

The use of nonlocal features in the analysis of Italian object clitics and clitic climbing

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Abstract

This paper is concerned with the analysis of Italian object clitics within the framework of Head-driven Phrase Structure Grammar (HPSG). The mechanism provided by HPSG to handle nonlocal dependencies, namely nonlocal features and the Nonlocal Feature Principle, is used for the analysis of two cases where this kind of dependencies arise with object clitics. The constraints which should be imposed on the mechanism in order to make the right predictions, are also discussed.

1 Introduction

Italian object clitics can be involved in nonlocal dependencies in the sense that they must/may appear on a verbal head of which they are not an argument. Two cases where this situation arises will be discussed: the first is due to the presence of an auxiliary verb and the second is triggered by the presence of a certain class of verbs that allows clitic climbing.

The analysis will be carried out within the framework of Head-driven Phrase Structure Grammar (Pollard & Sag 1987, Pollard & Sag 1993) and will rely on the use of lexical rules and nonlocal features that are able to account for dependencies that may extend over an arbitrarily long distance.

2 Data

Italian clitics cluster around the verb; they precede it if the verb is finite; they follow it if the verb is non-finite and if it is an imperative. If there is an auxiliary, the clitic doesn't attach to the verb that subcategorizes for it, but it cliticizes to the auxiliary as in:

- (1) Maria l' ha mangiato
 Maria cl.(acc) has eaten
 'Maria has eaten it'

If there is a verb in the main clause which belongs to one of the following classes of verbs:

- (2) • modals (e.g. potere, dovere, volere, sapere)
 • temporal aspectuals (e.g. cominciare, finire, continuare)
 • pure motion verbs (e.g. venire, andare, tornare)

the clitic can attach to it, but it can also attach to the verb in the embedded sentence:

- (3) a. Maria lo deve comprare
 Maria cl.(acc) must buy
 'Maria must buy it'

- b. Maria deve comprarlo
 Maria must buy cl.(acc)
 'Maria must buy it'

If there is more than one verb that belongs to one of the classes mentioned above, the clitic can attach to the lower verb or climb to the middle position or all the way up.¹

While with auxiliary verbs clitic climbing is obligatory, with verbs which belong to (2) it is optional. In general there is no difference in meaning between a sentence where clitic climbing has occurred and the non clitic climbing counterpart, but in some cases there could be a semantic distinction between a sentence where clitic climbing has occurred and one where it hasn't as shown in Napoli(1981).

As for their distribution, Italian clitics are in complementary distribution with full phrases as complements of a lexical head so a sentence like the following will never be grammatical:

- (4) * Maria lo da' il libro a Giovanni
 Maria cl.(acc) gives the book to Giovanni
 'Maria it gives the book to Giovanni'

On the other hand, if the full phrase is left (or right) dislocated, its cooccurrence with a clitic pronoun is possible (Cinque 1977):²

- Carlo, Maria lo vedra' domani
 Carlo, Maria cl.(acc) will see tomorrow
 'Carlo, Maria will see him tomorrow'

In Italian there is agreement between an object clitic and the past participle of a verb:³ with third person object clitics, agreement is obligatory:

- (5) Maria li ha dati a Giovanni
 Maria cl_{3rd.masc.pl} has given_{3rd.masc.pl} to Giovanni
 'Maria has given them to Giovanni'

A sentence like the following is not grammatical because there is a plural masculine object clitic and a singular feminine past participle:

- (6) * Giovanni li ha data a Maria
 Giovanni cl_{3rd.masc.pl} has given_{3rd.fem.sing} to Maria
 'Giovanni has given them to Maria'

In case of object control, there is agreement in the lower infinitival VP, both if the controller is a full complement or a clitic as the following sentences show:

- (7) a. Giovanni convincera' Maria a rimanere seria
 Giovanni will convince Maria to remain serious_{fem.sing}
 'Giovanni will convince Maria to remain serious'
 b. Giovanni la convincera' a rimanere seria
 Giovanni cl.(acc) will convince to remain serious_{fem.sing}
 'Giovanni will convince her to remain serious'

¹cf. Rizzi(1982) for an account of related data in Italian and Aissen & Perlmutter(1983) for an analysis of similar Spanish data.

²An analysis of this type of constructions goes beyond the scope of this paper. See Sanfilippo(1990) for an account within the Unification Categorical Grammar framework.

³Object clitics trigger past participle agreement also in certain variations of French. For an account of this fact in the Government Binding framework cfr. Kayne(1989).

Therefore sentences like the following where there is no agreement between the clitic, which is the controller and the AP, should be ruled out:

- (8) * Maria lo convincera' a rimanere seria
 Maria *cl_{3rd.sing.masc.acc}* will convince to remain serious_{*sing.fem*}
 'Maria will convince him to remain serious'

3 A lexical analysis of Italian object clitics

As was shown by the examples in the previous section, in certain cases a clitic corresponding to the complement of a head is not present on that head, but on a higher node: clitics can thus be involved in nonlocal dependencies. This kind of dependency can be accounted for in terms of NONLOCAL features and the **Nonlocal Feature Principle**, which are normally used for the treatment of Unbounded Dependency Constructions⁴ within HPSG.⁵

Since this is a nonlocal kind of dependency, one could see it as divided in three parts: a bottom, a middle and a top. The bottom is where the dependency is introduced, the middle is where it is successively passed from daughter to mother up the tree and the top is where the dependency is discharged.

3.1 The bottom of the dependency

Clitics must fulfill the subcategorization requirements of the head of which they are a semantic argument: the head therefore cannot also subcategorize for the corresponding full complement.

It is necessary to have a mechanism that will allow the deletion of the full complement that is subcategorized for by the verb, if a clitic is present, so that sentences like (4) will be ruled out. Furthermore, the information that the clitic will appear at some point in the tree must be encoded if a verb that triggers clitic climbing is present.

A way to account for this is by means of a lexical rule that will operate on the COMPS list, removing the relevant full complement and adding a nonlocal feature OC (object clitic) which encodes the case and agreement information of the clitic. The rule for object clitics should look roughly as follows:

- (9) Lexical rule for object clitics (LROC)

$$\left[\begin{array}{l} \text{LOCAL} \left[\text{CAT} \left[\begin{array}{l} \text{HEAD } V \\ \text{COMPS} \langle \boxed{1} NP[acc] | \boxed{2} \rangle \end{array} \right] \right] \\ \text{NONLOCAL} \left[\text{INHER} [\text{OC} \{ \}] \right] \end{array} \right] \downarrow \left[\begin{array}{l} \text{LOCAL} \left[\text{CAT} \left[\begin{array}{l} \text{HEAD } V \\ \text{COMPS} \boxed{2} \end{array} \right] \right] \\ \text{NONLOCAL} \left[\text{INHER} [\text{OC} \{ \boxed{1} \}] \right] \end{array} \right]$$

⁴This term was introduced by Gazdar(1981) to refer to a class of constructions analysed in terms of *WH-movement*.

⁵Cfr. Miller(1992a) for a similar analysis of related facts in French within the framework of Generalized Phrase Structure Grammar (GPSG).

Given a lexical sign associated to a word which belongs to a certain class as input, in this case all the verbs that can have an object clitic, the lexical rule will give as output a corresponding sign with the required changes. Therefore, in a sentence like (5), repeated here:

- (5) Maria li ha dati a Giovanni
 Maria cl.(acc) has given to Giovanni
 ‘Maria has given them to Giovanni’

the lexical rule applies to the lexical entry for **dati**:⁶

- (10) Lexical entry for **dati**

$$\left[\begin{array}{l} \text{LOCAL} \left[\begin{array}{l} \text{CAT} \left[\begin{array}{l} \text{HEAD } V \\ \text{COMPS} \langle [5] NP_{[3][acc]}, [6] PP_{[3][a]} \rangle \end{array} \right] \end{array} \right] \\ \text{NONLOCAL} \left[\begin{array}{l} \text{INHER} [\text{OC} \{ \}] \end{array} \right] \end{array} \right]$$

and it will produce the following alternative entry:

- (11) Lexical entry for **dati** after the application of **LROC**

$$\left[\begin{array}{l} \text{LOCAL} \left[\begin{array}{l} \text{CAT} \left[\begin{array}{l} \text{HEAD } V \\ \text{COMPS} \langle [6] PP_{[3][a]} \rangle \end{array} \right] \end{array} \right] \\ \text{NONLOCAL} \left[\begin{array}{l} \text{INHER} [\text{OC} \{ [5]_{[3]PlMs} [acc] \}] \end{array} \right] \end{array} \right]$$

The effect of the rule is the deletion of the subcategorization slot related to the NP[acc]; as a result no full complement is allowed, and the information that a clitic must be present somewhere else is encoded by means of the nonlocal feature OC which carries case and agreement information. In this case only an object clitic which is third person masculine plural can be associated with the past participle **dati** since there must be agreement between the object and the past participle.

Object clitic agreement with the past participle is handled in a way similar to subject-verb agreement. In the case of subject-verb agreement, the verb assigns the required value to the index associated with its subject, while if an object clitic is present, the past participle will assign the required values to the index associated with its object.

In HPSG, roles are assigned within the lexical entry: a role is assigned by means of structure sharing between the index of an element in the SUBJ/COMPS list and the value of some attribute of the verb’s CONTENT value. Role assignment, as well as case assignment, occurs within the lexicon. If an object clitic is present, it is assigned role and case by means of the link created by the OC feature.

Cases of control as in sentence (7b), repeated here:

- (7b) Giovanni la convincera’ a rimanere seria
 Giovanni cl.(acc) will convince to remain serious_{fern.sing}
 ‘Giovanni will convince her to remain serious’

will be handled by the analysis of control proposed in Pollard & Sag(1993), namely there will be a coindexation between the controller and the subject of the embedded clause which

⁶I will use the notation [1] NP to indicate an NP whose Synsem is [1] and NP_[1] to indicate an NP whose index is [1].

will imply sharing of the agreement information which is encoded in the INDEX feature. If a controller object clitic is present, the slot related to the object clitic is removed by the Lexical Rule for Object Clitics and case and agreement information related to the clitic is encoded in the feature OC. However, the transmission of agreement features is not effected by this deletion since they are encoded in the INDEX feature and control involves structure sharing between INDEX features.

Since agreement information is encoded in the INDEX feature, no special mechanism is necessary, in case of object control, to account for agreement in the lower VP if the controller is an object clitic. This is an advantage with regard to the analysis proposed in Miller(1992a) which requires the introduction of a specific feature to mark the slot related to the object clitic in the SUBCAT list and a restatement of GPSG's Subcat Principle, due to the way agreement information is handled in GPSG (Gazdar et al. 1985).

3.2 The middle of the dependency

The second part of the unbounded dependency construction is the easiest to account for, namely the middle. The middle is where the information that there is a clitic missing is propagated up the tree. The information about the clitic is connected to the OC feature and since this is a nonlocal feature, its value can percolate up the tree according to the **Nonlocal Feature Principle**, which is analogous to the Foot Feature Principle of GPSG (Gazdar et al. 1985)

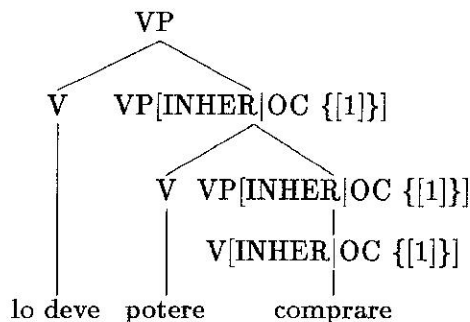
(12) **Nonlocal Feature Principle (NFP)**

For each nonlocal feature, the INHERITED value on the mother is the union of the INHERITED values on the daughters minus the TO-BIND value on the head daughter.

The effect of this principle is that a sentence like:

- (13) lo deve poter comprare
 cl.(acc) must can buy
 'He must be able to buy it'

will have a structure like the following:



The OC feature carrying the information about the clitic will percolate up the tree, so that each node in the tree that dominates the one where the dependency is introduced will have the feature OC instantiated. As for the role of the TO-BIND value, it will be discussed in the next section.

3.3 The top of the dependency

The third part of the unbounded dependency is the top. This is where the value of the non-local feature introduced is discharged by becoming identified with the appropriate features of the filler.

In this way one achieves the same effect as when movement is performed, but actually nothing is moved. In this case the mechanism employed is not movement, but conditions of identity or sharing of substructure by different attributes of a common structure.

In the specific case of clitics, it is necessary to prevent the OC feature from percolating up the tree once the clitic is found.

A way to achieve this is by means of the TO-BIND feature and the way the Nonlocal Feature Principle is formulated. The NFP will guarantee that once a dependency is bound off, it is deleted from the set of nonlocal feature values that are passed up to the mother.

Therefore the TO-BIND feature must be assigned and there can be different ways of doing this according to the particular status that clitics have in a given language.

3.3.1 Clitics as independent words

Clitics appear to be independent words at the level of syntax. Therefore, a possibility is to handle the sequence "clitic+host" by means of a new ID schema, namely:

X → *CL SYNSEM [1], X [TO-BIND|OC {[1]}]

In this way the value of the TO-BIND|OC feature will be structure shared with the SYNSEM of the clitic, so that case and agreement information will be encoded in the TO-BIND|OC feature. Nonlocal features take sets as values, so if more than one clitic is present, the SYNSEM of each clitic should bind one member of the TO-BIND|OC value set. If there is identity of values between the TO-BIND|OC feature and the INHER|OC feature the percolation will be stopped and the sentence will be recognized as grammatical.

The distribution of the clitics with respect to the verb and with respect to each other must be accounted; Linear Precedence (LP) rules could be used, but this is rather problematic. Italian clitics obey a rigid ordering within the flat clitic cluster which is different from the order of the related full complements; they also exhibit a rather idiosyncratic behaviour since not all combinations are possible. These facts should be accounted for by using various, rather specific LP rules; this doesn't appear as an adequate solution. On the other hand, this kind of behaviour can be used as evidence that Italian clitics, like other Romance clitics, are not independent words, but inflectional affixes.⁷

3.3.2 Evidence for the affixal status of Italian clitics

There are arguments similar to the ones proposed by Miller(1992a) for French showing that Italian clitics exhibit also many properties that make them very similar to inflectional affixes. The arguments are mainly based on Zwicky & Pullum(1983) where criteria are proposed in order to distinguish clitics from affixes; the following are relevant for this discussion:

(14) Criteria from Zwicky & Pullum(1983)

- A Clitics can exhibit a low degree of selection with respect to their hosts, while affixes exhibit a high degree of selection with respect to their stems.
- B Arbitrary gaps in the set of combinations are more characteristic of affixed words than of clitic groups.
- C Morphophonological idiosyncrasies are more characteristic of affixed words than of clitic groups.

⁷Cfr. Klavans(1983) where Romance clitics are seen as lexical clitics that have the verb as domain of cliticization; lexical clitics attach to lexical items to give lexical items as output like in inflection. Klavans(1985) refers also to the fact that Romance clitics are becoming affixes. The affixal status of French clitics is also discussed in Miller(1992a) and in Halpern(1992) which considers Macedonian object clitics also as inflectional affixes.

Criterion A constitutes rather good evidence that Italian clitics behave like affixes; namely they are rather selective with regard to the host to which they attach which is always the verb.

It can be shown that Italian clitics present arbitrary gaps in their combination, namely not all the combinations are allowed, behaving therefore like affixes according to **Criterion B**. In particular, it is not possible to have a first or second person accusative clitic together with a dative one as in the following:

- (15) * Paolo gli mi/ti presenta
 Paolo cl.(dat) cl.(acc) introduce
 ‘Paolo introduces me/you to him’

As far as morphophonological idiosyncrasies (**Criterion C**), Italian presents several cases.

Vowel deletion occurs when clitics like **lo**, **la** occur in front of a vowel initial stem as in:

- (16) Maria l’ accetta
 Maria cl.(acc) accepts
 ‘Maria accepts it’

This applies also to **mi**, **ti**, **ci**, **vi**, **li**, **si**, but mainly in spoken language. Certain changes occur also when more than one clitic is present, namely the final **-i** of a clitic is changed into **-e** if it is followed by another clitic which begins with **l-** or **n-** as the following sentence shows:

- (17) Maria *ti/te lo spedira’
 Maria cl.(dat) cl.(acc) will send
 ‘Maria will send it to you’

Succession of identical clitics are not permitted in Italian, therefore certain changes occur as in the combination of two **si** where the first becomes **ci**; the same applies if there is a combination of two **vi**; one of them becomes **ci**.

If the third person dative feminine precedes a clitic beginning with **l-** or **n-**, then the masculine dative form **gli** is used instead:

- (18) le*/glie-le ho date
 Cl.(dat) cl.(acc) given
 ‘I have given them to her/him’

Other evidence for the affixal status of clitics comes from coordination. On the basis of the deletion test in Zwicky(1985), Miller(1992b) develops the **Coordination criteria** which can also be used to distinguish clitics from affixes. The criteria are the following:

- (19) Coordination Criteria
1. If an item must be repeated on each conjunct in a coordinate structure, then it must be an affix and cannot be a Post Lexical Clitic (PLC).
 2. If an item must fail to be repeated on each conjunct in a coordinate structure, then it must be a PLC and cannot be an affix.

As for the Italian clitics, it is not possible to say:

- (20) * Maria lo comprera’ e leggerà’
 Maria cl.(acc) will buy and will read
 ‘Maria will buy and read it’

the clitic must be repeated in front of each verb since it forms a unit with it.⁸ On the other hand it is possible to say:

- (21) Maria lo ha comprato e letto
 Maria cl.(acc) has bought and read
 'Maria has bought and read it'

since in this case the clitic is attached to the auxiliary and there is a coordination of past participles, the following is also ungrammatical:

- (22) * Maria lo ha comprato e ha letto
 Maria cl.(acc) has bought and has read
 'Maria has bought and read it'

It is clear from the data above that Italian clitics cannot have wide scope over coordination and therefore are affixes according to criterion 1.

Italian clitics are rigidly ordered according to the following template:

- (23) Clitics order in Italian
 mi < gli,le [dat] < vi < ti < ci < si refl. < lo, la,li,le <
 si imp. < ne

Rigid ordering of elements has often been related to the status of morphological affix.⁹

Italian clitics can appear both in proclitic and in enclitic position; it could be argued that this alternation is not typical of affixes. It can be shown that there are languages in which this alternation can be found also with affixes.

Afar, a language spoken in Etiopia and Djibuti, has affixes which have a dual position, namely they appear as prefixes on verbs beginning with [e,i,o,u] and as suffixes on verbs beginning with [a] or a consonant as it is shown in Fulmer(1990). Dual position affixes in Afar include the person, causative, benefactive, passive and plural markers; in general there is a different realization if the affix appears as prefix or as suffix, but with the subject person marker, the realization is the same for second and third person feminine, namely [t].

Similar evidence can be found in the imperfect versus perfect person-number affixes in Arabic (Spencer 1991). In the perfect there are person/number/gender suffixes while in the imperfect, person is (usually) expressed by a prefix, while gender and number are expressed by the suffix.

Swazi exhibits also affix alternation, namely the second person subject affixes *u_{sing}* and *ni_{plu}* follow the negative affix in indicative forms but precede it in imperative forms (Zwicky 1992).

3.3.3 An inflectional analysis of Italian clitics

On the basis of the evidence shown above one can assume that Italian clitics are very similar to inflectional affixes and so they should be handled in the morphology; a possible way to account for them is in terms of template morphology as proposed by Simpson & Withgott(1986). According to this view, Italian clitics are subject to some kind of template realization, as the following chart shows:

⁸Sentence (20) would be grammatical in Spanish, but also the equivalent where the clitics are repeated in front of each conjunct is grammatical, therefore the coordination test doesn't provide evidence wrt. the affixal status of the Spanish clitics

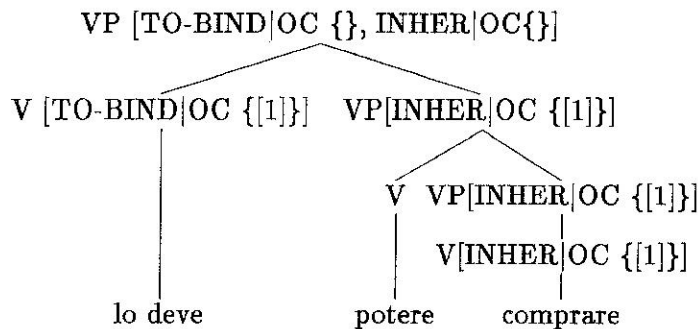
⁹Similar behaviour can be found within the clitic system of Serbo-Croat and Slovenian, namely the clitics are also rigidly ordered, but on the other hand they do not attach to the verb, but are generally in second position within the clause. A uniform account of the Italian, Serbo-Croat and Slovenian data could be given under the view that clitics are phrasal affixes as in Anderson(1992).

(24) Template for the Italian clitic cluster

Position:	I	II	III	IV	V	VI
	mi	ci/vi	si	lo	si	ne
	ti	(adv)	(ref)	la	(imp)	
	gli			li		
	le			le(acc)		
	ci					
	vi					

Clitics are assigned to different position classes, in general they must appear in the order expressed by the template and not more than one clitic per position can occur. In this way the rigid ordering of the clitics could be handled, as well as the restrictions in combination. A sentence like (15) where there is the sequence * *gli mi/ti* would be ruled out by the template since the two clitics belong to the same position slot. Further work will be necessary to implement this idea within the framework of the analysis proposed.

The TO-BIND|OC feature should play a crucial role in this implementation, acting as a link between morphology and syntax; the clitic attaches to the verb and forms a unit with it, the TO-BIND|OC feature is assigned to this unit, it will encode agreement and case information relative to the clitic. If there is identity of values between the TO-BIND|OC feature and the INHER|OC feature the percolation of the latter will be stopped and the sentence will be recognized as grammatical. The following derivation related to sentence (13), summarizes the analysis proposed for Italian object clitics:



The Lexical rule for Object Clitics applies to *comprare* and assigns the INHER|OC feature carrying information related to the clitic. The feature will percolate by means of the Nonlocal Feature Principle, this percolation will stop once a TO-BIND|OC feature is found. The TO-BIND|OC feature will be assigned to the V when it combines with the clitic. If the values of the TO-BIND|OC feature and the INHER|OC feature unify, the nonlocal dependency is bound off according to the Nonlocal feature Principle: it will be subtracted from the set of nonlocal feature values that are passed up to the mother.

4 Some further data

The previous treatment can account for the following cases:

- cases where there is an auxiliary and therefore the clitic must climb in order to attach to it;
- cases where there is a verb that allows clitic climbing and therefore the clitic may climb to attach to it

but the mechanism, as it has been sketched so far, will not rule out sentences like the ones in (25):

- (25) a. *Maria la crede che Gianni presentera' a Piero
 Maria cl.(acc) believes that Gianni will introduce to Piero
 'Maria believes that Gianni will introduce her to Piero'
- b. *Piero la affermava di conoscere molto bene
 Piero cl.(acc.) stated to know very well
 'Piero stated he knew her very well'

since no constraints have been set in order to allow clitic climbing only with a specific class of verbs, namely auxiliaries and those mentioned in (2).

A way to account for those ungrammatical cases is to assume that all verbs in the lexicon which subcategorize for an S or VP complement will subcategorize for an S or VP with the INHER|OC {}. This means that those verbs cannot subcategorize for an S or a VP that wait to find a clitic somewhere higher in the tree. This will be the default case.

Therefore sentences like the ones in (25) will be ruled out since there will be a clash in unification. In (25b) the verb *conoscere* will allow the possibility of having an object clitic somewhere up in the tree; this information will be percolated up to the VP node by means of the NFP, but *affermare* will subcategorize for a VP with the empty OC feature and therefore there will be a failure in unification.

Auxiliaries will also subcategorize for a VP with the empty OC feature; a further restriction should be imposed on the VP, namely it should be marked [-CL]. The [-CL] restriction prevents an auxiliary from combining with a VP whose head has already combined with a clitic, because all cliticized verb forms are specified as [+CL]. In the case of auxiliaries, clitic climbing is obligatory and a sentence like the following must be ruled out:

- (26) *Maria ha letto
 Maria has read cl.(acc)
 'Maria has read it'

The [-CL] lexical specification on the VP complement selected by the auxiliary achieves this purpose. The combination "past participle + clitic" cannot be ruled out in general in Italian, since the following sentence is grammatical:

- (27) Vistolo, fu facile decidere
 Seen_{past.part} cl., was easy to decide
 'Having seen him, it was easy to decide'

It is only when the past participle combines with the auxiliary that the clitic must attach to the latter. Since auxiliaries require clitic climbing, a lexical rule is necessary in order to change the subcategorization requirements of the auxiliary verbs, namely they will also subcategorize for a VP that is waiting to find a clitic somewhere higher up in the tree.

As for the verbs in (2) clitic climbing is allowed, but it is not required; they will also subcategorize for a VP with an empty OC feature; this will account for the cases where the clitics don't climb. A lexical rule similar to the one used for auxiliaries will change the subcategorization requirements of the verbs in (2), namely they will subcategorize also for a VP that is waiting to find a clitic somewhere up in the tree, the [-CL] restriction should also be added to the VP. This is in order to avoid sentences where there are two clitics with one attaching to the lower verb and the other to the higher one. In Italian if there are two clitics that originate as complements of the same verb, they must be cliticized together¹⁰; therefore one cannot have the following:

¹⁰For similar facts in Spanish cfr. Aissen & Perlmutter(1983)

- (28) * Piero lo voleva darmi
 Piero cl.(acc) wanted to give cl.(dat)
 ‘Piero wanted to give it to me’

The [-CL] restriction on the VP will cause a clash in unification if its head has already combined with a clitic, since the [+CL] feature will be assigned to the cliticized verb form, therefore sentences like (28) will be ruled out.

5 Conclusions

Italian object clitics can attach to a verb of which they are not a semantic argument being therefore involved in a nonlocal dependency. This is obligatory if an auxiliary verb is present and optional if there is a verb that triggers clitic climbing. The analysis proposed has shown that it is possible to use the mechanism provided by HPSG, namely nonlocal features and the Nonlocal Feature Principle to account for this kind of dependency. The analysis is able to account for the data involving clitic climbing adequately without the need to have the triggering verbs subcategorizing both for an S and a VP as in Rizzi(1982). Furthermore the analysis can account for the fact that Italian object clitics agree with the past participle, a property which is often ignored in other analysis.

A problem with an analysis based on the use of nonlocal features is that it doesn't capture the generalization that it is only a limited set of verbs that triggers clitic climbing; the NFP allows the percolation of the OC with all verbs and some constraints have been imposed in the lexicon in order to have the feature percolate only if a verb which belongs to (2) is present.

Another potential problem could arise if the analysis is extended to account for another property of the verbs in (2), namely the fact that they can also trigger long-NP movement as described in Rizzi(1982). This is because in this type of constructions there will be an interaction with the lexical rule for middle *si* constructions which changes the subcategorization requirement of a verb, namely in this construction the lexical rule for middle *si* constructions should act on material encoded in the OC feature.

An alternative analysis could be proposed based on the idea that the arguments of a verb which is governed by an auxiliary or clitic climbing trigger can be raised to become arguments of the governor by a mechanism of argument composition. This approach may prove more appropriate to capture the generalizations mentioned above and it could probably account in a suitable way for long-NP movement. It is left for future research to decide which analysis might result the most appropriate.

6 Acknowledgments

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