has been testing some bulbs slowly

As the point is irrelevant to our argument, in order to avoid unnecessary complexity we will keep on referring to (2) as the lowest part of the IP.

³ In (3) we tested three adverbs quite “distant” from one another. It is worth observing that the closer two adverbial classes are, the more nuanced the grammaticality judgement becomes.

articulated structure adopted by Cinque himself in works on leftward movement of *tutto* in Italian (see Cinque (1995, ch. 3, 9)), the positional characterisation of the landing site of these clause internal movements must be reconsidered; if “IP” is indeed constituted of about thirty adverbial FPs (and each one is probably “accompanied” by a “DP related” FP), the number of possible landing sites for movement dramatically increases. It is thus necessary to test the position of the moved material with respect to the fixed position occupied by adverbs in the relevant part of the clausal structure.

The “positional analysis” will always be integrated by an analysis of the “typology of positions”: the individuation of a particular position in the structure will be constantly tied to the individuation of the typological class it belongs to. The matter is made more complex by the split between quantificational and modificational \bar{A} positions recently proposed by Rizzi (1999), (2000).

In *Relativized Minimality* (1990), Rizzi suggested that “the class of possible interveners triggering minimality effects is not coextensive to the class of target positions, but significantly wider” (Rizzi (2000)). In fact, it is well known that Negation, *wh*- elements and quantificational adverbs such as *beaucoup/molto* all pattern alike so far as their ability to block *wh*- extraction of non arguments in “pseudo opacity” structures is concerned (Rizzi (1990))⁴, as (4 b, c, d) clearly show:

- (4) a. Combien_i a-t-il consulté [_{t_i} de livres] ?
b. *Combien_i a-t-il **beaucoup** consulté [_{t_i} de livres] ?
c. *Combien_i ne sais-tu **pas** résoudre [_{t_i} de problèmes] ?
d. *Combien_i sais-tu [**comment** résoudre [_{t_i} de problèmes] ?

On the other hand, if all adverbs sit in a [Spec, FP] and all such positions are (by assumption) uniformly \bar{A} position, one should expect that all adverbs may trigger minimality effects with respect to *wh*- extraction of non arguments. The prediction anyway is not borne out, as (4) clearly shows:

- (5) a. *Combien a-t-il beaucoup consulté de livres ?
b. Combien a-t-il attentivement consulté de livres ?

On the basis of data like (5) Rizzi (2000) proposes that \bar{A} positions are actually to be split into two classes: quantificational \bar{A} positions (\bar{A} -q henceforth) and modificational \bar{A} positions (\bar{A} -m). If this idea is correct, one should find cases in which a modificational adverb acts as an intervener wrt to the fronting of another modificational adverb. Consider (6):

⁴ These data were originally noted by Obenauer (1983).

- (6) a. *Rapidamente, i tecnici hanno probabilmente risolto ___ il problema
b. RAPIDAMENTE i tecnici hanno probabilmente risolto ___ il problema⁵

(6a) shows that the fronting of a modificational adverb across an adverb of the same type triggers RM effects. Since Focalization, contrary to simple fronting, involves movement to a Left Peripheral \bar{A} -q position (Cinque (1990), Rizzi (1997) and much related work), no RM effect is triggered in (6b), as Rizzi (2000)'s theory correctly predicts (see also (44) and fn. 22).

The same kind of effect is further illustrated by the fronting of adverbs for V2 reasons in Dutch. Given the ordering *helaas* (unfortunately) > *waarschijnlijk* (probably) (7), only the former can be fronted but not the latter: this movement would violate RM, since both the landing site and the intervener are \bar{A} -m positions (8).

- (7) a. Het is zo dat hij helaas waarschijnlijk ziek is
“It is so that he unfortunately probably sick is”
b. *Het is zo dat hij waarschijnlijk helaas ziek is (helaas > waarschijnlijk)
- (8) a. Helaas is hij ___ waarschijnlijk ziek
“Unfortunately is he probably sick”
b. *Waarschijnlijk is hij helaas ___ ziek
c. Waarschijnlijk is hij ___ ziek Koster (1978)

Having spelled out the background theoretical assumptions underlying this work, we may now turn to the analysis of the movement of *tout/tutto*.

2. The movement of *tout/tutto*: the low position

It is well known, at least since Belletti's (1990) influential work on Verb movement, that both French and Italian object quantifiers *tout/tutto* occupy a derived position at S-Structure (or at Spell Out) despite the fact that *tutto* follows the Past Participle and *tout* precedes it, as (9) shows.

- (9) a. Jean a {tout} mangé {*tout}
b. Gianni ha {*tutto} mangiato {tutto}

The contrast in (9) is amenable to the well known difference between the two languages concerning Past Participle movement; since Past Participle in Italian moves much higher than its French counterpart, the data in (9) are readily accounted

⁵ (i) shows that the correct hierarchical ordering of the two adverbs *rapidamente* and *probabilmente* is *probabilmente* > *rapidamente*.

- (i) a. I tecnici hanno probabilmente risolto rapidamente il problema
b. *I tecnici hanno rapidamente risolto probabilmente il problema

for. This conclusion is further confirmed by the distribution of low adverbs; since both quantifiers show the same distribution with respect to the fixed positions occupied by low adverbs (they precede (see (10)), and follow (see (11)) the same adverbial classes), the obvious conclusion is that they occupy the same structural position in both languages:

- (10) a. Ha già detto **tutto bene** Gianni
b. *Ha già detto **bene tutto** Gianni
c. Elle a **tout très mal** compris
d. *Elle a **très mal tout** compris Cinque (1999)
- (11) a. Ha rifatto **già tutto** bene Gianni
b. *Ha rifatto **tutto già** bene Gianni
c. Jean a **déjà tout** refait
d. *Jean a **tout déjà** refait⁶

Although the conclusion that both *tout* and *tutto* occupy the same derived position at S-Structure is fairly uncontroversial in the literature, there is to my knowledge no general agreement about the categorial status of this derived position. As a matter of fact, any of the three aforementioned structural classes for XPs (A, \bar{A} -m, \bar{A} -q) has been proposed in different works to be the class the landing site of the movement of *tout/tutto* belongs to. Let's now consider each of the three alternatives

2.1 Movement to an \bar{A} -q position

Belletti (1990, pag. 78) argued that “[...] it can be assumed that *rien/tout*⁷ have the defining property of obligatorily undergoing a QR-type movement process in the syntax (presumably to be assigned scope already at this level of representation).” QR is typically an LF movement moving variables to a scope assigning position, therefore the landing site of this movement must be an \bar{A} -q position, since scope assigning positions are by assumption quantificational. The position occupied by *tout/tutto* seems to be hardly characterizable as a scope assigning \bar{A} -q position.

First of all, claiming that being subject to a sort of pre-LF QR is a “defining property” of *tout/tutto* is a mere stipulation, unless independent empirical evidence (which is, to my knowledge, lacking) supporting this thesis is brought up. Even assuming that some evidence in the desired direction could be found, it still needs to

⁶ As in all the examples quoted in this paper, unless otherwise indicated, the sentences in (10), (11) are to be read with a flat intonation, namely, one which doesn't make any constituent more “salient”.

⁷ The same argument is in a later passage extended to Italian as well.

be explained why the Quantifier can remain in base position when focalized, modified or coordinated, maybe with a very slight marginality (see (12)):

- (12) a. ?Il a repris TOUT
b. ?Il a repris presque tout
c. ?Il n'a lu absolument rien
d. ?Il a lu tout ou presque tout Belletti (1990)

Belletti (1990)'s account of the data in (12) consists in simply proposing that "It could be assumed as in Kayne (1975) that the rule moving the quantifiers is suspended in conjunction with stress or heaviness" (Belletti (1990), page 138 fn. 67). Also in this case, there seems to be no independent empirical reason forcing such a conclusion. Moreover, since QR involves the interpretability of the moved elements, some kind of interpretive difference between the bare quantifier cases (such as (10)), in which QR would have applied, and the non-bare cases (such as (12)), where no QR is supposed to have taken place should be detectable. The prediction is clearly not borne out, though.

Alongside these theoretical problems, the hypothesis according to which *tout/tutto* move to an \bar{A} -q position seems to be empirically inadequate; in fact, these quantifiers can move across a quantificational adverb like *beaucoup*, without triggering any RM violation.

In order to show that this argument goes through, it is first necessary to make sure that the position occupied by *beaucoup/molto* is indeed in between the moved quantifier and its trace and therefore qualifies as a potential intervener. Cinque (1999) observes that *beaucoup/molto* and *bien/bene* can be easily coordinated and seem to surface in a *quasi-complementary distribution*⁸, two (somewhat loose) indications that they may occupy the same position. However, this hypothesis does not seem very promising from a semantic viewpoint. In fact, the FPs constituting Cinque's hierarchy are each representative of a peculiar semantic class: *beaucoup/molto* and *bien/bene*, if anything, encode very different semantic properties and it is therefore highly implausible that they occupy the same position. Cinque (1999) further noticed that there are a few cases (like (13)) in which *molto* and *bene* can cooccur without requiring coordination. In all the relevant cases *bene* must necessarily follow *molto*. It is therefore plausible to assume that the two adverbs occupy two distinct, although contiguous positions.

⁸ Consider for example the sentences in (i), where coordination seems to be the only option ((ia) is grammatical in the irrelevant interpretation in which *molto* locally modifies *bene*):

(i) a. *Gianni ha mangiato molto bene
b. *Gianni ha mangiato bene molto
c. Gianni ha mangiato molto e bene.

- (13) a. (?)Ballava molto assai bene anche il fratello
b. *Ballava assai bene molto anche il fratello⁹

(10) above shows that the derived position *tutto* moves to precedes the one filled by *bene* (and the one filled by *completamente*, assuming (2) is correct), therefore *molto/ beaucoup* is indeed a potential intervener for the movement of *tout/tutto*.

The examples in (10) jointly with those in (13) correctly predict that the ordering *beaucoup/molto > tout/tutto* is impossible for configurational reasons (see (13b)), as (14) shows:

- (14) a. *Il a beaucoup tout apprécié
b. *Ha apprezzato molto tutto

We may now turn to the crucial examples in which the quantifier moves to a position higher than the one occupied by *beaucoup/molto*:

- (15) a. Il a tout beaucoup apprécié
b. Ha apprezzato tutto molto

If the landing site of *tout/tutto* were an \bar{A} -q position, an RM effect should arise, given the quantificational nature of the adverb *beaucoup/molto*. The absence of any such effect seems to suggest that the landing site of *tout/tutto* is not a quantificational position.

A possible objection to this conclusion is that whatever class the position occupied by *tout/tutto* belongs to, these elements possess an inherent [+Quantificational] feature, which should emerge in any position they move to, being lexically determined. This idea seems to be operative in such domains as variable binding, as (16) shows.

- (16) a. Tutto_i, non dovrà vender>(*lo)
b. I suoi libri_i, non dovrà vender*(li)

⁹ The judgment is quite delicate in this case, because the presence of an inverted subject cooccurring with a low adverb yields *per se* a marginal sentence as Rizzi (1996) showed (see (i)):

(i) ?Ha giocato bene Gianni
??Ha fatto tutto bene Gianni

The presence of the inverted subject is nonetheless very important in these cases: in fact, given the general possibility for any deaccented extraposed XP to appear in sentence in final position, it is necessary to show that the acceptability of a sentence like (13a) with a preverbal subject is not the result of the application of some “rescuing strategy”, like extraposition of the sentence final adverb.

Contrary to full DPs (16b), bare quantifiers such as *tutto* can bind a variable from a clearly non quantificational position (Topic in (16)) without requiring a resumptive clitic (16a). But not only don't they require a resumptive clitic, they actually do not tolerate it, plausibly because it would qualify as a closer potential binder for the variable in object position: this would lead to a case of vacuous quantification, since the operator-like item *tutto* would have no variable to bind.

These facts however do not automatically extend to the domain of Locality, which on the contrary doesn't seem to be sensitive to intrinsic features. As a matter of fact, we can consider variable binding and the computation of Locality effects two independent phenomena that exploit different computational mechanisms.

Rizzi (1999) proposes that a Spec position acquires the featural characterization *relevant for the computation of Locality effects* from its local head X° . Therefore the intrinsic features of a moved element are irrelevant for the computation of RM effects. Given the characterization of Relativized Minimality reported below and in particular (23 (i)), Rizzi (1999) proposes that "same structural type" is to be understood as "(i) head or Spec, and (ii) Spec licensed by features of same class"; the licenser of a given Spec is its local head.

2.2. Movement to an \bar{A} -m position

The hypothesis of a movement to \bar{A} -m position had been explicitly put forth in various works by G. Cinque. Cinque (1995, ch.9) argued that "[...] only *tout/tutto*, among XPs, could move to what appears to be an adverbial-like \bar{A} position, [...] while retaining their ability to bind a variable". The hallmark of bare quantifiers such as *tout/tutto* would be their being structurally reduced, "a complementless QP, unspecified for the features $\pm N \pm V$ " (Cinque (1995), ch. 9, pag. 282). The structural peculiarity characterizing these QPs could be responsible for their ability to escape the requirements of the Case Filter¹⁰: in fact, being a complementless QP implies being not a N° 's extended projection; therefore, the Case Filter can be ignored and the quantifier can move to an \bar{A} -m position.

The adverbial nature of *tout/tutto* is further discussed in Cinque (1999), where it is claimed that these Quantifiers encode a particular type of Completive Aspect. Cinque (1999), quoting previous work by Bybee, distinguishes two types of

¹⁰ I will not commit myself to the existence of the Case Filter; in particular, the ideas exposed in this paragraph will be rejected in a later one. Anyway, for consistence's sake, I will adopt a standard formulation of the Case Filter, such as that reported in (i) (taken from Chomsky (1995, ch. 1 page 111)):

(i) Every phonetically realized NP must be assigned (abstract) Case
Of course, the Case Filter extends also to all the nominal projections that can be considered extended projections of N° in Grimshaw's (1991) sense.

Completive Aspect in the case of a definite plural object, one expressing “that the plural set has been *totally* affected (i.e. each member of the set has been affected) and 2) that each member of the set has been totally affected”. Cinque proposes that, although several languages do not distinguish between the two (e.g. English (17), where the particle *up* ambiguously encodes both), others, like Polish (see (18)), do.

(17) I ate **up** the sandwiches

(18) **Po-prze-**czyt-yw-o am wszystkie jej książki
COMPL-COMPL-read-HAB-PAST all her books

“I have read all her books occasionally one after the other and right through”

Cinque (1999)

Cinque calls the two aspects “plural completion” and “singular completion”. Back to Italian, Cinque (1999) observes that “it is tempting to see *completamente* and *tutto* as the specifiers corresponding to ‘singular’ and ‘plural’ completion, respectively”; he further observes that in fact, *tutto* can only refer to a plurality of items (a singular object in not an appropriate answer to the question (19)) and that *completamente* obeys the same restrictions that the corresponding functional heads obey in other languages, namely it is “incompatible with situations lacking internal stages and a natural end point”. Thus, in the relevant respect, Hungarian, Chinese and Italian all pattern alike, *modulo* the realization of the head (Hungarian and Chinese) or of the Spec (Italian) of the same FP.

(19) Hai trovato tutto?

Cinque (1999)

(20) a. *Karoly tejet I vott meg

K. milk drank up

‘K. drank milk up’

b. Ta xiao-(*wan)-le

He smile-(COMPL)-PERF

‘He smiled completely’

c. *Gianni ha riso completamente

Cinque (1999)

This hypothesis, although the point is not fully clarified by Cinque (1999), seems to imply that the quantifier *tutto* acquires its modificational ‘completive’ nature by virtue of sitting in a modificational [Spec, FP] at SS or Spell-Out; in particular, the restriction concerning the possibility of referring only to singular referents should be the result of occupying the Spec of the Aspect_{Pluralcompletive} projection. If this is correct, the prediction is that this restriction should be suspended in those contexts in which the modified or focalized quantifier *tout/tutto* remains in base position. (21) shows that the prediction is not borne out, in fact in both (21a) and (21b) the quantifier can only refer to a singular entity.

- (21) a. Hai pulito tutto bene?
b. Hai pulito bene quasi tutto?

But the most important drawback of Cinque's analysis has to do with locality. If we adopt Rizzi's (2000) system, it is obvious that the quantifier *tout/tutto* can cross low modificational adverbs, as (10a), (10c) show¹¹, without triggering any RM effect.

A possible objection to this conclusion could be that *tout/tutto* are not inherently modificational elements (in the way most adverbs are), but acquire their modificational status only when they reach the relevant [Spec, FP] and therefore when the crossing takes place no RM effect arises because the moved element is not endowed with the relevant modificational feature the crossed element is. However, this objection does not go through. In fact, Rizzi's system (Rizzi (1990) as well as Rizzi (2000)) is essentially a representational system, namely one in which possible intervening effects are computed from the final representation rather than taking into account the whole derivation. Rizzi's (2000) basic idea of Relativized Minimality (see (22)) is in fact technically implemented making reference to the notion of Minimal Configuration (see (23)), which in turn relies on a representational notion of chain (see (24)), the typical *locus* where an MC is created.

- (22) In the configuration ...X...Z...Y... "Y cannot be related to X if Z intervened and Z has certain characteristics in common with X. So, in order to be related to X, Y must be in a minimal configuration with X, where minimality is relativized to the nature of the structural relation to be established" Rizzi (2000)

- (23) Y is in a Minimal Configuration (MC) with X iff there is no such Z that
(i) Z is of the same structural type as X, and
(ii) Z intervenes between X and Y Rizzi (2000)

- (24) (A_1, \dots, A_n) is a chain iff, for $1 \leq i < n$
(i) $A_i = A_{i+1}$ ¹²
(ii) A_i c-commands A_{i+1}
(iii) A_{i+1} is in a MC with A_i Rizzi (2000)

The combination of (22), (23), (24) implies that intervention effects are to be detected solely on the basis of the structural properties of the target position and of the intervener, therefore if they share the same feature (e.g. modificational in (10a), (10c),

¹¹ 10b, 10d show that *bene>tutto* is (expectedly) the only possible ordering between the unmodified quantifier *tout/tutto* and the *bien/bene* class of adverbs.

¹² See Chomsky (1995) for a theory of traces as copies.

as Cinque’s theory seems to imply) a RM violation is expected, no matter which features the moved element is inherently endowed with. Given the lack of RM effects in the cases under examination, it is fair to conclude that the head of the FP to which the Quantifier moves is not endowed with the feature [+Modification].

2.3. Movement to an A position

The option we are left with is movement to an A position. This hypothesis, defended in Cardinaletti & Starke (1994), (1994b), readily provides an explanation for exactly those aspects that were problematic for the hypotheses considered so far. In particular, it convincingly accounts for the possibility of leaving a non bare quantifier in base position and for the lack of RM effects in cases like (10), (15).

The latter point is straightforward. In fact, if the target position is an A position, the intervention of an \bar{A} element of whatever kind is not expected to trigger any RM effect. The case would be fully parallel to another case in which *tout* moves to an indisputable A position, namely subject position, crossing a modificational adverb (*vraiment*) without triggering any RM effect:

(25) a. Tout a été vraiment apprécié par Jean

Let’s now consider (25b):

(25) b. Gianni ha spiegato loro tutto bene

Cases like (25b), in which the weak pronoun *loro* has moved to a derived A position, probably for Case reasons, (see below and Cardinaletti & Starke (1994)) across the quantifier *tutto*, cannot be considered counterexamples to the conclusion that *tutto* moves to an A position. In fact, (25b) is a member of a larger set of cases in which a “short” A movement does not trigger RM violations; A movements of elements targeting positions within the verbal extended projection of the clause they were generated in, typically do not induce RM violations. The prototypical and most discussed cases of this sort are Object Shift and the (fully grammatical) crossing of the [Spec, AgrOP] position by the subject on its way to [Spec, AgrS]¹³. The typical

¹³ I do not really commit myself to any of the many proposals in the literature trying to account for the perfect acceptability of this movement, since the descriptive datum is all I really need in my argument. However, for completeness sake, it is worth noting that Chomsky (1995, ch. 3) argued for the well known device called *equidistance*, Roberts (1997) proposes that RM effects are voided if in the structural context ...X...Z...Y... X and Z are non-distinct, where distinctness is defined as in (i):

(i) α is a position nondistinct from β if α and β are of the same category and are in the extended projection of a single lexical category L.

Since both AgrOP and AgrS are in the same extended projection of the verb V, the intervener and the target are non-distinct, therefore RM is not violated, given (i).

RM violation involving A positions is in fact superraising, which in fact involves an intervener and a landing site which are in two distinct extended projections, being both positions required by EPP¹⁴.

As to the possibility of leaving a non bare quantifier in base position (such as modified, coordinated, focalized *tout/tutto*), Cardinaletti & Starke (1994) propose that what is at stake in these cases exactly corresponds to what is found with a large class of personal pronouns. Many personal pronouns have three distinct forms: a heavy, a weak and a clitic form (e.g. Italian dative plural pronoun *a loro* (Strong), *loro* (Weak), *gli* (clitic)). As the example in the parenthesis show, the strong form is often morphologically richer than the weak form, which is in turn richer than the clitic form¹⁵. This difference correlates to a distributional difference: strong elements occupy a position lower than those occupied by weak and clitic elements, as (26) clearly shows:

- (26) a. \Non **gli** metterò mai il cappuccio
b. Non metterò mai **loro** il cappuccio
c. Non metterò mai il cappuccio **a loro**

The strong version of the pronoun can typically be coordinated, focalized and modified, while the weak (and *a fortiori* the clitic) forms cannot, as (27) vs. (28) and (29) shows:

- (27) a. Ho parlato [a loro] e [a loro]
b. Ho parlato [a LORO], non [a LORO]
c. Ho parlato solo [a loro]

Finally, Rizzi (Univ. of Siena seminars, 1999) proposes that in the cases we are considering the intervener is not to be identified with just the head of the chain, but with the whole chain. Therefore, the crossing of [Spec, AgrOP] by the subject is not problematic since the tail of the chain formed by the movement of the object to AgrOP is not crossed by the subject, which is of course generated higher.

¹⁴ A case of superraising is illustrated in (i), where the subject of the most embedded clause is raised to the subject position of the matrix clause across the expletive subject *it* in [Spec, AgrS₂]:

(i) *[AgrS₁ John_i seems that [AgrS₂ it is likely [AgrS₃ *t_i* to win]]]

¹⁵ This is not necessary, though. In fact, in many cases the different classes are homophonous (German strong and weak forms *sie*, French weak and clitic forms *il*), but it is never the case that a stronger form is morphologically poorer than a weaker counterpart.

- (28) a. *Ho parlato [loro] e [loro]
b. *Ho parlato [LORO], non [LORO]
c. *Ho parlato solo [loro]
- (29) a. *[gli] e [gli] ho parlato
b. *[GLI] ho parlato, non [GLI]
c. *Solo [gli] ho parlato

Cardinaletti & Starke (1994) further show that when the structural conditions for the appearance of functionally equivalent pronouns are met, the weaker form is always preferred over the strong one. In other words, if nothing forces a strong form to occur (prominence, by and large, as in (27), (28), (29)), the weak form is chosen. (30) illustrates the point in different languages (from Cardinaletti & Starke (1994):

- (30) a. Jean {4la_C} regarde {*elle_S} (FRENCH)
b. Gianni {4la_C} guarda {*lei_S} (ITALIAN)
c. Ich habe {4ihn_W} gestern {*ihn} eingeladen (GERMAN)
d. ..., dass {4z_C/ *es_W} toire isch (OLANG TIROLESE)
e. ..., dat {4ze_W/*zj_S} niet will komen (DUTCH)

The properties observed so far for pronouns exactly mirror those of the quantifier *tout/tutto*. On the assumption that the quantifier *tout/tutto* has both a weak and a strong omophonous form (see fn. 12), all the data straightforwardly fall into place. (10) shows on a par with (30) that the weak form, which occupies a higher position (as (26) shows for pronouns), is preferred over the strong one when nothing forces the latter to appear. (12) shows for French that the contexts in which the quantifier is left in base position are exactly the same in which a strong pronoun shows up, namely modification (27c), (12 b, c), coordination (27a), (12d) and focalization (27b), (12a). (28) shows the same point in Italian:

- (31) a. Gianni ha capito bene assolutamente tutto (*assolutamente tutto bene)
(modification)
b. Gianni ha capito bene tutto o quasi (*tutto o quasi bene) *(coordination)*
c. Gianni ha capito bene TUTTO, non solo il primo capitolo (*?TUTTO bene, non...)
(focalization)
d. *Ha fatto bene tutto anche Gianni (3Ha fatto tutto bene anche Gianni)
(bare quantifier)

Cardinaletti & Starke (1994) account for the properties of weak elements in terms of structural deficiency: since their projection is structurally reduced (it

contains less structural layers)¹⁶, they need to compensate for such a deficiency by moving to an adequate [Spec, FP], in order to recover the properties they are not structurally endowed with. For example, it is argued in Cardinaletti & Starke (1994) that the property pronouns need to recover is case: the dummy marker *a* appearing in (26c) would be the morphological realization of a case assigning head¹⁷. Weak elements lack the relevant projection DP internally, therefore they must move to a “Case assigning” projection in the IP space, plausibly an Agreement projection (AgrOP or a similar projection if Agreement projections in the low IP space are more than traditionally assumed).

This case based account does not automatically extend to all the weak elements, since Cardinaletti & Starke (1994) observe that some languages such as Greek have weak adverbs¹⁸, which of course do not need case.

Determining the kind of structural deficiency affecting quantifiers is far from straightforward: in fact, it could only be assessed on the basis of a much deeper knowledge of the fine structure of QPs. If Cinque is right in claiming that bare quantifiers are complementless QPs, then a case based account of their structural deficiency would prove implausible, since they should be able to escape the Case Filter. If Cardinaletti & Starke’s (1994) approach (lack of the highest layer(s)) is on the right track, then bare quantifiers could still perhaps be considered extended projections of some empty N^o, thus being subject to the Case Filter. Their deficiency could then be due to Case reasons on a par with full DPs.

¹⁶ Cardinaletti & Starke (1994) propose that these projection lack the uppermost layer (C_NP), which, just like CP would be able to host a prepositional dummy marker, such as *a* in (26). I do not really commit myself to all the technical details of this proposal, given the many recent works showing that both the sentential CP and the DP are probably to share the same fate of the node IP, namely split into many FPs.

¹⁷ The overt morphological realization of this head is of course not a necessary condition for case assignment: the necessary condition is the structural presence of such a case assigning head.

¹⁸ The Greek adverb *sigò* is considered by Cardinaletti & Starke (1994) the weak counterpart of *sigà*, as their distribution in (i) confirms:

- (i) a. To {***sigà**} évrasa {3**sigà**}
 b. To {3**sigò**} évrasa {***sigò**}
 It slowly I boiled slowly

As predictable, only the strong form *sigà* can be grammatically coordinated:

- (ii) a. To évrasa **sigà** ke **kalà**
 b. *To **sigò** ke **kalo** évrasa
 It slowly and well I boiled

3. *The movement of tout: the high position*

As anticipated in the Introduction, in some, but not all biclausal structures, the French quantifier *tout* can occupy a high derived position, an option unavailable to its Italian counterpart *tutto*. Consider (32) vs. (33), adapted from Kayne (1975 ch. 1) and Kayne (1984 ch. 3):

- (32) a. Il a tout voulu manger
b. Elle n’a rien pu boire
c. Vous n’auriez rien osé dire (de plus)
d. Tu vas tout devoir apprendre par cœur
e. Il a tout failli rater Kayne (1975)
- (33) a. *Elle va tout avouer mépriser (3Elle va avouer tout mépriser)
b. *Elle est tout montée mettre à la poubelle (3Elle est montée tout mettre à la poubelle)
c. *Elle va tout courir mettre dehors (3Elle va courir tout mettre dehors)

The class of verbs allowing Quantifier Climbing by and large corresponds to the class of Restructuring verbs in restructuring languages. This datum is surprising, since Modern French lacks Restructuring, which is shown by the ungrammaticality of Long NP movement with mediopassive “*se*” (34a), Auxiliary Change (34b) and Clitic Climbing (34c), the typical hallmarks of Restructuring.

- (34) a. *Les nouvelles maisons se commenceront à construire
b. *Pierre est voulu venir avec nous
c. *Jean le veut faire

Although Modern French lacks Restructuring, Old French was a restructuring language, as (35) shows:

- (35) a. Nuls om mortals no.l pod penser (clitic climbing)
No man mortal not.it(cl.) can think
- b. Elle la commença a desirer (clitic climbing)
She it(cl.) begins to desire
- c. Vous estes volue apparoir (auxiliary change)
You are wanted appear
- d. car amors ne se puet celer (long NP movement)
as loves not “se”(mediopassive) can hide

(35) could lead one to hypothesize that the occurrence of Quantifier Climbing with the class of Restructuring verbs in French is a residual phenomenon, since French was a restructuring language. The hypothesis seems however hard to

maintain, since Italian, a full fledged Restructuring Language, strongly disallows Quantifier Climbing:

(36) **Gianni tutto vuole mangiare

We now face a somewhat paradoxical situation: French, a non restructuring language allows Quantifier Climbing in sentences involving restructuring verbs, whereas Italian, a restructuring language, simply disallows Quantifier Climbing. Before coming back to this intricate problem, let's first of all determine the structural class of the position the "climbed Quantifier" moves to.

3.1. *Quantifier climbing: the landing site*

Although Modern French does not allow Restructuring, Clitic Climbing¹⁹ is grammatical in some causative structures, plausibly a residue of earlier stages of the language, when Restructuring was an option:

(37) Jean la fait manger par/à Paul

Given Shlonsky (1991) analysis of the structure of QP, according to which *tout* is generated in Q°, Quantifier Climbing could in principle be thought of as head movement, on a par with (37). But a clear difference between Clitic Climbing and Quantifier Climbing emerges with respect to RM effects. Clitic Climbing clearly IS head movement, given the impossibility in both Italian and French for the clitic to cross an intervening head:

- (38) a. *Gianni **li** vuole **non** vedere (OK... **non li** vuole vedere) (OK... vuole **non vederli**)
b. *Gianni non **li** vuole **che** Maria veda
c. *Jean/Cela **lui** a fait **ne** pas manger a l'enfant (??Jean/Cela a fait ne pas manger sa soupe a l'enfant) (Kayne 1989)

On the other hand, the climbed Quantifier can cross a head (C° in (36)):

- (39) a. ?Jean veut tout qu'elle refasse
b. ?Je veux tout que tu leur enlèves
c. ?Je ne veux rien que tu fasses (d'autre)
d. ?Il faut tout que je leur enlève
e. ?Il ne faut rien que tu fasses

¹⁹ I adopt Kayne's (1989) account of cliticization as composite movement, namely XP movement to [Spec,AgrOP] followed by X° movement up to the cliticization site.

In all the cases in (39) the Quantifier crosses the Subject position of the embedded clause, thus showing that the position it targets is not an A position.

The Quantifier *tout* appears to be able to move out of *wh*- islands (40), thus showing that this position is not an \bar{A} -q position:

- (40) a. ?Il a tout su **ou** mettre Kayne (1989)

On the contrary, the intervention of a modificational adverb yields ungrammaticality:

- (41) a. *?Il a tout voulu **obstinément** voir en même temps

I take the evidence in (39), (40), (41) as a clear indication that the climbed Quantifier moves to an \bar{A} -m position.

This conclusion seems to be inconsistent with the grammaticality of the extraction of *tout* from Inner Islands, as (42b) shows²⁰:

- (42) a. Il aurait voulu ne tout dire qu'à son avocat
 b. *Il aurait tout voulu ne dire qu'à son avocat Kayne (1975)

It is well known, at least since Ross (1983), that *wh*- islands are stronger than Inner Islands; therefore, the asymmetry (40) vs. (42) is unexpected: the mild deviance of (40) should imply the perfect grammaticality of (42), contrary to fact.

Negation has long been considered an \bar{A} -q element; Rizzi (1990) observed that “...negation patterns on a par with other uncontroversial \bar{A} binders such as *wh*-elements and adverbial QPs”, as (43) shows²¹:

- (43) a. Combien a-t-il lu [*e* de livres]
 b. Il a beaucoup lu [*e* de livres]
 c. Il n'a pas lu [*e* de livres] Rizzi (1990)

²⁰ The intervener in (41) is plausibly not *ne*, which is standardly assumed to be the head of a NegP, but rather a null negative operator (the covert counterpart of *pas*) sitting in the Spec of the projection headed by *ne*.

²¹ The \bar{A} -q nature of Negation is further shown by the systematic lack of ambiguity in sentences like (ib), contrary to structures like (ia):

- (i) a. Il n'a [pas [résolu [beaucoup de problèmes]]]
 b. Il n'a [pas [beaucoup résolu [*e* de problèmes]]]

In (ia) the whole object can be grammatically Q-Raised at LF (whatever the reason allowing this structure: θ -marking of the object in a disjunctively formulated ECP, proper index assignment, D-Linking...), giving *beaucoup* wide scope. *Beaucoup* can only have narrow scope in (ib), because its raising across *pas* would violate RM, as (ii), the LF representation of (ib) with *beaucoup* assigned wide scope, shows:

- (ii) *beaucoup il n'a [pas [*t* résolu [de problèmes]]].

On the other hand, there seems to be good reason to believe that Negation also carries a [+Modification] feature, as (44) shows:

(44) *Rapidamente, Gianni non ha risolto il problema²²

This sentence is ungrammatical if the adverb is interpreted as simply fronted in a “Modification” position in the CP space, plausibly because the crossing of *pas* violates RM²³.

Rizzi’s (1999) theory accounts for the double featural specification of Negation ([+Modification] (44), [+Quantificational] (43) and fn.21) by simply proposing that different positions can inherit more than one feature by their head. The table (45), taken from Rizzi (1999), is a characterization of all the possible featural combinations of [Q], [Mod], [Arg].

(45)

ARG	Q	MOD	EXAMPLES
+	-	-	John (non-quantificational subjects)
+	-	+	*
-	+	-	Wh, Foc
-	+	+	Beaucoup, pas
+	+	-	Noone (quantificational subjects)
+	+	+	*
-	-	+	Carefully
-	-	-	Topic

Given (45), the asymmetry (40) vs. (42) is no longer surprising: the Wh word *ou* in (40) is specified as [+Q], therefore it does not qualify as an intervener for the

²² This sentence is grammatical if uttered in particular pragmatic contexts in which the adverb can be interpreted as a real Topic. Rizzi (1999b) reports the following conversational context:

A: Pare che Gianni abbia risolto rapidamente il primo problema

B: Mi sembra impossibile: rapidamente, ha probabilmente risolto IL SECONDO

As noted earlier, the Top° head is [-Q], [-Mod] and [-Arg], therefore the lack of RM effects in B is expected.

²³ Rizzi (1999b), proposes, in a way consistent with other recent works (see Benincà & Poletto (2000) among others), that the fine structure of the Left Periphery is more fine grained than it was assumed in Rizzi (1997). In particular, examples like (44), involving a non-topicalized adverb in the CP space, are taken to be a clear indication of the existence of a (recursive) Mod projection. Therefore, the CP structure proposed by Rizzi (1999b) is as in (i):

(i) Force Top* Focus Mod* Top* Fin

movement of *tout*, which targets a [+Mod] position. On the contrary, since it is specified as both [+Q] and [+Mod], Negation blocks Quantifier Climbing.

Hence, we can conclude that Quantifier Climbing targets a [+Mod] position.

3.2. *Quantifier Climbing: Restructuring and CP reduction*

What has still to be assessed is the relation between Restructuring and Quantifier Climbing. I adopt the basic guidelines of Roberts (1997) analysis of Restructuring, in particular the proposal that Rizzi’s (1982) idea of Restructuring as clause union can be implemented in more modern terms making reference to a process of incorporation of the embedded verb onto the restructuring verb, a process that yields a unitary extended projection.

Turkish data overtly support the hypothesis that an incorporation process underlies Restructuring; in fact in this language “the modal and aspectual predicates that trigger restructuring are realized as affixes” (Roberts (1997)), as (46) shows:

- (46) a. O Adam el **aç-iyordu**
The man hand open-PROG
“The man is begging”
b. **Yika-u-ma-mali-yim**
Wash-REFL-NEG-NEG-1SG
“I shouldn’t wash myself”

However, Romance Restructuring clearly does not rely on a process of morphological incorporation; in fact, the Restructuring verb and the embedded verb can surface under different heads, as the (grammatical) intervention of XPs such as Adverbs, FQs and *wh*- words between the two shows:

- (47) a. Questi libri si *volevano* **proprio** leggere
b. Gianni li *vuole* **tutti** leggere
c. ?Certe risposte non si *sanno* **mai come** dare

In order to make the data in (47) consistent with the idea that an incorporation process underlies Restructuring, Roberts (1997) proposes (48):

- (48) a. Head movement is copying
b. $*[X^0 W_1 W_2]$, where W_n are morphological words
c. A head is spelled out in the highest position of its chain, subject to (48b)

The morphological constraint in (48b) limits the “quantity” of morphological material that can be spelled out under a single head. Since two verbs are of course two distinct lexical items, their morphological incorporation would violate (48b), therefore, according to Roberts’ proposal, they have to be spelled out under distinct

heads (48c). Roberts concludes that Restructuring in Romance can be considered a sort of covert incorporation, which cannot surface morphologically, due to (48b). This idea along with the proposal that RM is suspended if the intervener and the landing site both belong to the same extended projection (see fn. 13) provide an explanatory tool for the emergence of the typical phenomena associated with Restructuring, namely Clitic Climbing, Aux change, Long NP movement²⁴. Consider for example (49), a case of Long NP movement:

(49) [_{AgrS1} [Queste case]_i si vogliono [_{AgrS2} PRO vendere_v [_{AgrOP} *t_i* Agr^o [_{VP} *t_v* *t_i* a caro prezzo]]]]]

The embedded verb *vendere* is “virtually incorporated” onto the Restructuring verb *volere*, but they are spelled out under different heads, due to (45b). The incorporation process yields a single extended projection: therefore, the movement of the DP *queste case* to [_{Spec}, AgrS₁] does not violate RM, since PRO in [_{Spec}, AgrS₂] does not qualify as a potential intervener, under the assumption that RM does not hold if landing site and potential intervener are in the same extended projection.

So, Roberts’ account of Restructuring relates the availability of Restructuring to long Verb movement, an empirically correct conclusion. Hence, so far as French is concerned, it does not allow Restructuring, since Infinitival Verbs do not move long enough to (virtually) incorporate onto the Restructuring verb, therefore in cases comparable to (49), PRO would count as an intervener.

As Roberts (1997) himself observes, his analysis does not easily extend to Quantifier Climbing. In fact, if anything, French should be more “opaque” than Italian, given the shortness of [-fin] Verb movement.

The necessary conclusion seems to be that Roberts’ analysis must be somehow integrated in order to account for Quantifier Climbing. I would like to propose that Restructuring verbs, alongside their ability to trigger the virtual incorporation of the embedded verb, also select a reduced CP. I take this (these?) missing layer(s) to be responsible for the ungrammatical climbing of *tout* with non Restructuring verbs in (33). This is just a speculation, though, since I have no strong independent evidence for such a claim. However, it is well known that Restructuring verbs and their counterpart in V2 languages allow for clause bound movements to happen in biclausal structures. Consider (50), from Giusti (1993):

- (50) a. weil die berühmte Friedlandia [_{CP} dieses Lied in Wien zu singen] versuchte
because the famous Friedlandia this Lied in Wien to sing **tried**
b. weil [dieses Lied]_i; die berühmte Friedlandia [_{CP} *t_i* in Wien zu singen]

²⁴ See Rizzi (1982) for the original account of these phenomena and Burzio (1986) for the non full coextensivity of the three phenomena.

References

- Belletti, A. 1990. *Generalized Verb Movement*. Rosenberg & Sellier, Torino.
- Baltin, M. & Ch. Collins, eds. 2000 *A Handbook of Syntactic Theory*, Blackwell, Oxford.
- Burzio, L. 1986. *Italian Syntax*. Kluwer, Dordrecht.
- Cardinaletti, A. & M. Starke. 1994. "The typology of structural deficiency. On the Three Grammatical Classes", *University of Venice Working Papers in Linguistics*, 4 (2).41-109.
- Chomsky, N. 1995. *The Minimalist Program*. MIT Press, Cambridge, Mass.
- Cinque, G. 1990. *Types of A' dependencies*, MIT Press, Cambridge, Mass.
- Cinque, G. 1995a "Bare quantifiers, quantified NPs, and the notion of operator at S-structure" (ch. 3 in Cinque (1995b)).
- Cinque, G. 1995b "On leftward movement of *tutto* in Italian" (ch. 9 in Cinque (1995c)).
- Cinque, G. 1995c *Italian Syntax and Universal Grammar*, Cambridge University Press.
- Cinque, G. 1998. *Adverbs and Functional Heads*. Oxford University Press.
- Giusti, G. 1993. *La sintassi dei determinanti*. Unipress, Padova.
- Grimshaw, J. 1991. "Extended Projections". Manoscritto, Brandeis University, Waltham, Mass.
- Kayne, R. 1975. *French syntax*. MIT Press, Cambridge, Mass.
- Kayne, R. 1984. *Connectedness and binary branching*. Dordrecht: Foris.
- Kayne, R. 1989. "Null subjects and clitic climbing". In Jaeggli, O. & K. Safir (eds.), *The Null Subject Parameter*: 239-261.
- Kayne, R. 1994. *The antisymmetry of syntax*. MIT Press, Cambridge, Mass.
- Koster, J. 1978. *Locality Principles in Syntax*, Foris, Dordrecht.
- Obenauer, H. 1983 "On the Identification of Empty Categories", *The Linguistic Review*, 4, 153-202.
- Pollock, J.-Y. 1989. "Verb Movement, Universal Grammar, and the structure of IP", *Linguistic Inquiry* 20, 365-424.
- Rizzi, L. 1982. *Issues in Italian Syntax*, Foris, Dordrecht.
- Rizzi, L. 1990. *Relativized Minimality*. MIT Press, Cambridge, Mass.
- Rizzi, L. 1996. "Residual Verb Second and the *Wh*-Criterion", in Belletti, A. & L. Rizzi (eds), *Parameters and Functional Heads*, Oxford University Press, 63-90.
- Rizzi, L. 1997. "The Fine Structure of Left Periphery", in L. Haegeman (ed.), *Elements of Grammar*, Kluwer, Dordrecht.
- Rizzi, L. 1999. "Some Issues in the Theory of Locality", talk given at the Workshop on the Cartography of Syntactic Positions and Semantic Types, Certosa di Pontignano, Nov. 1999.
- Rizzi, L. 2000. "Relativized Minimality Effects", in Baltin & Collins, eds. 2000.
- Roberts, I. 1997. "Restructuring, Head Movement and Locality", *Linguistic Inquiry* 28: 423-460.
- Shlonsky, U. 1991. "Quantifiers as functional heads: a study of quantifier float in Hebrew", *Lingua*, 84.159-180.
- Sportiche, D. 1988. "A theory of floating quantifiers and its corollaries for constituent structure". *Linguistic Inquiry* 19, 425-449.