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Against optional movement for clitic climbing Johan Rooryck Indiana University

1. Introduction*

Clitic climbing has received a great deal of attention in recent years. These constructions are not only revealing of the relations between matrix verbs and embedded complements (Rizzi 1982, Burzio 1986, Rosen 1989), but they also allow for an inquiry into the types of head movement (incorporation of clitics vs. incorporation into functional categories, Kayne 1989, Roberts 1991).

- (1) a. La volevo chiamare ieri her I-wanted to-call yesterday (= Roberts 1991:(5a))
 - b. Volevo chiamarla ieri'Yesterday I wanted to call her up'

Kayne (1989, 1991) proposes that clitics incorporate to the embedded T° , and that the cl- T° complex then moves up through the embedded AGR_S° and C° to the matrix clause. Roberts (1991) assumes that clitics are different from V° heads in that they involve incorporation by adjunction to a head, whereas a V° head incorporates into functional heads by substitution (see also Rizzi & Roberts 1989). Roberts (1991) argues that clitics, while observing head to head movement, move independently through all the embedded functional heads on their way to the matrix verb. Clitic climbing then is a case of excorporation. Crucially, Kayne's (1991) clitic- T° movement analysis of clitic climbing does not appeal to excorporation of clitics. Kayne (1991:661fn.38) argues that Roberts (1991) view of excorporation of clitics into the matrix clause does not explain the severe limitations on split clitics.

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¹ In Chomsky's (1992) minimalist framework, the difference between incorporation by adjunction and incorporation by substitution can be reformulated. Chomsky (1992) assumes that V° - T° - AGR_S° complexes are taken from the lexicon fully inflected before being inserted in V° position in the syntax. Roberts' (1991) incorporation by substitution then simply involves feature-checking of the V° - T° - AGR_S° complex by movement to the relevant functional heads. Roberts' (1991) incorporation by adjunction could be viewed as truly syntactic incorporation: it is not likely that verbs are taken from the lexicon with clitics already attached to them. Note that clitics can carry inflectional gender and number morphemes (French le/ la/ les), which puts them on a par with lexical categories rather than with the morphologically simplex functional categories in Romance.

² The severe limitations on split clitics could be explained in an excorporation analysis by an independent constraint on adjunction sites in heads. It could be assumed that Roberts' (1991) incorporation by adjunction only creates a single adjunction site. The adjunction of clitics to a head which already hosts a clitic then does not create a new adjunction site to the verbal complex, but incorporates the new clitic by creating an adjunction site on the previous clitic. This analysis

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We would like to argue that both approaches to clitic climbing have substantial drawbacks. In both Kayne's (1989, 1991) and Roberts' (1991) analyses, clitic climbing involves optional movement: it can, but need not take place. However, in the narrow minimalist framework designed by Chomsky (1989, 1992), optional movement is excluded: clitic movement should be expected to be driven by morphological properties. If clitic movement is not necessary for morphological reasons, it does not apply. It is unlikely that (1a) should contain morphological properties forcing clitic or cl-T° climbing which would be absent in (1b). Optional movement for clitic climbing is especially odd to the extent that both analyses assume that the first step in clitic movement involves obligatory incorporation (cf. * Je vois le 'I see it' vs. Je le vois 'I it-see'). An optional clitic movement analysis of (1) thus has to stipulate that once the clitic is incorporated in the lowest verb complex it can, but need not, move further up. This stipulation is quite unattractive, since it is likely that when a clitic is in the structural environment for incorporation, it incorporates automatically. A clitic does not 'know' that it is already incorporated. Notice that Kayne's analysis partially escapes this criticism: for Kayne (1991), clitic climbing is not just movement of the clitic, but movement of the cl-T complex. However, movement of this cl-T complex must still be conceived of as optional movement, an undesirable result. Therefore, on the basis of minimalist assumptions, an analysis based on the idea that clitics obligatorily move whenever they are governed by an incorporating head is preferable to one which involves optional movement. The apparent optionality illustrated in (1) then must be derived from properties other than movement.

In this paper, we would like to develop such an account based on minimalist assumptions. Throughout, Belletti's (1990) AGRS°-T°-V° ordering for functional projections in Romance will be assumed. We will develop an argument which supports the view that clitics can move alone to the higher verb, following Roberts' (1991) excorporation analysis. *Contra* Roberts (1991), however, we will assume that clitics do not freely move up through the infinitival functional projections to the matrix clause. Following Kayne (1989, 1991), we will accept that clitics are incorporated by adjunction to T° or Infn°. Only morphological heads are triggers for incorporation. This can be stated as in (2):

(2) Only temporal heads (T°, Infn) properly governing (non *Wh*-) clitics trigger incorporation by adjunction of these clitics in Romance (Kayne 1991).³

probably could explain the fixed clitic ordering in most Romance languages, which is not expected in an analysis such as Roberts' (1991) where each clitic presumably has its own adjunction site. If this proposal is in the right track, excorporation could be argued to take place only along the lines of either the adjunction site involving the clitic cluster, or the substitution site involving the V-T-AGR complex. This would effectively prevent split clitics, while allowing it in the cases mentioned by Kayne (1991) where the clitics separately adjoin to different functional projections, e.g. Inf° and T°.

Kayne (1991) suggests that (i) constitutes a case of clitic climbing to T° rather than to AGRs°. In

³ Kayne (1989, 1991) convincingly shows that attachment to V is not a fundamental property of Romance clitics, in view of the fact that clitics can be separated by phrasal adverbs in a number of Romance languages:

^{. (*)} Jean a promis de les bien faire (=Kayne 1989.(3)) John has promised for/to them well do'

Kayne's (1991) strong constraint on incorporation is to be preferred to Robert's (1991) 'free' clitic in/excorporation on minimalist grounds. Morphological properties triggering movement should be restricted, since we do not expect every functional category to have the morphological property of incorporating clitics by adjunction. Moreover, if clitics were allowed to move up freely through the functional projections as in Roberts' (1991) analysis, there is no reason why they would not be allowed to do so in Modern French. However, French does not have clitic climbing in sentences corresponding to (1). It will be shown that this difference actually derives from (2).

An important consequence of the morphological restriction in (2) is that AGRs° and C° can never incorporate clitics. In the case of CP complementation, this entails that if the embedded clitic-verb complex does not raise to C°, the embedded clitics cannot be properly governed by the matrix V°-T°-AGRs° complex, and are therefore prevented from excorporating into the matrix clause. Following (2), clitics cannot climb on their own, but must be governed by their excorporation triggers (the matrix T° or Inf°) to do so. As a consequence, excorporation into the matrix clause can only take place if the entire embedded cl-T-V complex has moved high enough for the matrix T° or Info to govern it. Only when a clitic is carried as high as C° as part of the embedded verb complex will it be governed by the matrix V°-T°-AGRs° complex which is inserted in the V° position (Chomsky 1992). The T° of this governing V°-T°-AGRs° complex then acts as the excorporation trigger for the clitic in the embedded C°, making the embedded clitic climb to the matrix clause. Clitics need to hitch a ride from the embedded verb into C° before they can excorporate into the matrix clause. If this ride is not provided, AGR_S° and C° constitute hurdles for clitic climbing; not being able to incorporate clitics on their own, they prevent the matrix T° or Inf° from governing and incorporating the embedded clitics. In this paper, two arguments will be developed to show that a minimalist account of clitic climbing along the lines just sketched is possible and desirable. The first argument comes from a surprising contrast in clitic climbing out of Italian and Spanish Wh- infinitives. Kayne's (1989, 1991) cl-T° movement analysis predicts that the matrix and embedded verbs will constitute a single temporal domain in all cases of clitic climbing. In the case of clitic climbing out of Wh- infinitives, this prediction is not carried out. Therefore, we conclude that clitics can move alone to the higher clause without To provided the clitics are governed by the matrix V°-T°-AGRs°. The second argument is based on the fact that non Wh- clitic climbing constructions do constitute a single temporal domain with the embedded clause. This property can be linked to T° raising, as assumed by Kayne (1989, 1991). However, in view of the fact that T° raising has been shown not to be obligatory in Wh- infinitives, T° raising has to be independently motivated. It will be shown that if clitic raising is triggered by a governing V°, To raising is triggered as a last resort effort in order to prevent Relativized Minimality from applying to the chain linking the raised clitic to its trace. The optionality of clitic climbing can ultimately be reduced to the interaction of Relativized Minimality and obligatory X° movement

2. Clitic climbing out of Wh- infinitives

Rizzi (1982) and Kayne (1989) quote examples of clitic climbing out of Wh- infinitives:

- (3) a. Non ti saprei che dire
 - 'Neg I to-you would-know what to say' (Kayne 1989:(16))
 - 'I would not know what to say to you'
 - b. ? Mario, non lo saprei a chi affidare, durante le vacanze. (Rizzi 1982:36) Mario, I him wouldn't know to whom to entrust __ during the holidays
 - c. ?? Un simile problema, proprio non lo saprei come risolvere. Such a problem, I really wouldn't know how to solve ___ (Rizzi 1982:36)

It seems that these cases are very restricted, however. The acceptability of (3bc) seems to decrease dramatically outside of left dislocation contexts. My informants rule out the following:

- (4) a. * Non ti saprei come dire che la macchina era rotta
 'Neg to-you I-would-know how to tell that the car was broken'
 'I would not know how to say that the car was broken
 - b. * Non lo saprei a chi dire'Neg it I-would-know to whom to-sayI would not know to whom to say it

Therefore, we would like to see the contrast in the preceding examples as one between (3a) and the unacceptable (4), since these sentences do not involve a left dislocation context. The examples in (3bc) appear to be somehow rescued by left dislocation of an NP corresponding to the clitic climbed. These apparent cases of clitic climbing in the context of left dislocation in Italian (3bc) can be analyzed along the lines of the account for clitic left dislocation developed by Cinque (1991). Cinque (1991) shows that clitics and their traces in left dislocation contexts have quite different properties, and analyzes clitics in these contexts as resumptive pronouns. The climbed clitics in left dislocation contexts might well not be instances of climbed clitics at all, but resumptive clitics licensed by the left dislocation context in the sense of Cinque (1991). We will not go into this problem here.

Let us now come back to the question as to why (3a) is so much better than (4). We would like to argue that it is related to the position of the infinitives at S- structure in both cases. Bouchard and Hirschbühler (1986) show that French que 'what' is a clitic on the verb which forces movement to C° of the clitic verb complex. It seems that the same is true for the clitic allomorph of Italian che 'what', to the extent that che cannot be separated from the verb by the subject in root clauses.

- (5) a. [CP Que fait[IP il? What does he? 'What is he doing?
 - b. * Il fait que
- (6) a. Mi domando che fa Gianni ?/ *che Gianni fa ?
 - b. Mi domando cosa fa Gianni?/ cosa Gianni fa? 'I wonder what does Gianni/ what Gianni does'

In embedded infinitives, the clitic character of *che* cannot be verified by the inversion of the subject, of course. However, elements such as negation cannot intervene between *che* and the verb. If *cosa*, the nonclitic XP allomorph of *che*, is in [Spec, CP], negation is possible.

- (7) a. * Non sapevo che non dirti
 'I didn't know what not to say to you'
 - b. Non sapevo cosa non dirti
 'I didn't know what not to say to you'
- (8) a. Non ti saprei che dire
 - b. Non saprei che dirti'I wouldn't know what to say to you'

Clitic Wh- elements such as que/che in embedded sentences have to move to the embedded C° in order to license their Wh- property, in accordance with Rizzi's (1991) Wh- criterion. Belletti (1990) has argued that infinitives in Italian move up to AGR_S° . We would like to propose that in Italian movement of che to C° takes place via movement of the che - infinitive complex to AGR_S° , and then on to C° in order to satisfy the +Wh- properties of che 'what' in the way of tensed verbs as in (5-6). Rivero (1988) has suggested that in imperatives, negation prevents the verb from moving to C° , triggering subjunctive morphology. Likewise, we claim that the embedded negation in (7a) prevents the che- infinitive complex from moving into C° and thus from verifying its Wh- properties. As a consequence, the sentence (7a) is ruled out. In (7b), the nonclitic +Wh- XP element cosa can move alone to [Spec, CP], unbothered by negation. In this case, there is no reason for the verb to move to C° since it has no +Wh- clitic incorporated into it.

We are now in a position to explain clitic climbing in (8a): the che + i infinitive complex can be assumed to take along the clitic ti 'you' to C° . From the position of the che + ti + i infinitive complex in C° , the clitic ti 'you' then excorporates to the matrix V° - T° -AGRS° complex which governs C° . Recall that in Chomsky's minimalist framework, the matrix V° - T° -AGRS° complex is inserted in V° and moves only to check features. The temporal morphemes then govern C° from the V° position and obligatorily trigger incorporation of clitics in the same way they would in a root clause where a verb governs the clitic. The embedded clitic che 'what' cannot incorporate into the higher verb because it has satisfied its morphological Wh-property. This yields the following structure for (8a):

(9) Non **ti** saprei [CP [che - t'ti - V°**dire**-T°-AGR°S-C°] [AGR-S-P [TP [VP tdire tti]]] In this way, Kayne's (1991) assumption that only temporal morphemes T° and Inf° incorporate clitics can be preserved. If clitics are to move to the matrix verb out of a CP, they have to hitch a ride as far as C° on the verb. This analysis explains why clitic climbing out of *Wh*-

⁴ It is unclear whether Spanish $qu\acute{e}$ 'what' should also be analyzed as having a clitic allomorph. Spanish $qu\acute{e}$ 'what' seems to behave like an Wh- NP. This could be a potential problem for the extension of the analysis presented here to (7b), since there would be no reason for the Spanish infinitive to move all the way to C° if $qu\acute{e}$ 'what' can move independently to [Spec, CP]. Nevertheless, there seems to be some limited evidence that the infinitive does move to C° in Spanish $qu\acute{e}$ -infinitive clauses. Wh- infinitives with negation are only acceptable if negation is stressed. If the negation is associated with an adverb, which prevents stressing, the sentence is downgraded.

i. Me pregunto qué NO decirle 'I wonder what not to tell him' ii. *? Me pregunto qué todavía no decirle 'I wonder what not to tell him yet' It might be that stressed negation can move along with the infinitive to C°, perhaps after reanalysis with the verb, an option unavailable for unstressed negation.

infinitives is restricted to che + infinitive: only in this case, the infinitive is forced to move to C° with the clitic. In case an XP Wh- element moves to [Spec, CP] as in (4), the verb has no reason to move to C° . Therefore, the clitics will never be high enough to be governed by the matrix verb complex which triggers excorporation.

The analysis proposed now raises the question how (8b) is derived where clitic climbing does not apply. If the che + ti + infinitive complex moves to C° in (11a), why would it leave behind the clitic ti 'you' in (8b)? X° movement to C° surely does not pick at random either che + infinitive or che + ti + infinitive.

An answer to this question can be found if we adopt Rooryck's (1992) analysis of enclitic ordering in Romance imperatives and infinitives. Rooryck (1992) claims that enclitic ordering in infinitives is obtained by the verb leaving its clitics behind in T° before moving to AGR_S° . The resulting enclitic ordering is forced by a slightly modified version of Relativized Minimality, adding provision (11) to Rizzi's (1990) (i-iii) in (10):

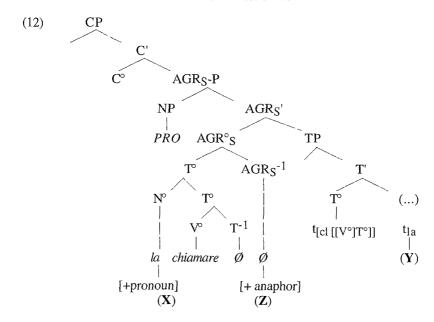
- (10) $X \alpha$ -governs Y only if there is no Z such that
 - (i) Z is in a base-generated position
 - (ii) Z is a typical potential α governor for Y
 - (iii) Z c-commands Y and does not c-command X where α-government ranges over A, A', and X° government (Rizzi 1990)
- (11) (iv) Z is semantically definable in the same terms as X and Y.

 (Where 'semantically defined' refers to the way in which the feature content of X, Y, Z is interpreted by different modules of the grammar)

 (= Rooryck 1992: (30))

Rooryck (to appear) takes seriously Borer's (1989) idea that the AGR_S° of infinitives is what is anaphoric in nature rather than the PRO subject of infinitives. Rooryck (1992) argues that the anaphoric infinitival AGR_S° can be defined in terms of the Binding theory, contrary to noninfinitival, 'tensed', AGR_S° which cannot be so defined. Clitics can also be defined in terms of the Binding theory as either pronouns or anaphors. Since both the infinitival AGR_S° and clitics have a semantic feature content which is definable in Binding-theoretic terms, the infinitival AGR_S° can count as an intervening governor for clitics according to (10-11). Exactly this situation arises if the clitics on the infinitive were to be raised with the verb to AGR_S° . The following tree diagram, which adopts Roberts' (1991) distinction between X° movement by adjunction and substitution, as well as Kayne's (1991) idea that clitics attach to T° , may serve to illustrate this:⁵

⁵ As argued by Rooryck (1992), the provision (21)(iii) on c-command has to be weakened in X° complexes, since despite appearances all X° elements in an X° complex are hierarchically on the same level. This also explains how the verb is capable of properly governing the trace of the clitic in the infinitival complex moving to AGR_{S}° .



One way to avoid this configuration from arising is to leave clitics behind in the infinitival T° (Rooryck 1992). Under this analysis, (8b) has the following structure:

(13) Non saprei [CP [che - t'_{ti} -V°dir-T°-AGR°S-C°] [AGR-S-P [TP ti [VP t_{dire} t_{ti}]]]

In this structure, the (non antecedent governed) trace t'_{ti} of the clitic in the infinitival verb complex is properly governed by V°_{dir} Importantly, in the structure (13), the clitic in T° can never move to the matrix V° because it is not governed by it.

At first sight, this analysis of (8b) predicts clitic climbing as in (8a) to be impossible, contrary to fact. In the structure (9), the infinitival AGR_S° should also count as an intervening governor for the chain relation between the trace t'_{ti} which is antecedent governed by the raised clitic, and the lower trace t_{ti} . However, this conclusion is premature. Recall Rizzi's definition of Relativized Minimality in (10) stipulates that the potential intervening α -governor Z should be in a base-generated position in order to count as a bona fide intervening α -governor. If the intervening governor AGR_S° were to move one notch up, the violation of Relativized Minimality is effectively canceled. This is in fact what happens in (9): the entire infinitival X° complex moves to C° , voiding the intervening governorhood of AGR_S° with respect to the chain relating the clitic ti 'you' and its trace. The clitic ti 'you' can simply move along with the infinitival complex to C° before excorporating into the matrix verb.

The optionality of clitic climbing illustrated in (8), with the respective structures (9) and (13), then simply boils down to two ways of satisfying Relativized Minimality. In (13), the clitic ti 'you' stays down in T° because of the intervening governor AGR_S° which would be a closer governor for the trace of ti 'you' if the clitic ti 'you' were to move to AGR_S° with the rest of the V° complex. Being left behind in T° , the clitic is not governed by the matrix verb complex, and therefore cannot excorporate. In (9), the application of Relativized Minimality

has been voided via movement of AGR_S° (and the entire infinitival complex) to C° . Being properly governed by the matrix verb complex, the clitic must excorporate into the matrix verb. Notice that on the account presented here, movement is never optional. The only optional aspect of the analysis lies in the way Relativized Minimality can be satisfied.

Our analysis implies that clitic climbing in Wh- infinitives involves just climbing of the clitic, without T° as in Kayne's (1991) cl-T° movement analysis. Kayne's analysis makes a strong prediction with respect to the interpretation of all sentences involving clitic climbing. If the infinitival cl-T° climbs to the matrix clause in (3a), we must assume it merges with the matrix T°. Kayne's analysis then predicts that every instance of clitic climbing should cause the tenses of the matrix and the embedded clauses to coincide. More precisely, contradictory time adverbs should be impossible in the sentences in (3), or the interpretation of the sentences should require joint completion of the matrix and embedded events. This 'temporal fusion' in clitic climbing constructions has been observed for clitic climbing out of non Whinfinitives (Napoli 1981, Rosen 1989). For instance, contradictory time adverbs are only possible in the construction which does not involve clitic climbing (14a) (Guasti p.c. quoted by Rosen 1989). Napoli (1981) has observed that in the clitic climbing construction, the actions of the two verbs are tied together in such a way that one must complete both (15a). Napoli (1981) also notes that (15c) is ambiguous, but the clitic climbing construction (15d) is not:

- (14) a. Oggi, vorrei finirlo domani 'Today (I)-wanted to finish-it tomorrow'
 - b. ?? Oggi, lo vorrei finire domani 'Today, (I)-wanted to finish-it tomorrow'
- (15) a. Ho cercato di finirlo. Ma ho fallito/ E ci sono riuscito
 - b. L'ho cercato di finire. * Ma ho fallito/ E ci sono riuscito 'I tried to finish it. But I failed/ And I did' (= Napoli 1981)
 - voglio di nuovo imprigionarliI want once more to imprison them/ I want to imprison them once more'
 - d. Li voglio di nuovo imprigionare

 '* I want once more to imprison them/ I want to imprison them once more'

The adverb can have scope over either the embedded or over the matrix verb which constitute separate temporal domains in (15c). In (15d), however, the temporal domain of the matrix and the embedded verbs have 'fused' together (Napoli 1981).

Obviously, Kayne's (1989, 1991) cl-T° raising analysis would make the correct prediction in the cases (14-15): raising of the clitic-T° complex automatically ensures temporal coindexation of the matrix and embedded clauses. However, the prediction that the same 'temporally fused' interpretation applies to the sentences in (3a) is not carried out. Although judgments vary a lot, at least some Italian and Spanish informants accept the following:⁶

⁶ Haverkort (1993) suggests that clitic climbing over a Wh- phrase is fairly marginal at best, since the acceptability of sentences such as (3) depends on various factors such as the choice of the clitic, the occurrence of negation in the matrix clause, and the choice of the matrix verb (See Moore 1991 for Spanish). However, such examples cannot be dismissed as a strange quirk of Italian and Spanish. While verifying sentences such as (3) with Italian and Spanish native speakers, I noticed that the

(16) a. % Alle cinque, non gli sapeva ancora che dire (durante la conferenza) (It.)

o. % A las cinco, todavia no le sabía qué decir durante la conferencia (Sp.)

At five o'clock, not to-him/her (he)-knew yet what to tell during the conference At five o'clock, he did not know yet what to tell him/her during the conference'

In clitic climbing constructions involving *Wh*- infinitives, the matrix and embedded events clearly are not interpreted as taking place at the same time in the sense specified above: contradicting time adverbs are possible, despite the presence of the climbed clitic on the matrix verb, and even without the adverbial in the embedded clause, speakers who accept (16) have separate temporal interpretations for the matrix and embedded verbs. Therefore, it must be the case that only the clitics in (3) climb to the matrix verb: it is unlikely that the embedded T° would also be raised in (3) without 'fusing' the temporal interpretation of both the matrix and embedded clauses. However, the fact that cl-T° climbing is not involved in the derivation of (3a) does not necessarily mean that cl-T° raising is not involved in the clitic climbing and temporal coindexation of (14-15). If T° climbing is still involved in (14-15), it will have to be motivated independently of clitic climbing, that is, there will have to be a compelling reason for T° to climb to the matrix verb (cf. § 4). The sentences in (16) constitute evidence in favor of an excorporation analysis of clitics in which clitics climb to the matrix clause independently of potential T° movement.

3. Motivating T° climbing independently of clitic climbing

How does clitic climbing take place in non-Wh- infinitives such as (1a)? Rochette (1988) and Rosen (1990) argue that these clitic climbing verbs involve VP complementation. However, the position of temporal adverbs modifying the infinitive does not corroborate this analysis. If clitic climbing constructions were to involve VP complementation, VP adverbs should be able to appear between the matrix and the embedded verb. This is not the case:

(17) Piero ti verrà a (*spesso) parlare (spesso) di parapsicologia Piero to-you will-come to (often) speak (often) about parapsychology 'Piero will come to speak to you often about parapsychology'

It seems that clitic climbing verbs involve at least AGR_S-P complementation, in keeping with Belletti's (1990) analysis that infinitives in Italian move up to AGR_S°.

Rosen (1990) has argued that clitic climbing verbs have two types of complementation. When the verb is 'heavy', i.e. has an argument structure, its CP complementation does not allow for clitic climbing. The 'light' counterpart of the same verb, which does not have an argument

factors in both languages are not the same. For Italian speakers, there was a tendency to exclude sentences with a matrix tense other than the conditional. Some speakers had a contrast between the conditional and the imperfect tense:

i. Non ti ?saprei/ *sapevo che regalare

'Not to-you I-would-know/ I-knew what to-give

In Spanish on the other hand, Josep Fontana (p.c.) reports a strong tendency to exclude these structures with embedded verbs other than *decir* 'say'. Unlike Italian speakers, Spanish speakers more readily allow for various tenses to be used in the main clause:

ii. No to sabía/ sé qué decir/ *?regalar 'Not to-you I-knew/ I-know what to say/ give' Whatever the marginality of these sentences in both languages, the fact that they exist in both Italian and Spanish, but not in French, must receive a structural explanation.

structure, has VP complementation and allows for clitic climbing. In fact, Rosen (1990) analyzes the clitic climbing and the nonclitic climbing constructions as a result of homonymy between 'heavy' and 'light' verbs. This solution is ultimately unsatisfying. It seems hard to believe that the subject in (18) does not bear the thematic role of Theme typical for movement verbs. Similarly, the slight semantic difference noted by Napoli (1981) between *volere* 'want' expressing desire in (1b), but only intent in (1a) does not warrant the radical difference in terms of presence or absence of argument structure advocated by Rosen (1990). Notice also

These books self-wanted/ began/ had to really read

'We really wanted/ began/ had to read those books'

The fact that *volere* in the clitic climbing construction takes on the auxiliary of the embedded verb is taken as evidence that the embedded verb chooses the auxiliary in the clitic climbing construction. In the non clitic climbing construction, the 'heavy' version of the verb selects the auxiliary itself. However, Kayne (1989:253, 1991) shows that auxiliary selection can be dealt with by movement of the embedded T° to the higher T° in case of clitic climbing. As a consequence, auxiliary selection does not illustrate the necessity of two different argument structures for clitic climbing verbs. Long object preposing does show that the subject of *volere*, aspectual and modal clitic climbing verbs is thematically empty. If aspectual and modal verbs are analyzed as raising verbs, this is hardly surprising. However, Rosen (1989) does not offer any hard evidence for a second, fully thematic, structure of modal and aspectual verbs. She also fails to point out that not all clitic climbing verbs have long object raising:

ii. L'ho cerchato di / provato a/ saputo riparare'I it have tried/ tried/ been able to repair'

iii. Queste macchine si *cerchavano di/ * si provano a / si sapevano riparare

These cars self-tried/ self-tried/ self-were-able to repair

'We tried/ were able to repair these cars'

This suggests that at least some clitic climbing verbs always have CP complementation, the [Spec, CP] A' position preventing the DS embedded object from moving to the higher [Spec, AGR_S-P] A position (cf. Chomsky 1986:74). Again, no double argument structure is necessary. The only troublesome case is *volere* 'want', which cannot have CP complementation in view of long object preposing, and cannot be a raising verb since it does not take weather verb subjects. However, a single argument structure for *volere* 'want' can be maintained if we accept the existence of control verbs with AGR_S-P (IP) complementation (Rochette 1988). Long object movement as in (i) can then be explained as a case of a 'double' impersonal *si* construction both on *volere* 'want' and on *leggere* 'read', forcing the embedded object to move to the matrix subject position, which is thematically vacated as in any passive structure of a transitive verb. The matrix *si* 'self' then actually represents both the matrix and the embedded impersonal *si* 'self'. Notice that AGR_S-P complementation for *volere* 'want' is specific for Italian: in Spanish, *querer* 'want', which has clitic climbing, does not have long object preposing for most speakers, suggesting the infinitive is a CP complement. Aspectual (raising) verbs do display long object preposing.

iv. Lo quiere hacer

It s/he-wants to do

's/he wants to do it'

v. Estos libros se *quisieron/ empezaron a leer

These books self-wanted/ began to-read 'We really wanted/ began to read those books' Summarizing, Rosen's (1989) evidence only shows that clitic climbing verbs have either the argument structure of raising verbs or that of control verbs.

⁷ Rosen (1989) bases her homonymy analysis for *volere* 'want' on three types of evidence: clitic climbing, long object preposing in the impersonal *si* construction, and auxiliary selection (cf. 18).

i. Questi libri si volevano/ cominciavano a/ dovevano proprio leggere

that a homonomy analysis cannot be applied to the cases of clitic climbing out of Wh-infinitives.

Following Kayne (1989:246), we would like to defend a unitary analysis for the climbing and nonclimbing constructions of (1ab): both the constructions with and without clitic climbing involve the same verb and the same type of complementation. Let us assume that most clitic climbing verbs involve AGRsP (IP) complementation. This is likely in view of the fact that most clitic climbing verbs are aspectual or modal raising verbs, with a few exceptions such as *volere* 'want, and *cerchare* 'try' (cf. note 7).

Our main challenge in analyzing clitic climbing in non *Wh*- infinitives is how to account for the temporal coindexation data observed by Napoli (1981) and Rosen (1989). Recall that we have shown in the previous section that clitic climbing does not automatically entail T° climbing. Kayne (1989) convincingly shows that the changes in auxiliary selection noted by Rizzi (1982:19-22) can be explained as a result of the climbing of the embedded T° to the matrix clause:

- (18) a. Piero ci è/ *ha voluto venire 'Piero there-is/has wanted to come'
 - b. Piero ha/ *è voluto venirci
 'Piero is/ has wanted to come-there'

In this way, both the temporal coindexation phenomena and the changes in auxiliary selection can be explained by a single syntactic operation. If we want to maintain this T° raising analysis to account for temporal coindexation and auxiliary changes, this movement will have to be motivated independently of the trigger for clitic climbing.

The answer to this question is relatively straightforward in the framework for clitic climbing sketched here. Following Belletti (1990), we have assumed throughout that the embedded clitic-verb complex moves to the AGR_S° node. In this position, the embedded clitic-verb complex will be governed by the matrix verb selecting the AGR_SP, and excorporation of clitics must take place in accordance with (2).⁸ Assuming AGR_SP complementation for *volere* 'want' (see fn. 7), the schematic representation in (19b) summarizes this situation:

- (19) a. La volevo chiamare ieri her I-wanted to-call yesterday (= Roberts 1991:(5a))
 - b. $la-V^{\circ}-T^{\circ}-AGR_{S}^{\circ}$ [AGR-S-P [$t'_{la}-Vinf-T^{\circ}-AGR_{S}^{\circ}$] [$TP \dots t_{la}$]]
 - c. $la-V^{\circ}-T^{\circ}-AGRS^{\circ}-(T^{\circ}-AGRS^{\circ})[AGR-S-P[t'_{la}-Vinf-t_{T^{\circ}-AGRS^{\circ}}][TP...t_{la}]]$

Notice that in the structure (19b), the embedded T° has not moved to the matrix clause. In a minimalist framework, we need a compelling reason to move T° as in (19c). Such a

The fact that long object movement and clitic climbing do not always occur together also raises a serious problem for 'unifying' analyses such as Sportiche (1992) and Bok-Bennema & Kampers-Manhe (1993) which crucially rely on the cooccurrence of both phenomena in all cases.

⁸ We will have nothing to say here about the status of the elements a and di introducing the IP complements of aspectual raising verbs such as *cominciare* 'begin', or *cercare* 'try'. It might be that these elements are case-markers (Rochette 1988), or clitics (Rizzi 1982). In any case, we assume that they do not prevent government of the embedded C° of *cercare* 'try' or the embedded AGR_S° of the matrix aspectual verb *cominciare* 'begin'.

compelling reason can be found within the analysis outlined above for clitic climbing out of Wh - infinitives. Assuming Rooryck's (1992) analysis, the structure (19b) violates Relativized Minimality: the infinitival AGRs° counts as an X° governor in a base-generated position intervening between t'_{la} and t_{la} . Recall that if the intervening governor is not in its base-generated position, Relativized Minimality does not apply. In the case of Wh - infinitives, this could be done by moving the infinitival complex to C°. If the intervening governor AGRs° were to move to the matrix verb as in (19c), the violation of Relativized Minimality would be canceled.

We want to claim that the temporal coindexation effects, which only occur in the clitic climbing construction (Napoli 1981, Rosen 1989), indicate that this is indeed what happens. In order to prevent RM from applying to the derivation (19b), the infinitival AGR_S° moves to the matrix verb as in (19c). In view of the auxiliary changes in clitic climbing constructions (18), it can be assumed that movement of AGR_S° also takes T° with it, thereby effectively coindexing the temporal domains of the matrix and embedded verbs. This joint movement of the infinitival AGR_S° and T° can be related to Roberts (1991) observation that functional categories which incorporate into each other by substitution cannot excorporate independently. The cases in which the clitic does not climb and remains as an enclitic can of course be accounted for in the manner outlined above for Wh- infinitives in (13). In these cases, Relativized Minimality ensures that the clitic does not move up to AGR_S° and remains in T° :

(20) a. Volevo chiamarla ieri

'I-wanted to-call-her yesterday'

b. Volevo [AGR-S-P [t'la-V°chiamare-T°-AGRS°] [TP la [VP tla]]]

Summarizing, whenever there is clitic climbing from AGR_S-P infinitives, temporal coindexation occurs, but the climbing of the clitic and the climbing of the infinitival AGR_S°-T° are triggered by different principles. Clitic climbing is triggered by the morphological property of temporal morphemes to incorporate clitics by adjunction (cf. (2)), an obligatory process under a minimalist approach. Whenever a matrix V°-T°-AGR_S° complex properly governs an embedded cl-V°-T°-AGR_S° complex, incorporation of the clitic into the matrix verb

⁹ Interestingly, Spanish *querer* 'want' does not show the temporal coindexation effects noted for Italian by Napoli (1981) and Rosen (1990). For most speakers, contradictory time adverbs are possible in the matrix and embedded clauses. (i) minimally contrasts with (14b): i. En este momento lo quiero hacer mañana

^{&#}x27;Right this moment, I would like to do it tomorrow'

Spanish speakers do not seem to have the difference reported in (14) for Italian. In the framework adopted here, this means that there is no T° climbing. The absence of T° climbing can be related to the fact that Spanish querer 'want' does not have AGR_S-P complementation but CP complementation. This is confirmed by the fact that Spanish querer 'want' does not allow for long object preposing, as opposed to Italian volere 'want' (cf. note 7). If Spanish querer 'want' has CP complementation, clitic climbing as in (i) can be explained in the same way as in clitic climbing out of Wh- infinitives: the entire verb complex moves to C° in order to escape the effects of RM, and the clitic in the infinitival verb complex in C° is forced to excorporate into the matrix clause, being governed by the matrix V°-T°-AGR_S° complex. T° does not climb further than C° because there is no compelling reason for it to do so. Consequently, there are no temporal coindexation effects for Spanish querer 'want'.

complex obligatorily applies. In that case, the infinitival AGR_S° and T° also move as a last resort effort. If the infinitival AGR_S did not move, it would count as an intervening governor for the chain linking the climbed clitic to its trace, and the structure would be ruled out by RM. Movement of the embedded AGR_S° - T° is not triggered by morphological properties, but as a way to prevent RM from applying. In case the clitics do not climb as in (20), we have argued they stay behind in T° rather than moving to AGR_S with the embedded verbal complex where they would violate RM. In this case, clitics cannot move to the higher verb complex because they are not governed by it, and there is no reason for the infinitival AGR_S to move. The optionality of clitic climbing then is determined by two ways of obeying RM: either the infinitival AGR_S moves out of its base position so as to not be an intervening governor for the clitic - trace chain as in (19), or the clitic stays behind in the embedded T° as in (20) to prevent AGR_S from becoming an intervening governor for the chain relating the moved clitic to its trace

4. Some apparent problems

A few apparent problems for the approach outlined above need to be solved. We have to explain why clitic climbing does not occur in the French counterpart (21b) of (8a):

- (21) a. Je ne sais que lui dire
 - b. * Je ne lui sais que dire
 - 'I don't know what to say to him'

If the clitic verb complex is in C° , as suggested by the fact that *que* is a clitic on the verb, the *lui* clitic should excorporate into the matrix clause since it is governed by the matrix V° . However, it seems that in certain infinitival clauses in French, the clitic *que* can move to C° without the help of the infinitive. Recall Pollock (1989) has shown that the French infinitive never moves up all the way to AGR_S -P, but stays down in the VP, or in a (possibly modal) Infin head reflecting the infinitival morphology (Kayne 1991). French infinitives contrast with Italian infinitives which move up to AGR_S° (Belletti 1990). The presence of negation in *que* infinitives in French shows that the infinitive is lower than the projection of negation and T° :10

¹⁰ This forces us into the inelegant but descriptively correct assumption that French X° que 'what' can move over negation (ne pas), whereas its Italian counterpart che 'what' cannot move over Italian negation (non) in infinitives. This may be due to the syntactic nature of negation in both languages. Admittedly, the possibility of negation in French que infinitives is quite restricted, and cannot be generalized:

i. * N'oubliez pas de rappeler aux enfants que ne pas manger avant d'aller dormir 'Don't forget to remind the children what not to eat before going to bed'

ii. (?) Je me suis demandé que ne pas prendre en vacances

^{&#}x27;I wondered what not to take with me on vacation'

It is not clear what factors influence this acceptability. Also note that in (13a), stressing negation makes the sentence more acceptable, whereas (13b) does not need such stress. Similarly, sentences with adverbs between *que* and the infinitive are excluded in all cases:

iii. * Je ne sais pas que discrètement dire au président

^{&#}x27;Remind me (of) what to discreetly tell the president'

However, in this case, the exclusion might be independently related to the fact that root questions

- (22) a. ?/?? N'oubliez pas de rappeler à Jean que ne pas leur dire pendant l'interview 'Don't forget to remind John what not to tell them during the interview' b.
 - (?) Avant de partir, je me demande toujours que ne pas emporter en vacances 'Before leaving, I always wonder what not to take with me on vacation'

In this case, the clitic *que* has moved to T° and subsequently moves to C° alone in order to check its Wh- properties. This movement of *que* to C° without the verb is not exceptional: Kayne (1989, 1991) has shown that attachment to V° is not an intrinsic characteristic of clitics (cf. fn 2). In French then, the clitic-infinitive complex is not in C° . As a consequence, the clitic *lui* cannot excorporate into the higher clause, since it is not governed by the matrix verb.

The same analysis explains why clitics never climb in non-Wh- infinitives in modern French, except in the causative constructions which are irrelevant here (see Guasti 1991 for a recent analysis). As is well known, the counterpart of (1a) is ungrammatical in Modern French. As argued by Kayne (1989, 1991) and Haverkort (1993), the lack of clitic climbing in these cases must be linked to the position of the infinitive in French as opposed to Italian/ Spanish. Since only proper government of a clitic by a V°-T°-AGRs° complex triggers clitic climbing, it is predicted that clitic climbing in modern French will be impossible, because the verb does not move high enough to let excorporation of clitics by the matrix verb take place. Even if clitics adjoin to T°, as in Kayne's (1991) analysis, they still are not in AGRs° where they would be governed by the matrix verb. Only the infinitive moving to AGRs° can take the clitic-T° complex with it into AGRs°. Clitics will be able to excorporate as far as the embedded T°, but AGRs° will be an inevitable hurdle, since it is not a trigger for excorporation. As a result, clitic climbing is impossible out of Wh- infinitives (CP complements) and non-Wh- infinitives which involve AGRs-P complementation (cf. supra). ¹¹ Note that Roberts (1991) analysis, in which clitics move up freely through all the

with the adverbs in the same position are not very good either:

iv. ?/?? Qu'aviez-vous discrètement dit au président?

What did you discreetly tell the president?'

We hope to come back to this observation elsewhere.

11 Richard Kayne (p.c.) informs me that this analysis does not extend plausibly to literary French Il en faut parler 'It of-it is necessary to talk'; since it would predict that long infinitive raising to AGR_S° and C° should be possible in this case. However, sentences such as * Il faut ne dire pas cela 'It is necessary not to say that', which would attest to raising to AGR_S° do not occur in literary French (Kayne, p.c.). Despite the correctness of this observation, long infinitive raising does marginally occur in literary French (Zanuttini 1991:24fn.22):

i. On peut être très intelligent et n'aimer pas les vers (quoted by Grevisse 1986:§1487) 'One can be very intelligent and not like not poetry'

It seems then that long infinitive raising is optional in literary French, but with a tendency to disappear altogether. To the extent that literary French constitutes a coherent dialect (an admittedly questionable assumption), we can propose that its optional infinitive raising is intermediate between Old French (obligatory infinitive raising) and Modern French (no infinitive raising). In the literary II en faut parler case, infinitive raising to AGR_S° or C° exceptionally applies and therefore triggers the archaic clitic climbing, even though this same infinitive raising does not occur in * Il faut ne dire pas cela, which already obeys the system of Modern French.

infinitival projections, predicts that Modern French should have clitic climbing. Pearce (1990) and Martineau (1991) show that in Old and Middle French, which was subjectless like Italian, clitic climbing was very productive. It can be assumed that the infinitive could still move up to AGR_S° and C° at this stage of the language, allowing it to behave like Italian with respect to clitic climbing (cf. also Haverkort 1993).

There is one last objection that might be formulated against the view that the clitic verb complex must be in C° in order to license clitic climbing. In Aux-to-Comp constructions (Rizzi 1982), infinitival auxiliaries are in C° and can carry clitics. Nevertheless, clitic climbing is not allowed, apparently falsifying our prediction that when a clitic - infinitive complex is in C° , clitic climbing is possible.

- (23) a. Ritengo [CP aver Lia risolto molti problemi]
 'I consider have Lia solved many problems'
 - b. Ritengo [CP averne Lia risolti molti t] 'I consider have-of+them solved many'
 - c. * Ne ritengo [CP aver Lia risolti molti t]
 'I of+them consider have Lia solved many'

However, we want to argue that the ungrammaticality of (23c) has to be explained independently. Interestingly, Aux-to-Comp constructions do not allow for successive cyclic movement of arguments into the matrix clause:

(24) * Questi sono i problemi che ritengo aver Lia risolti 'These are the problems that I consider have Lia solved'

This sentence shows that Aux-to-Comp constructions constitute strong islands in the sense of Cinque (1991): the extraction in (24) does not have the flavor of a typical (weak) *Wh*- island violation, but is much stronger. The following are a minimal pair:

- (25) a. ??Questo è il ragazzo a cui mi domando come si possa regalare dei fiori 'This is the boy to whom I wonder how one can give flowers'
 - *Questo è il ragazzo a cui ritengo aver Lia regalato dei fiori
 'This is the boy to whom I consider Lia to have given flowers'

Whatever the explanation for the strong islandhood of Aux-to-Comp constructions, it seems clear that it will also prevent clitics from excorporating into the matrix clause.

5. Conclusion

We have shown that clitic climbing does not involve 'free' excorporation by adjunction of clitics through all the functional heads of the embedded verb and into the matrix verb. Incorporation by adjunction of clitics is only triggered by temporal heads, following Kayne (1991). Clitics must excorporate when properly governed by a matrix V° - T° -AGRs° complex in which T° acts as an excorporation trigger. These minimal assumptions have been shown to be sufficient to account for the range of data involving clitic climbing. Clitic climbing out of *Wh*- infinitives must take place when the *che*-clitic-infinitive complex has moved to C° , and cannot take place if only *che* + infinitive moves to C° . Whether the clitic moves along with the infinitive to C° or not is determined by two ways of obeying Relativized Minimality. The apparent optionality of clitic climbing thus is derived by means other than optional clitic

movement. Clitic climbing, as any type of clitic incorporation, is an obligatory type of movement.

The same conclusion has been reached for clitic climbing out of non Wh- infinitives. We have argued that clitic climbing is independent of T° climbing, and that T° climbing is triggered by a last resort movement to prevent RM from applying. In this case, Relativized Minimality again ensures the apparent optionality of clitic climbing. RM either forces the clitics to stay down in T° , ungoverned by their excorporation trigger, or it forces the intervening infinitival AGR_S° governor to move up to the matrix clause taking T° with it, in case clitics have climbed out of the infinitival V° -T- AGR_S° complex under government from the matrix V° - T° - AGR_S° complex. Moreover, the analysis offers a simple account of why clitic climbing is impossible in modern French. neither the clitic nor the infinitival verb complex move far enough to put the clitic in a position where it would be governed and excorporated by the matrix verb. We hope to have shown that an analysis of clitic climbing based on obligatory clitic movement, ascribing the optionality of clitic climbing to nonmorphological factors, is superior to an account which would be based on optional clitic movement.

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