On Parallels and Differences between Clitic Climbing and Long Scrambling & the Economy of Derivations

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In this paper I show that Clitic Climbing (CC) in Spanish and Long Scrambling (LS) in German (and Polish) are (im-)possible out of the same environments. For an explanation of this fact I propose a feature-oriented analysis of incorporation phenomena. The idea is that restructuring is a phenomenon of syntactic incorporation. In German and Polish, Agro incorporates covertly into the matrix clause and licenses LS out of the infinitival into the matrix clause. Similarily the clitic in Spanish, which is analysed as an Agro-head, incorporates into the matrix clause. I argue that this movement is necessary for reasons of feature-checking, i. e. for checking of an [+R]- or Restructuring-feature. In section 2 I discuss several differences between CC and LS. For example, the proposed analysis correctly predicts that clitics in contrast to scrambled phrases are subject to several serialization restrictions.Throughout the paper I use the term restructuring only in a descriptive sense, in order to describe the phenomenon in question.

1. Parallels between CC and LS

Let us start with the relevant descriptive generalizations concerning CC in Spanish and LS in German, i. e. with the parallels between CC and LS out of infinitivals. In the following I will only consider examples of LS and CC out of control infinitivals. As can be seen from the examples (1-2) and (3-4), LS and CC are possible *in principle* if the matrix verb selects an infinitival and no additional complement:

(1) a. daß jemand [$_{CP}$ PRO dieses Auto zu kaufen] versuchte
that someone this car to buy tried

b. daß [dieses Auto]$_i$ jemand [PRO t_i zu kaufen] versuchte
that this car someone to buy tried
'Someone tried to buy this car.'

(2) a. daß jemand [PRO diese Frau zu lieben] behauptete
that someone this woman to love claimed
b. * daß [diese Frau]$_i$ jemand [PRO t_i zu lieben] behauptete
that this woman someone to love claimed
'Someone claimed to buy this car.'

(3) a. Yo quiero [PRO lavarlo]
I want to-wash-it$_{ACC}$
b. Yo lo$_i$ quiero [PRO lavar t_i]

(4) a. Yo decido [PRO decirle] (Aissen and Perlmutter 1983,
I decide to-talk-to-him$_{DAT}$ LaPolla 1987)
b. *Yo le$_i$ decido [PRO decir t_i]

In (1b) the object of the embedded verb moved out of the embedded clause in front of the matrix subject into an IP- or AgrsP-adjoined position. Similarly in (3b) the clitic, belonging to the embedded clause, has moved to the matrix clause, where it is adjoined to some head. The same "adjunction movement" is impossible with certain matrix verbs which have the same selectional properties. This can be seen in (2b) and (4b).

LS and CC out of infinitivals is also possible in principle if the matrix verb selects an infinitival complement and an additional dative NP (5, 7). Again it is possible with certain but not all matrix verbs with these selectional properties (cf. (6) and (8)):

(5) a. daß jemand Tom [PRO dieses Auto zu waschen] versprach
that someone$_{NOM}$ Tom$_{DAT}$ this car$_{ACC}$ to wash promised
b. daß jemand [dieses Auto]$_i$ Tom [PRO t_i zu waschen] versprach
that someone this car Tom to wash promised
c. daß [dieses Auto]$_i$ jemand Tom [PRO t_i zu waschen] versprach
that this car someone Tom to wash promised
'Someone promised Tom to wash this car.'

(6) a. daß jemand Tom [PRO dieses Auto zu waschen] zusicherte
that someone$_{NOM}$ Tom$_{DAT}$ this car$_{ACC}$ to wash assured
b. * daß jemand [dieses Auto]$_i$ Tom [PRO t_i zu waschen] zusicherte
that someone this car Tom to wash assured
c. * daß [dieses Auto]$_i$ jemand Tom [PRO t_i zu waschen] zusicherte
that this car someone Tom to wash assured
'Someone assured Tom to wash this car.'

(7) a. Mandó [PRO hacerlo] a Juan (Bordelois 1988)
(He) commanded to-do-it$_{ACC}$ J.$_{DAT}$
b. Lo$_i$ mandó [PRO hacer t_i] a Juan
it$_{ACC}$ (he) commanded to-do J.$_{DAT}$
c. Se$_j$ lo$_i$ mandó [PRO hacer t_i] t_j
him$_{DAT}$ it$_{ACC}$ (he) commanded to do
'He commanded Juan to do it'

(8) a. Aconseja [PRO hacerlo] a Juan
(He) advised to-do it$_{ACC}$ J.$_{DAT}$
b. * Lo$_i$ aconseja [PRO hacer t_i] a Juan
it$_{ACC}$ (he) advise to-do J.$_{DAT}$
c. * Se$_j$ lo$_i$ aconseja [PRO hacer t_i] t_j
him$_{DAT}$ it$_{ACC}$ (he) advise to-do
'He advised Juan to do it'

It must be mentioned that the judgements of speakers differ concerning the question which of the matrix verbs with the mentioned selectional properties in (1-8) license LS and CC (Ross 1975:467; Napoli 1981:863, 867, 870f. Aissen and Perlmutter 1983:363, Bordelois

1986:10, Sabel 1994b and many others). Some speakers allow while others disallow restructuring with different verbs of the kind in (1-8).

On the other hand, a further class of verbs behaves homogenously. Verbs selecting an accusative NP in addition to an infinitival complement are uniformly regarded as not allowing CC (Bordelois 1982, 1988) and LS:[1]

(9) a. daß jemand Tom [dieses Auto zu waschen] aufgefordert hat
that someone$_{NOM}$ Tom$_{ACC}$ this car to wash requested has
b. * daß jemand [dieses Auto]$_i$ Tom [t$_i$ zu waschen] aufgefordert hat
that someone$_{NOM}$ this car Tom$_{ACC}$ to wash requested has
c. * daß [dieses Auto]$_i$ jemand Tom [t$_i$ zu waschen] aufgefordert hat
that this car someone$_{NOM}$ Tom$_{ACC}$ to wash requested has
'Someone has requested Tom to wash this car.'

(10) a. Forzó a Juan [a lavar el coche] (Bordelois 1988)
(he) forced Juan$_{ACC}$ to-wash the car
b. * Lo$_i$ forzó a Juan [a lavar t$_i$]
it (he) forced Juan$_{ACC}$ to-wash
c. * Lo$_i$ se$_j$ forzó t$_j$ [a lavar t$_i$]
it$_{ACC}$ him$_{ACC}$ (he) forced to-wash
'He forced Juan to wash the car.'

The same generalization holds in Polish. LS is possible in principle out of the infinitival complements of control verbs which select no additional complement (11) or an additional dative argument (12). On the other hand, verbs selecting accusative NPs generally prohibit LS (13):

(11) ktoś [ten samochód]$_i$ próbował [umyć t$_i$]
someone$_{NOM}$ the car tried to-wash
(12) Marek [ten samochód]$_i$ kazał Tomkowi [PRO umyć t$_i$].
M.$_{NOM}$ this car$_{ACC}$ ordered T.$_{DAT}$ to-wash
'Marek ordered Tom to wash this car.'

(13) a. Marek nauczył Tomka [gotować bigos]. (Dyła 1983)
Marek$_{NOM}$ taught Tomka$_{ACC}$ to-cook bigos$_{ACC}$
b. * Marek [bigos]$_i$ nauczył Tomka [gotować t$_i$].
Marek$_{NOM}$ bigos$_{ACC}$ taught Tomka$_{ACC}$ to-cook
'Marek taught Tomka to cook bigos.'

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[1] In (9b-c) an accusative NP is scrambled into the matrix clause. The ungrammaticality of these constructions is not due to case theoretic reasons or parsing effects, because LS of dative NPs (i), CPs (ii) and PPs is likewise impossible:

(i) *daß man *den Blumen* Hans [*t* Wasser zu geben] aufforderte
that one$_{NOM}$ the flowers$_{DAT}$ H.$_{ACC}$ Water to give requested
(ii) *daß man *Dirigent zu werden* Hans [seinem Sohn *t* zu erlauben] aufforderte
that one$_{NOM}$ conductor to become H.$_{ACC}$ his son to allow requested

Furthermore, if the matrix accusative NP is passivized the infinitival remains a barrier for LS and CC:

(iii) a. daß jemand$_i$ [den Blumen Wasser zu geben] t$_i$ aufgefordert wurde
that someone$_{NOM}$ the flowers$_{DAT}$ water to give requested was
b.* daß [den Blumen]$_j$ jemand$_i$ [t$_j$ Wasser zu geben] t$_i$ aufgefordert wurde

(iv) a. Juan$_i$ fue forzado t$_i$ [a hablarme] (Bordelois 1982)
Juan was forced to speak-to-me
b.* Juan$_i$ me$_j$ fue forzado t$_i$ [a hablar t$_j$]

An account of the similarities between CC and LS has to answer (i) why CC and LS out of infinitives are generally blocked if the matrix verb selects an accusative NP, and (ii) why long movement by adjunction in other matrix environments is only occasionally blocked.

In order to give a unified explanation for these parallels between CC and LS we first have to rule out several potential derivations of the scrambling examples. Given my assumption that all the infinitivals in these examples are CPs[2] we have to exclude that LS via Spec CP provides a legitimate derivation. In a derivation like [$_{XP}$ *NP* [$_{XP}$ ... [$_{CP}$ *t'* [...*t*...]]]] the intermediate trace would [+γ]-mark the initial trace, then *t'* deletes and we could not account for the differences out of infinitivals in the above mentioned examples.[3] Ruling out this kind of derivation is furthermore needed in order to exclude scrambling out of finite clauses.[4] Fukui's (1993a) derivational version of the *Uniformity Condition* (Browning 1987, chap. 3.4; Chomsky and Lasnik 1993) provides a way of excluding this kind of derivation. According to Fukui all intermediate elements of a chain have to share a relevant property with the head of the chain (Fukui 1993a:114). LS through Spec CP yields a non-uniform chain, with the head of the chain in a broadly-l-related position and an intermediate element of this chain in a non-l-related position. Hence the Uniformity Condition prevents scrambling from proceeding via Spec CP. Alternatively, if scrambling is triggered by feature-checking (but see Fukui 1993b for the opposite view), one could argue that Spec CP cannot bear the relevant feature. I will leave this possibility open.

We also have to exclude a second type of derivation and this concerns LS as well as CC. Given the principle 'Minimize chain links' (MCL) (Chomsky 1993, Chomsky and Lasnik 1993) we would expect that a scrambled phrase and a clitic must adjoin to every potential landing site between its base and goal position. Consider again the examples (1b, 2b) and (3b, 4b). We have to exclude that successive cyclic adjunction provides a means of neutralizing barrierhood[5]! in (1b) and (3b) because the same derivation, i. e. the one

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[2] See Sabel (1994b) for a discussion of the various alternatives, i.e. the VP-, IP-, CP-hypothesis, and the multi-representational tree approach to transparent infinitivals.

[3] If scrambling had to proceed via Spec CP, we would expect that in cases where more than one element is extracted out of the infinitival, the extracted elements would compete for the embedded Spec CP position. We would expect a subjacency violation in (i-iii). However, sentences like the following are perfect:

(i) Was$_i$ hat dem Mann$_j$ niemand [t_j t_i zu geben] versucht?
What$_{ACC}$ has the man$_{DAT}$ nobody$_{NOM}$ to give tried

(ii) [Daß Fritz ein kluger Junge ist]$_i$ haben ihm$_j$ die Lehrer [t_j t_i zu bescheinigen] versucht
that Fritz a smart boy is have him$_{DAT}$ the teachers$_{NOM}$ to attest tried

(iii) daß dem Fritz$_j$ die Neuigkeiten$_i$ niemand [t_j t_i mitzuteilen] gewagt hat
that the Fritz$_{DAT}$ the news$_{ACC}$ nobody$_{NOM}$ to tell dared has

[4] Note that CC (cf. (16b)) and LS in languages like German and Polish are only possible out infinitivals and never out of finite clauses. For an analysis of scrambling out of finite clauses see Sabel (1994b).

[5] I am assuming a slightly modified version of Baker's (1988, chap. 2) definition of barrier (see Grewendorf and Sabel 1994, Sabel 1994a). Only XPs can be barriers that exclude the antecedent and include the dependent element. In a structure like [$_{XP}$ *ZP* [$_{X'}$ X ... [$_{YP}$ Y *t*]]] YP is the only potential barrier between ZP and its trace. This YP is a barrier in (ii) but not in (i):

(i) *About whom* have you read [$_{NP}$ a book *t*]?
(ii) **About whom* have you destroyed [$_{NP}$ a book *t*]?

Note that (i) and (ii) are structurally identical. A lexical property of the involved verbs seems to be the reason for the fact that NP (=YP) is a barrier in (ii) but not in (i). Assume that this difference follows from the fact that the head of NP (=Y) is coindexed with the verb (X) in (i) because of the lexical properties of 'read'. In (ii) N is distinct from V. Assume now that YP is only a barrier between ZP and its trace if the head of YP (=the potential barrier) is distinct from the head of the maximal projection that does not

with successive cyclic adjunction would yield a grammatical derivation for the examples (2b, 4b). The necessary movement constraint can be stated as follows:

(14) *Constraint on Adjunction*
Movement may not proceed via intermediate adjunction.

(14) guarantees that an element B (a head or an XP) that is once adjoined to (a head or an XP) A as in $[_A \ B \ [_A \ ...t_B...]]$ cannot move further. Intermediate traces in adjoined positions are generally excluded according to (14).

There are reasons to assume that (14) is a universal constraint that is required on independent grounds. (14) excludes that the strict locality restrictions holding for X° movement (Travis 1984, Chomsky 1986, 1991, Baker 1988) are neutralized by means of intermediate adjunction. For example, (14) excludes violations of the HMC as in (15, 16b):

(15) * How tall $[_C \ be_i \ [_{IP}$ John $[_I \ t_i'$ will] [VP t_i]]]

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exclude the antecedent (X), whereby non-distinctness is achieved via coindexation (either by X°-movement or by coindexation (the latter refers to Bakers 1988:202 notion of abstract incorporation or reanalysis)), i. e. YP is not a barrier if X and Y are coindexed. Now consider overt X°-movement:

(iii) * Ne tutula *tagata* a au $[_{PP}$ ke he $[_{NP} \ t_N]]$ (Baker 1988, Baker and Hale 1990)
Past-talk-person ABS-I to
'I was people talking (to).'

N-to-V may not skip PP. According to Baker (1988) this results in an ECP violation, because the head of PP is distinct from (=not coindexed with) the head (V) of the maximal projections that does not exclude the antecedent. Note that the relevant trace in (i-iii) is located in a phrase that is selected by the head (P) of the (potential) barrier. P in (iii) selects NP. If we look at wh-movement, it becomes important that a XP can be a barrier between an antecedent and a dependent element only if the head of XP selects the dependent element or a category dominating the dependent element. In *Why do you think [t' that[John left t]]* the embedded C-head is distinct from the matrix C-head, but (by assumption) C° does not select its Spec, hence CP is not a barrier between *Why* and *t'*, even though distinctness between the relevant heads obtains. If C° does not select its Spec, it follows that C° may never erect CP as a barrier for an element in its Spec. What about AgrsP, TP, AgroP, and VP in the matrix clause? Given that the heads of these projections select a category that contains the dependent element, why aren't they barriers between *Why* and *t'*? I assume that a functional head that selects its complement is always coindexed with (and hence non-distinct from) the head of its complement (in contrast to the situation found with lexical heads (cf. (ii)). This has the effect that - traditionally speaking - neither VP nor IP is a barrier. Hence although AgrsP excludes *why* and includes *t'*, and its head selects a category that includes *t'*, AgrsP is not a barrier between *Why* and *t'*, because Agrs is non-distinct from the matrix C-head. (iva) and (v) provide the relevant definitions:

(iv) *Barrier*
D is the smallest projection not excluding A. Then C is a barrier between A and B iff (a) or (b) holds:
a. C is a maximal projection that includes B and excludes A, and the head of C is distinct from the head of D and selects some WP equal to or dominating B.
b. A and B are heads and C is in an adjoined position.

(v) *Selection*
A selects B iff
a. A assigns a θ-role to B, or
b. A is a functional head (C°, T°, Agr°) and B is its phrase structural complement
c. Agr(o/s) selects Agr(o/s)P.

(iva) is the definition of the minimality barrier, whereas (ivb) defines adjunct barriers. (ivb) simply says that X°-movement out of adjuncts is impossible, i. e. it necessarily crosses a barrier. Similarily a head may never be coindexed with heads located in adjuncts.

(16) a. Juan quiere que yo lo veo
Juan wants that I it see
b * Juan lo_i quiere [$_C$ t_i' que] yo t_i veo.

In the same way (14) rules out successive cyclic adjunction of reflexives at LF, i. e. derivations which would void the SSC (see Hestvik 1990:157). Furthermore, (14) captures the fact that stylistic fronting of non-finite verb forms in Icelandic is clause-bound, if we assume that head movement is involved. As argued in Thráinsson (1993:194) the non-finite verb in sentences like (17b) adjoins to the finite verb and moves with it to its "destination". Thráinsson (1993) notes that once adjoined to the finite verb, the non-finite verb cannot move further (18b):

(17) a. Þetta er maður [sem hefur lesið margar bækur]
this is man that has read many books
'This is a man that has read many books.'
b. Þetta er maður [sem $lesið_i$ hefur t_i margar bækur]
(18) a. Þetta er stelpan sem sagði [að Þu hefðir stolið bókinni]
this is the-girl that said that you had stolen the-book
b. * Þetta er stelpan sem $stolið_i$ sagði [að Þu hefðir t_i bókinni]

This is exactly what (14) predicts. The constraint on adjunction does not exclude that a head formed by adjunction may move as a whole as in the case of verb-movement in (17b) (or with V-to-I-to-C movement in general). However, an element dominated by only one segment of the complex head may not move further on its own, because this movement creates a trace located in an adjoined position.[6] In the following, I assume that (14) is a general constraint applying to X° as well as to XP movement.[7] CC and LS always proceed in one step.

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[6] Kayne (1989) assumes that CC proceeds via successive cyclic X°-movement (CL-to-I°-to-C°-to-I°) but that only the complex head formed by adjunction may move. Thus (14) is compatible with his analysis, where movement of the complex head [$_{I°}$ CL I°] into the embedded C°, which he analyses as a substitution operation, neutralizes the barrierhood of the embedded CP and licenses further movement of [$_{I°}$ CL I°] to the matrix I°-position. Accordingly, CC in (i) can proceed via an "empty" C-head, which functions as an escape hatch. On the other hand, a filled Comp blocks CC (ii):

(i) Non *ti* saprei [$_{CP}$ che [$_C$ *t''*] *t'* dire *t*]
(I) Neg you$_{dat}$-would-know what to say

(ii) *Non *li* so [$_{CP}$ [$_C$ se] *t'* fare *t*]
(I) Neg them-know if to-do

Although compatible with (14), I will not adopt this analysis. It is a standard assumption that the embedded C-head in (i) is filled with a [+wh]-feature that blocks X°-movement like overt complementizers. This generalization is responsible for the fact that V-to-C is absent in embedded interrogatives (cf. Haider (1986) for German; Rizzi and Roberts (1988, Fn. 21) for Italian; see also Suñer (1994) for Spanish). Thus, the clitics in both examples (i-ii) cannot move via C and the distinction between (i) and (ii) must have other reasons. Furthermore, the assumption that only "empty" C's are escape hatches for CC does not explain contrasts of the type (3b) vs. (4b). As Kayne (1989:250) himself notes, an explanation of these verb specific differences in terms of an abstract tense element in C° selected by verbs that take indicative as well as infinitival complements is based on the wrong descriptive generalization (see note 9).

[7] (14) is needed for XP-movement as well. It has often been noted in the literature that intermediate adjunction of XP's has unwanted consequences, except for cases of LS out of infinitivals, i. e. for the explanation of the differences (1-8). First, if Quantifier Raising is a type of adjunction movement one has to guarantee that it cannot apply in a successive-cyclic manner, in order to explain its clause-bound character (see for example Mahajan 1990:132). We also have to exclude that A-movement proceeds via intermediate adjunction (cf. Chomsky's 1986:74 discussion of improper movement). In addition, (14) captures the fact that extraposition may not apply successive-cyclically as has been argued by several

Returning back to the data in (1-13), how can we now account that CC and LS out of infinitives is generally blocked if the matrix verb selects an accusative objects, and why is long movement by adjunction in other matrix environments only occasionally blocked? As a point of departure for an answer to the first question I assume that this prohibition must have a structural reason. The infinitive in these cases is generally a barrier for the same reasons base-generated adjuncts block LS and CC, i. e. arguments representing indirect objects are base-generated in an adjoined position.[8]

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authors (see Baltin 1983, Fn. 8; Guéron and May 1984, May 1985:109ff.; Kroch and Joshi 1987; Nakajima 1989). Furthermore, if intermediate adjunction is allowed, wh-movement out of adjuncts as in **who did they t'' leave London [t' [before meeting t]]* should be grammatical, because no barriers are crossed (Browning 1987:327, Johnson 1988, Clark 1990:250, Coopmans 1990). Similar problems arise with null operator movement in parasitic gap constructions (Browning 1987:201f.). In order to explain the island-sensitivity of parasitic gaps, Chomsky (1986) assumes that a parasitic gap is licensed if its associated null-operator moves to a position from where it is not separated from the "real" gap by a barrier. Hence constructions like *What did you file t [O [before you read t]]*, where O is adjoined to the adjunct, are grammatical. If movement could proceed via intermediate adjunction nothing excludes that the operator moves further into the matrix clause. But then sentences like **Which paper t [O [disappeared [t' [before you could read t]]]]* should be grammatical. Consider also the examples (i-ii) (see Rizzi 1982, Aoun 1985, Jaeggli 1988). It is well-known that the *that-t*-effect can be circumvented in null-subject languages like Spanish (i) or Italian (ii) if subject extraction proceeds from the post-verbal position. *Nessuno* can have matrix scope only in (iib), where it is base-generated in VP-adjoined position. On the other hand, pre-verbal subjects cannot be long extracted at LF via VP-adjunction (iia). The same holds for wh-extraction of the subject at LF (ib).

(i) a. **Qué* dijiste [que quién compró *t*]? (Jaeggli 1988)
What you-said that who bought
b. *Qué* dijiste [que compró *t* quién]?
what you-said that bought who
What did you say that who bought?

(ii) a. *Non voglio [che nessuno venga] (Aoun 1985:135)
[for no x], I want that x comes
b. Non voglio [che venga nessuno]
[for no x], I want that x comes

It is impossible that the subjects in (ia, iia) are inverted at LF, i. e. adjoined to VP and then extracted according to (14), because an intermediate trace in an adjoined position is created. ((14) does not exclude long extraction of the subjects in (ib, iib) because in these examples the subjects are base-generated in a VP-adjoined position.) Note that the slightly deviant character of sentences like *??[Which pictures of himself$_k$]$_i$ does John$_k$ wonder [where [Mary bought t$_i$]]* poses no problems for (14) if wh-movement proceeds via Spec-TP. Arguments for this view and further empirical evidence for (14) can be found in Sabel (1994b). An important question is how (14) can be derived. Ultimately, economic reasons seem to be responsible for the fact that GT w.r.t. movement can only generate adjoined positions as goal positions. One possibility is that the building of multi-segmental categories is a Last Resort operation. If we assume that Spec and complement positions "come for free" (Chomsky 1993, Kitahara 1993), then the building of multi-segmental categories is higher in cost because it requires an additional derivational step. Hence the latter may apply only if needed, that is (concerning movement operations) in order to provide a landing site for movement.

[8] One reason for rejecting alternative views according to which these objects are base-generated in specifier- or complement positions (Larson 1988, 1990) comes from extraction facts. Indirect objects like adjuncts (and unlike elements in Spec or complement positions) are generally barriers for incorporation. As mentioned in Baker (1988:189), nouns never incorporate out of indirect objects, whereas incorporation is possible out of Spec IP (Baker 1988:136), Spec VP (Baker and Hale 1990) and complement positions. Wh-extraction out of direct object NPs is generally possible, and extraction out of NPs in Spec positions is not generally excluded (Chomsky 1986:26). On the other hand, wh-extraction from indirect objects is much less acceptable (Johnson 1985:48, the same holds for Was-für-split (den Besten 1985), NP-split (Tappe 1989), and scrambling (Fanselow 1991)). Secondly, noun-verb or noun-noun compounds are absent with indirect object NPs but they are possible with accusative NPs in languages like German, where dative like accusative is a structural case (Reis 1985, Czepluch 1988). Thirdly, dative NPs do not build a

To provide an answer to the second question one has to ensure that this structural account does not a priori exclude LS and CC in examples like (1-8, 11-12). The infinitivals in (1-8) and (11-12) represent direct objects that are base-generated as sisters of the matrix verb. They are only barriers, if they are embedded by certain verbs. Thus, the structural position of the infinitivals (9-10, 13) is a sufficient condition for their opacity, and the structural position of the infinitives in (1-8, 11-12) is only a necessary but not a sufficient condition for their transparency. Although the infinitival complements in these examples are transparent in principle (for structural reasons), an additional property is relevant that causes their transparency. Which property could this be?[9] I assume that some verbs may optionally realize an "restructuring"- ([+R]-) feature, that has to be listed in the lexical entry of the relevant verbs. If the [+R]-feature is realized, an infinitival that shows up as a sister of the matrix verb becomes transparent. The presence of this feature in the lexical entries of transitive verbs is an idiosyncratic matter, depending upon whether the feature was learned or not. If a speaker gets positive evidence for LS or CC (or another restructuring phenomenon like for example long Passive, see below) the involved matrix verb will be marked with the [+R]-feature, and all other (transitive) verbs get a [-R]-feature. In the course of a certain, i. e. limited space of time a [-R]-marked verb may still get the [+R]-feature, if there is positive evidence for restructuring with this verb. Hence, given that the infinitival occupies the "right" structural position it is only transparent, if the matrix verb realizes an [+R]-feature. This explains why LS and CC are not always possible in the absence of matrix accusative NPs and why some speakers allow whereas others disallow restructuring with different verbs of the kind in (1-8).

As already mentioned in the introduction, I think that [+R]-feature checking is in fact an incorporation process, i. e. the presence of the [+R]-feature on the matrix verb triggers incorporation. Baker (1988:139ff.) distinguishes distinct types of for example noun incorporation. In constructions, in which nouns never occur unicorporated (i. e. with antipassive morphemes), it is assumed that the incorporating element is an affix with a morphological subcategorization frame that has to be satisfied at S-structure. Another

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semantic unit with the verb in contrast to accusative NPs (Wegener 1986), and furthermore, in contrast to direct objects, indirect objects in double object constructions behave like adjuncts because their realization is often optional. Additional arguments for the fact that dative arguments occupy adjoined positions based on binding facts in double object constructions are discussed in Sabel (1994b).

9 Luján (1980:393ff.) in her analysis of CC has argued that with verbs that select opaque infinitival complements, the infinitivals may surface as indicative complements, whereas the sentential complements of verbs that select a transparent infinitival may surface in the subjunctive mood. It has been shown that this generalization is empirically inadequate (see Contreras 1979 and Suñer 1980 for discussion). Verbs like pensar 'think', saber 'know' select infinitival as well as indicative complements, nevertheless CC is possible with these verbs. Similarly, LS in German is possible with matrix verbs like *hoffen* 'hope', which select infinitivals and indicative complements. Furthermore, several verbs that select subjunctives block restructuring. One alternative is presented in Napoli's (1981) discussion of restructuring in Italian. Napoli argues that the relevant property is of semantic nature (see also Rosen 1990). In constructions with CC matrix and embedded verb behave like an auxilary + participle complex that expresses a single event that is associated with a single action. The problem with this account is how to show that semantic properties of special verbs are the "reason" for the transparency of their infinitival complements and not an effect of restructuring. Napoli (1981:863, 867, 870f.) also mentions that there is variation among judgements of different speakers as to which of the control verbs of the type mentioned in (1-8) allow CC. As already pointed out, these divergencies are also attested in the literature on CC in Spanish. For example, Bordelois (1986:10) excludes the matrix verb *ordenar* 'order' from the list of restructuring verbs, contrary to Bok-Bennema (1981:23). Luján (1980:411) thinks that *parecer* 'seem' does not allow CC, whereas Contreras (1979:174f.) notes that many speakers accept CC with this verb. Similar facts hold for LS out of infinitivals. Given these differences I conclude that semantic reasons may not provide the basis for a universal account of the phenomenon (cf. also Ross 1975:470).

situation is found in languages like Niuean (19) or Breton. As can be seen from (19a) the direct object need not incorporate into the verb:

(19) a. Takafaga tu:mau ni: e ia e tau **ika** (Seiter 1980:69, Rosen 1989)
hunt always Emph. Erg. he Abs. Pl. fish
He's always hunting fish. (=He's always fishing)
b. Takafaga **ika**$_i$ tu:mau ni: e ia e tau t_i
hunt fish always Emph. Abs. he
He's always fish-hunting. (=He's always fishing)

This kind of seemingly 'optional' head movement reminds us of examples with CC:

(20) a. Yo quiero [PRO lavar**lo**]
I want to-wash-it$_{ACC}$
b. Yo **lo**$_i$ quiero [PRO lavar t_i]

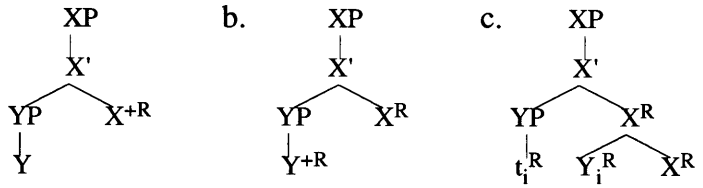
But let us first remain with the phenomenon of N-incorporation in (19). Consider the possibility that the verb optionally realizes an [+R]-(incorporation) feature, and that this feature needs to be checked if it is realized. This checking is done via incorporation as in (19b). If the feature is not realized, incorporation does not apply (19a).

Normally feature checking is achieved by Spec-head agreement for XP features or by head-head-adjunction for X°-features. The [+R]-feature is clearly an X°-feature. As to X°-features, T° for example checks the tense feature of the verb, if the verb adjoins to T°. Given that the [+R]-feature only exists on the verb and not pairwise as other verbal features which exist on the verb and functional heads, the [+R]-feature cannot be checked if the verb adjoins to a functional head. It must be checked in a different way. Nevertheless, X° adjunction is relevant here, and two heads which stand in a [+R]-feature-checking relation that is achieved via adjunction have to share a certain property:

(I.) A head X may check its [+R]-feature by adjunction only in a position X, where X is either functional or lexical.
(II.) If a head X cannot check its [+R]-feature by adjunction, it may percolate its [+R]-feature to another head Y (in the domain of X) unless a barrier intervenes between X and Y. A head (Y), which acquires an [+R]-feature by feature-transfer may not percolate it further. It must move (see (I.)).

According to (I.) a lexical head, i. e. the verb, may check its [+R]-feature by adjunction only if it adjoins to a lexical head, whereas a functional head may check its [+R]-feature only by adjoining to a functional head. ((I.) constrains landing-positions for X°-movement triggered by [+R]-feature checking, it does not affect V-feature checking.). Let us look at (21a) (order irrelevant). XP is a VP and the verb realizes the [+R]-feature.

(21) a. b. c.



Under the VP-shell analysis the verb (X) may not check its feature by movement according to (I.). The next highest position in the VP (above XP) is a substitution position (Larson 1988, Chomsky 1994) and all the other head-positions above this V-position are functional. Hence the verb checks the [+R]-feature according to (II.).[10] The verb

[10] The verb may not adjoin to a N, A or P head, because from this positions it would not c-command its trace.

percolates its feature to a head, which is in its domain, and is not separated from the verb by a barrier. In (21b) the verb has checked its [+R]-feature by transferring it to the head Y. Now Y has to check the acquired feature. If Y is lexical it must adjoin to X (=V) as in (21c). If Y is functional it must move to the next functional head position. Given the condition Minimize Chain Links (MCL), according to which an element may not skip a potential landing-site, the next potential landing-site for Y would be Agro. On the other hand, if X did not realize the [+R]-feature, Y-to-X would violate Last Resort/Greed. Note that (19b) is an example for the abstract representation (21). YP is the direct object of the verb. The (lexical) N-head has acquired the [+R]-feature from the verb and must adjoin to the (lexical) V head. In (21a) the verb has not realized the [+R]-feature, hence incorporation does not apply.[11]

The verb may not transfer its [+R]-feature to another head if a barrier intervenes between the two. In terms of the barrier definition (see (iv) in note 5) X and Y in (21) can simply be regarded as X, the antecedent of the transfer-operation and as Y, the dependent element (like a trace). Given that the verb may not percolate the [+R]-feature into an adjunct ((ivb) in note 5), N-incorporation out of adjuncts is impossible, because it violates Last Resort. For the same reason complex NPs or PPs that embedd NPs (see example (iii) in note 5) are barriers for N-incorporation. Consider also incorporation of subjects, which is very restricted. Under the VP-shell analysis it is impossible, because the subject in the higher VP is not in the domain of the verb and may not acquire the [+R]-feature (II.).[12] However, incorporation of subjects is possible in some languages. I assume that in these languages the subject is base-generated in the lower VP (Spec XP in (21)) as in (22), an example with subject incorporation from Breton. (22) is also interesting from another point of view. As Baker and Hale (1990) argue incorporation of a functional head (D°), a pronominal subject, into a functional head is possible, whereas N-incorporation into a functional head in the same contexts is impossible ((23) is an example from Niuean):

(22) Bemdez e $[_{I'}[_{I}$lenn$_v$+ ont$_i$$]$ $[_{VP}$ t$_i^R$ $[_{V'}$ t$_v^R$ eul levr]]]] (Baker and Hale 1990)
every day prt. read -3pS art book
'They read a book every day.'

(23) a. Fa totu he tau faiaoga e tau tohi
hab-read erg-pl-teacher abs-pl-book
'(The) teachers often read books.'

b.* Fa $[_{I'}[_{I}$ totu+faiaogoa$_i$$]$ $[_{VP}$ t$_i$ e tau tohi]]
hab-read-teacher abs-pl-book
'Teachers often read books.'

This difference is predicted by (I.). The verb in (22) transfers the [+R]-feature to the subject, i. e. the functional (D°) head. The functional head (D°) moves to a functional head position, where it checks the [+R]-feature. (23b) is structurally identical with (22), but it is ungrammatical because a lexical head may not check its [+R]-feature by movement into a functional head.

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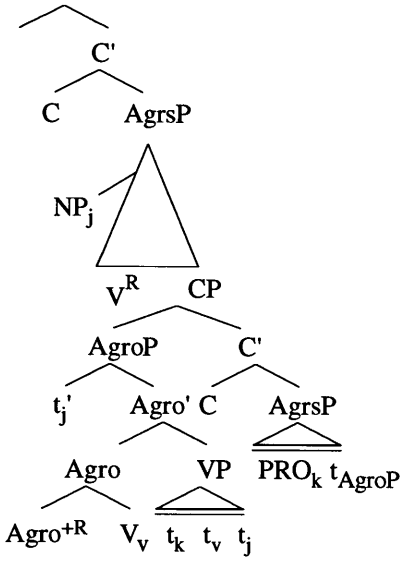
[11] It has been argued that N-incorporation applies for case-theoretic reasons, i. e. N checks its case-features via incorporation (Ferguson 1993, Tanaka 1993). This line of reasoning may not provide a motivation for the existence of A- (Stowell 1991), V- and P-incorporation and for the fact that they obey similar restrictions as N-incorporation.

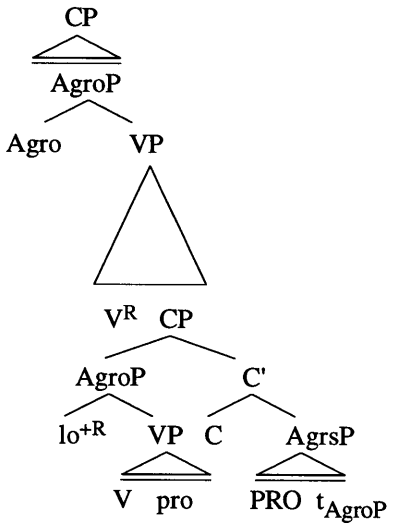
[12] See Chomsky (1993), where the domain of a head X is defined as the set of nodes contained in Max (X) that are distinct from and do not contain X. Max (X) is the least full-category maximal projection dominating X. In a structure $[_{XP}$ ZP $[_{XP}$ X YP]] The two segments of XP constitute the category XP. Hence Max (X) = XP. The domain of the head X consists of {ZP, YP} and everything that is dominated by ZP and YP or adjoined to ZP, YP, X. In $[_{VP2}$ subject $[_{V'}$ [e] $[_{VP1}$ V1 object]]] the subject is not in the domain of the verb (V1).

Let's now turn to CC and LS. (24b) is an abstract representation of (3b (=20b), 7b - the possibility that matrix dative arguments may be present is ignored in (24)). Following Suner (1988) I assume that dative and accusative clitics are Agr-affixes, i. e. heads of AgroP (cf. also Fernandez Soriano 1989, Franco 1991, Runner 1991, Zubizarreta 1992). The clitic is coindexed with an object *pro* in VP (see also Jaeggli 1986), or with a lexical NP.[13] The matrix verb has realized its [+R]-feature in (24b). It cannot check its feature by adjunction, hence it transfers it to a head in its domain. Percolation to C° is impossible, because the C° head would have to move in the matrix clause to check the acquired feature. In this case PRO would be governed (but see Sabel 1994b for another possible reason). The verb may not transfer the feature to Agrs because CP is a barrier between V and Agrs (this follows from the barrier definition (iva) in note 5). The only possibility is that AgroP moves to Spec CP (see Burzio 1986, Baker 1988, Haverkort 1990 for similar proposals) and that the matrix verb transfers the [+R]-feature to the clitic, the head of AgroP. The functional head, the clitic, may not check the acquired feature, which is strong in Spanish, by adjoining to C° because from this position it would not c-command its trace. Given that *lo* is functional, the clitic must skip lexical X°-positions in the matrix VP and adjoins to the matrix Agro-position. The verb adjoins to the clitic in Agro and we get (3b (=(20b)).

(24) a.



b.



In cases where the [+R]-feature is not realized AgroP stays in situ as in (3a (=(20a)). Likewise in cases (4b, 8b) where the matrix verb may not realize an [+R]-feature, AgroP stays in situ and CC violates Last Resort. In all cases the non-finite verb moves to Agro. (See Guasti 1989 for arguments that verb movement applies in Spanish infinitivals.)

I assume that the same process is found in LS constructions. The matrix verb realizes an [+R]-feature in (24a), hence AgroP-to-Spec CP applies. The [+R]-feature of the matrix verb is transferred to the embedded Agro which is filled with the infinitival marker *zu* in German. In contrast to Spanish the acquired [+R]-feature on Agro is weak,

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[13] The assumption that clitics are heads which have to be in a Spec-head-relation with their associated NPs, may provide an attractive account for the fact that clitic doubling is not possible in general. Following a suggestion of Sportiche (1992), I assume that it follows from a generalized form of the doubly filled Comp filter that clitic doubling is only possible in languages like Spanish, in which the NP does not move to AgroP in the overt syntax. In a language like Italian, where clitic-doubling is impossible, the objects move to AgroP before spell-out.

hence Agro moves into the matrix clause at LF. As a consequence of the feature-transfer the embedded Agro and the finite matrix verb bear the same index (R), and as a result of movement of the matrix verb to the matrix Agro, T, Agrs, (C-°) position, the traces in these X° positions in the matrix clause also get the R-index. (The same holds in Spanish, cf. the discussion of (25-26) below). Thus, a long scrambled NP does not cross any barriers if feature-transfer takes place, because it moves over coindexed (non-distinct (see note 5)) heads. Given that the matrix verb and the embedded Agro are coindexed by feature percolation before spell-out, AgroP loses its barrierhood and LS out of AgroP may take place. Hence in CC and LS constructions the parallel is that the matrix verb transfers its [+R]-feature to the embedded Agro in the Spec CP position. The result is coindexation between the matrix verb and the embedded Agro and LS in German and Polish may take place in one fell swoop, because no barrier separates the antecedent from its trace in AgroP. LS does not play any role in [+R]-feature-checking. It is only licensed by this mechanism. Thus in the examples (2b, 6b-c) where the matrix verb may not realize an [+R]-feature, LS is impossible because of distinctness of embedded and matrix head positions.

Spanish does not have LS. But (25-26) show that [+R]-feature-checking is a necessary condition for long (non-wh) XP-movement out of the infinitival. Only if the clitic climbs as in (25a, 26a) is long A-movement allowed, because only in this case the relevant heads between the long moved XP and its trace share the same index, hence XP crosses no barriers. (25b) and (26b) are out because the [+R]-feature is not realized and long A-movement is not licensed, or because the [+R]-feature is realized but not checked by the clitic (Aissen and Permutter 1983):

(25) a. Estas casas$_j$ se les$_i$ quieren [t$_i$ alquilar t$_j$ a los generales]
'These houses are wanted to be rented to the generals.'
b. * Estas casas$_j$ se quieren [alquilar+les t$_j$ a los generales]

(26) a. Estos libros$_j$ se les$_i$ empezaron a [$_{CP}$ vender t$_i$ t$_j$ a los estudiantes]
'The books were begun to be sold to the students.'
b. * Estos libros$_j$ se empezaron a [$_{CP}$ t$_j$' vender+les t$_j$ a los estudiantes]

This provides the answer to the question why long movement by adjunction in the examples (1-8) is only occasionally blocked.

Let us turn to the question why CC and LS out of infinitives is generally blocked if the matrix verb selects an additional accusative object. Given my assumption that the infinitivals in these constructions occupy adjoined positions, the matrix verb may not percolate its [+R]-feature into the infinitival. Hence, CC violates Last Resort. The same holds for LS constructions. Given that the Agro head in the infinitival may not receive the [+R]-feature, the scrambling trace is separated from its antecedent by a barrier, because of distinctness of heads.[14]

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[14] Movement by adjunction out of infinitival adjuncts (i-ii) is excluded for the same reason as CC and LS out of infinitives across matrix accusative NPs is ruled out. The infinitivals are in adjoined positions, so [+R]-Transfer cannot apply. The same line of reasoning explains that transparent infinitivals lose their transparent character when an adverb is generated as sister of the matrix verb (iii-iv).

(i) a. Er ging zur Post [ohne den Brief mitzunehmen]
he went to-the office without the letter to-take-along
b. * Er ging [den Brief]$_i$ zur Post [ohne t$_i$ mitzunehmen]
he went the letter to-the office without to-take-along

(ii) a. Fue a correos [sin llevar la carta]
(he) went to-the office without to-take-along the letter$_{ACC}$
b. * La$_i$ fuea correos [sin llevar t$_i$]

2. Differences between CC and LS

We have seen that CC and LS is (im-)possible out of the same environments. I have argued that clitics in control infinitivals like the Agro-head in transparent infinitivals in German and Polish acquire the [+R]-feature of the matrix verb and that they check this feature by adjoining to a functional head in the matrix clause. LS applies independently of this checking process. In constructions with LS the infinitival Agro-head checks the [+R]-feature like in Spanish, but in contrast to Spanish Agro is an LF-Affix in German and Polish. Under this analysis CC and LS are of a different movement type: Long X° vs. XP-movement. This contrasts with what is assumed in Sportiche (1990) and Roberts (1992), where it is argued that CC is long XP-movement followed by (short) X°-movement of the head of the moved XP. However, if CC is obligatory head movement we have an explanation for the following serialization restrictions that exist for CC but not for LS:

(27) a. $[_{CP1}$ Quiero $[_{CP2}$ permitirte $[_{CP3}$ hacerlo]]] (Aissen and Perlmutter 1983)
I-want to-allow-you$_{DAT}$ to-do-it$_{ACC}$
b. $[_{CP1}$ Quiero $[_{CP2}$ permitirte*lo*$_3$ $[_{CP3}$ hacer t_3]]]
c. $[_{CP1}$ *Te*$_2$*lo*$_3$ quiero $[_{CP2}$ permitir t_2 $[_{CP3}$ hacer t_3]]]
d. $[_{CP1}$ *Te*$_2$ quiero $[_{CP2}$ permitir t_2 $[_{CP3}$ hacerlo]]]
e.*$[_{CP1}$ *Lo*$_3$ quiero $[_{CP2}$ permitirte $[_{CP3}$ hacer t_3]]]

(28) a. $[_{CP1}$ daß keiner wagte $[_{CP2}$dem Fritz zu erlauben$[_{CP3}$den Wagen zu reparieren]]]
that nobody dared the Fritz$_{DAT}$ to allow the car$_{ACC}$ to fix
'Nobody dared to allow Fritz to fix the car.'
b.*$[_{CP1}$ daß keiner wagte $[_{CP2}$ *den Wagen*$_3$ dem Fritz zu erlauben $[_{CP3}$ t_3 zu reparieren]]]
c. $[_{CP1}$ daß *den Wagen*$_3$ *dem Fritz*$_2$ keiner wagte $[_{CP2}$ t_2 zu erlauben$[_{CP3}$ t_3 zu reparieren]]]
d. $[_{CP1}$ daß *dem Fritz*$_2$ keiner wagte $[_{CP2}$ t_2 zu erlauben $[_{CP3}$ den Wagen zu reparieren]]]
e. $[_{CP1}$ daß *den Wagen*$_3$ keiner wagte $[_{CP2}$ dem Fritz zu erlauben $[_{CP3}$ t_3 zu reparieren]]]

The verbs in CP1 and CP2 allow restructuring. Both clitics may build a complex head (27b-c). (27e) shows that a clitic may not skip an intervening clitic. The data in (28) are structurally parallel to (27). (27e) and (28e) show an important contrast. The ungrammaticality of (27e) can be interpreted as a violation of Relativized Minimality or the MCL condition; it seems to be a consequence of the fact that X°-movement may not

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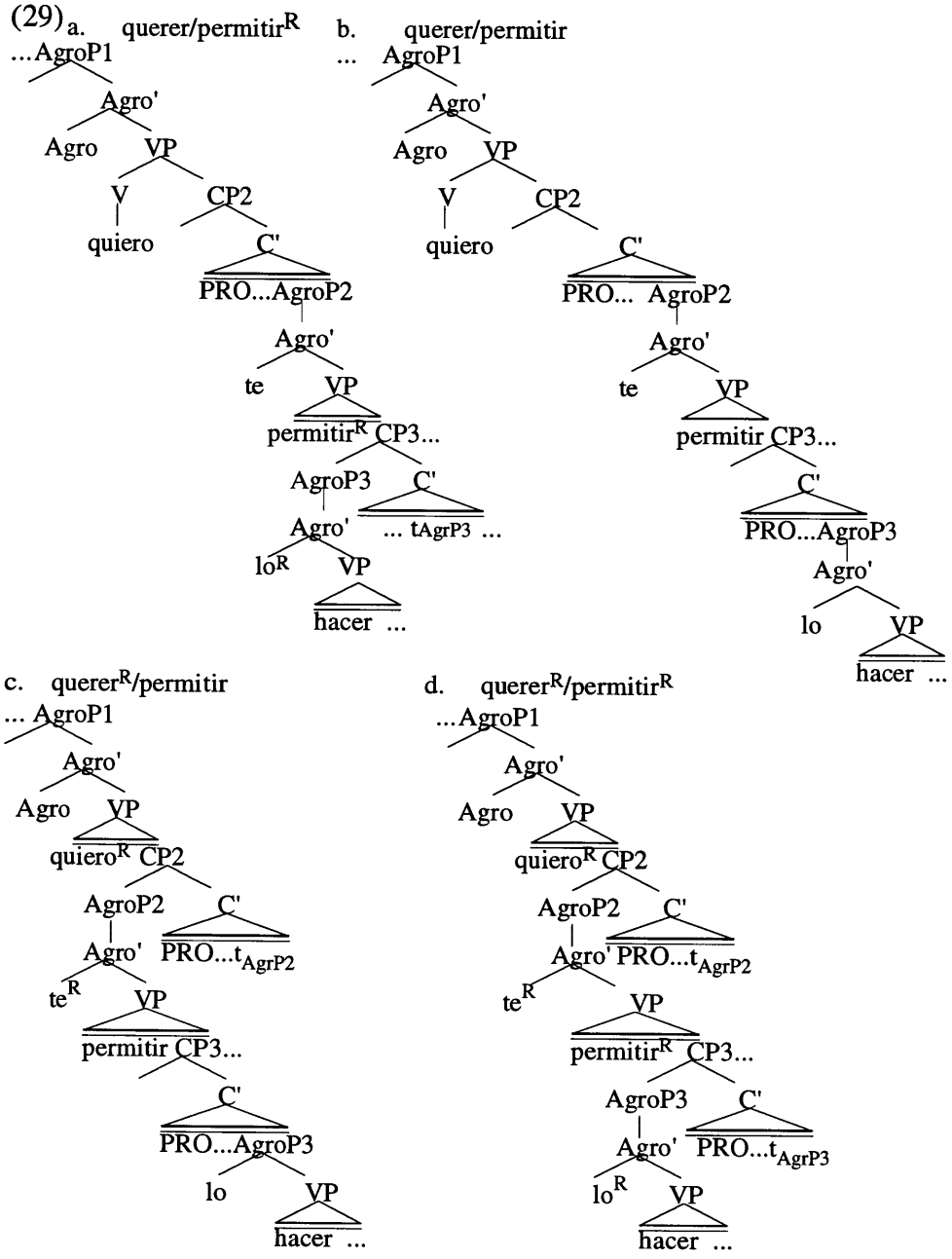
(iii daß [die Treue]$_i$ jemand Maria [t$_i$ zu schwören](*feierlich) versprach
that fidelity$_{ACC}$ somebody$_{NOM}$ Maria$_{DAT}$ to vow (solemnly) promised

(iv) *La* deseaba (*mucho) [ver *t*] (Luján 1980, (6))
'He very much wished to see *her*.'

If an adverb (or a PP) is generated as sister of V, then the additional CP shows up in a position dominated but not included by V1' ([$_{VP2}$ subject [$_{VP1}$ [$_{V1'}$ CP [$_{V1'}$ {Adverb/PP} V]]]] - this is compatible with the view that the direct object *uniformly* shows up as daughter of the highest V1'-category). Again, the matrix verb cannot transfer its [+R]-feature-transfer into infinitivals in adjoined positions, hence CC and LS are impossible from complements that allow long movement in the absence of these adverbs (iii-iv). Furthermore, if the adverb is generated VP-externally as in *La deseaba [ver t] mucho* (Luján 1980, example (6)) CC is correctly predicted to be possible. The fact that CC and LS are impossible out of complex NPs, out of complements of factive verbs, and out of CPs embedded by PPs also follows from the barrier definition. The verb may not transfer its [+R]-feature over an intervening N or P head into the infinitival (cf. the discussion of (iii) in note 5). The impossibility of CC and LS out of subject clauses in Spanish and German can be explained under the assumption that the subject in these languages occupies the Spec position of the higher VP. Hence, the verb cannot transfer the [+R]-feature to the subject position, because this position is not in the domain of the verb. It is important to note that my account implies that languages which don't show the restrictions on adverbs, accusative NPs and restructuring with subjects must have a different VP-structure.

skip the next potential landing site (in CP2). This constraint is not relevant in connection with LS (28e) as already discussed in connection with the constraint on adjunction (14). (28b) is ruled out on independent grounds, i. e. by whatever rules out (non-wh) XP-movement into infinitivals (Hooper and Thompson 1973, Culicover and Wilkins 1984:71) (cf. **She tried to order him [the car to fix t]* or **She tried [the car to tell Bill [that he should fix t]]*; see also Piera 1987 for Spanish). In the light of this constraint it is problematic to assume that LS has applied in (27b) at one step of the derivation. How can we exclude (27e)? Given that the realization of the [+R]-feature with restructuring verbs like *querer* 'want' and *permitir* 'allow' is optional we have to rule out (27e) under four possibilities:

(29)



(29a) represents a stage of derivation of (27e) before CC applies. *Permitir* has realized the [+R]-feature and transfers it to the clitic in AgroP3. AgroP to Spec CP has applied. The

clitic must move to the next functional head, the head of AgroP2, in order to check the acquired feature. Why is (27e) excluded under these presuppositions? If *lo* moves to Agro2 to check its feature, further movement of *lo* (to Agro1) violates Last Resort, because the clitic has already checked its feature. An alternative derivation in which *lo* moves in one step from AgroP3 to Agro1 is equally excluded, although *lo* may check the acquired feature by adjunction to Agro1. It follows from MCL that the clitic may not skip Agro2. Hence, if only *permitir* realizes the [+R]-feature, *lo* must move to Agro2 and remain in place. Verb movement applies and we can only derive one construction: *Quiero permitirtelo hacer* (27b). (29b) represents a second possibility. Neither *querer* nor *permitir* realize the [+R]-feature. Why is (27e) excluded in this situation? Note that AgroP does not move to Spec CP, and CC is not triggered by the necessity to check an acquired [+R]-feature. Given that *lo* has no [+R]-feature to check in (29b) CC violates Last Resort. The only possible derivation is the one in which all clitics remain in their base position. Verb movement applies and we get (27a): *Quiero permitirte hacerlo*. Next we must rule out that (27e) can be derived if only *querer* realizes the [+R]-feature as in (29c). In (29c) AgroP2 moves to Spec CP. *Querer* transfers its [+R]-feature to the clitic *te*, the head of AgroP2. In this case movement of *lo* is unmotivated. Again *lo*-movement violates Last Resort, because the [+R]-feature cannot be transferred to the head of AgroP3. If only *querer* realizes the [+R]-feature, the only possible derivation is (27d): *Te quiero permitir hacerlo*. The last possibility is (29d). Why can't we derive (27e), if *querer* and *permitir* realize the [+R]-feature? AgroP-to-Spec CP applies in both infinitivals. Now *lo* adjoins to *te* and then *lo* moves further to the head of AgroP1. Every movement step is motivated because *lo* has first checked the transferred feature of *permitir* and then the transferred feature of *querer*. But this derivation violates the constraint on adjunction (14). If *lo* moves in one step to Agro1, this movement again violates MCL: However, the last two derivations are ruled out for another reason. Note that *querer* transfers its [+R]-feature to *te*, but *te* has not checked this feature in any of the derivations. Thus, if *querer* and *permitir* realize the [+R]-feature *lo* must adjoin to *te* and the clitic cluster must move to Agro1. The only convergent derivation is thus (27c): *Telo quiero permitir hacer*. To sum up: Example (27e) cannot be derived. If we assume that CC is X°-movement, we can explain why only (27a-d) are possible. We can also derive that LS in (28a-c) should be possible. If *wagen* 'dare' and *erlauben* 'allow' realize the [+R]-feature, we get a similar representation as in (29d). All relevant heads are co-indexed with each other, hence LS does not cross any barriers in the examples (28). (As already mentioned, (28b) is excluded for independent reasons.) This provides evidence for the view that LS and CC are of a different movement type.

However, examples like (30) seem to show that CC is long A-movement (cf. Roberts 1992 and Sportiche 1992). The participle in (30) obligatorily agrees with the long moved clitic:

(30) Li_i ho voluti/*voluto leggere t_i
'I have wanted to read them.'

This suggests that long XP-movement to the matrix AgroP is involved in CC constructions. But note that this kind of participle agreement in connection with CC is completely absent in Spanish. Hence, I conclude that this difference has to do with the possibility of clitic doubling, which is impossible in Italian. The difference between Spanish and Italian can be seen a result of the fact that the *pro* that is associated with the clitic in Italian moves to AgroP in the overt syntax, whereas this movement applies in Spanish at LF (see note 13). In so far (30) does not provide counterevidence for the claim that CC is X°-movement.[15]

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[15] Examples like (i-ii) are traditionally used in order to show that CC is X°-movement (see also note 6):

Why is Restructuring possible in languages like German, Italian, Polish, ...but impossible in languages like English and French? I follow Kayne's (1989) proposal that the possibility of restructuring is connected with the *pro*-drop phenomena. Drawing on the idea that parameters are associated with lexical properties of functional categories (Borer 1983, Ouhalla 1990, Chomsky 1991) I assume that the restructuring option correlates with the property of Agr to license a (non-argumental or argumental) subject *pro*. If Agr is able to license *pro* in a language (like German (Grewendorf 1989), Polish, Spanish) a neccesary condition for the ability of Agr to incorporate is fulfilled. Thus, whether a language has restructuring or not depends on the possibility whether functional heads may incorporate or not. This raises the interesting question whether restructuring is possible also with finite clauses. In Sabel (1994b, 1994c) I argue that this possibility exists, i. e. in languages like Persian, Japanese, Korean and others the complementizer may incorporate into the matrix clause for reasons of [+R]-feature-checking. This then licenses LS and long A-movement out of finite clauses.

3. Summary

I have developed a unified analysis of LS and CC in languages like German and Spanish based on the idea that restructuring is a phenomenon of syntactic incorporation, determined by the barrier theory and by the mechanism of [+R]-feature checking. It was

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(i) Non *ti* saprei [$_{CP}$ che [$_{C}$ *t*''] *t*' dire *t*]
(I) Neg you$_{dat}$-would-know what to say

(ii) *Non *li* so [$_{CP}$ [$_{C}$ se] *t*' fare *t*]
(I) Neg them-know if to-do

In contrast to intervening XPs like *che* (i), intervening heads like *se* block CC. (ii) can be seen as a typical violation of the head movement constraint. Given that CC obeys the HMC, it is X°-movement. As pointed out in Sportiche (1992), this argument does not go through. Long NP-movement in (iii-iv) is clearly XP-movement, but it is blocked by a head (iv) and not by a phrase (iii). Hence, there is no reason to treat CC as head-movement. On the other hand, if CC is assumed to be XP-movement (i-iv) can be treated in a unified manner:

(Rizzi 1982)

(iii) ?*Certe riposte* non si sanno mai [$_{CP}$ come [$_{C}$] dare *t*]
'One never knows how to give certain answers.'

(iv) **Certe riposte* non si sanno mai [$_{CP}$ [se] dare *t*]
'One never knows whether to give certain answers.'

In my analysis the contrasts can be explained along the following lines. Although CC is a visible process of [+R]-feature-checking, the visibility depends on whether the clitic is overtly realized. Thus in contrast to examples like (25-26) we also find long A-movement in (v):

(Aissen and Perlmutter 1983)

(v) Estas casas Agro^{R}+fueron empezadas^{R} a [$_{CP}$ [t$_{Agro}{}^{R}$ pintar] PRO t$_{AgroP}$]

In (v) the Agro-element, the "clitic", moves into the matrix clause, in contrast to the already discussed examples it is covert. This is also the difference between (i-ii) and (iii-iv). Now the fact that (i, iii) are possible can be explained if we assume that the embedded AgroP is in fact pied-piped (hence the embedded verb precedes C°). The ungrammaticality of (ii, iv) follows from the fact that the overt complementizer blocks AgroP-to Spec CP. Hence, [+R]-feature-transfer cannot apply and CC (overt or covert) is excluded. Only the embedded C-head could acquire the [+R]-feature, but this is excluded for independent reasons. Hence CC in (ii, iv) is excluded, and therefore long XP-movement in (iv) is equally ruled out (cf. the discussion of (25-26) in the text). The same holds for LS out infinitivals, in which an overt complementizer appears. LS becomes impossible:

(vi) Chicalem [$_{CP}$ [$_{C}$zeby] [zaprosic Kasie]]
(I) wanted Compto-inviteK.

(vii) *Chicalem *Kasie* [$_{CP}$ [$_{C}$ zeby] [zaprosic *t*]]
(I) wanted K. Comp to-invite

Again the reason for the ungrammaticality of (vii) is, that AgroP-to-Spec CP cannot apply, hence the embedded Agro cannot check the [+R]-feature and LS neccessarily crosses barriers.

argued that restructuring obeys the same restrictions as incorporation in polysynthetic languages and that the proposed mechanism can explain why LS and CC are possible out of the same environments. Beside the mentioned parallels, it was argued that CC and LS are of a different movement type. In contrast to LS, CC is obligatory X°-movement, restricted by MCL and Last Resort, i.e. it is triggered by [+R]-feature-checking. Both movement phenomena are similar because they apply in one step.

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