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*Clitics, pronouns, noun phrases and the Head-Complement parameter**

1. Introduction

There are two levels of rhythmic structure which are assumed to play a role in language acquisition: the basic rhythmic level and the first phrasal level. While the former is supposed to guide infants in language discrimination (Mehler – Nespor [2004]), the latter signals the order of words within phrases. In particular, in Nespor *et al.* (1996), the hypothesis that relative prominence, that is the location of main stress, may play a role in language acquisition is investigated.

Relative prominence reflects the value of the Head-Complement parameter, which determines whether complements follow or precede their head. It should be noticed that if the head precedes its complements, main prominence is rightmost while if the head follows its complements, main prominence is leftmost.

Experiments carried out with French and Turkish children have shown that six weeks old infants are sensitive to the difference in phrasal stress (Guasti *et al.* [2000]; Christophe *et al.* [2003]), rendering plausible the hypothesis that they could use this information to set the Head-Complement parameter. An important consequence of this result is that it might provide an explanation for the fact that when children start combining two words around the age of 20 months, they hardly deviate from the target grammar as far as word order is concerned. The absence of mistakes would be justified if the relevant parameter is set early.

A potential problem for this hypothesis is constituted by Italian (and Romance) clitics given that they play the role of complements in a sentence even though their position is different from that of standard NPs or pronominal complements.

In this paper, I suggest that if the view of Romance clitics defendend in Monachesi (2005) is

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adopted, clitics do not constitute a problem for this hypothesis. Monachesi (2005) argues that clitics should not be considered lexical items which are located in a specific position by the rules of syntax, but featural information which is provided in the lexicon and employed in morphophonology for the realization of the cliticized verb form. Cliticization is considered a lexical operation which has both a syntactic/semantic effect and a morphophonological one (cf. also Monachesi [1996; 1999]; Miller – Sag [1997]). I will show that different strategies play a role in the acquisition of clitic placement and that relative prominence and the Head-Complement parameter are not involved.

2. The data

As already mentioned, Italian clitics might constitute a problem for the hypothesis that relative prominence plays a role in determining the order of heads and complements in a language. The reason being that they act as complements but occupy a position in the sentence different from that of standard complements, such as NPs and strong pronouns. Specifically, object clitics, precede a finite verb in Italian, as shown by the example below:

- (1) Martina lo legge.
Martina CL.ACC reads
'Martina reads it.'

while the corresponding NP (i.e. *il libro*) normally follows it:

- (2) Martina legge il libro.
Martina reads the book
'Martina reads the book.'

Since it has been observed that young children make no mistakes in the placement of clitics in a sentence (Hyams [1986]; Antelmi [1992]), a natural question that arises is: if the hypothesis, previously mentioned, is correct, and the Italian infant learns that in its language complements follow their head, how does it learn that in the case of clitics (which represent complements) they must precede the (finite) verbal head?

The lack of mistakes in the placement of the clitics in a sentence is even more striking if one takes into consideration the fact that in Italian clitics can also follow the head in non-finite contexts:

(3) Leggilo!

Read CL.ACC.

‘Read it!’

Furthermore, when the infinitive is embedded under a modal, causative or aspectual verb, there are two possible placements for clitics: they can appear after the infinitive (4a) or before the matrix verb (4b).

(4a) Martina lo vuole leggere.

Martina CL.ACC. wants read

‘Martina wants to read it.’

(4b) Martina vuole leggerlo.

Martina wants read CL.ACC.

‘Martina wants to eat it.’

It should also be noticed that clitics cluster together in a fixed order which is different from that of the corresponding full phrases, as shown by the sentence below, in which the dative clitic precedes the accusative one:

(5) Martina glielo spedisce.

Martina CL.(DAT) CL.(ACC) sends

‘Martina sends it to him.’

Also in this case, it has been observed that children do not make mistakes in the ordering of the respective clitics.

An interesting property that characterizes clitics and differentiates them, both from nominal complements and pronouns, is that while nominal complements and pronouns are stressed (to various

degrees), clitics are not. Still, clitics have referential properties since they can replace a complement, a characteristic they share with pronouns. On the other hand, pronouns behave like nominal complements since they follow a finite verb, as shown by the pronoun ‘quello’:

(6) Martina legge quello.

Martina reads that

‘Martina eats that.’

Note that pronouns are also employed by children where a clitic could be used as attested by the following examples from the CHILDES database (<http://childes.psy.cmu.edu>) of child language:

(7a) dammi dacce quitto .

give CL.DAT, give CL.DAT, this

‘Give me, give us, this.’

(7b) ma metti a posto que quetto.

but put in order this

‘But put this in order.’

In conclusion, the data discussed in this section shows that:

a. noun phrases, clitics and pronouns can all act as complements, but there is variation with respect to their placement, that is noun phrases and pronouns always follow the finite verb while clitics generally precede it;

b. only clitics and pronouns share referential properties;

c. only clitics are unstressed.

In the next section, I present the lexical analysis of cliticization proposed in Monachesi (2005) which not only can account for the idiosyncratic behavior of Italian (and Romance) clitics but which also reconciles their properties with the hypothesis that relative prominence plays a role in determining the order of heads and complements in a language.

3. A lexical analysis of Italian (and Romance) clitics

Clitics are an interesting subject of research mainly because of their problematic status: their behaviour is intermediate between that of “independent words” and that of “affixes”. Even though they seem to be more autonomous than affixes, they attach phonologically to a host, in contrast to words. Within early work in generative grammar, such as that of Kayne (1975), the assumption that clitics are syntactically independent elements was not questioned. More generally, the problematic status of clitics with respect to the interaction of syntax, morphology, and phonology was, to a large extent, neglected.

It was only with the appearance of Zwicky (1977) that clitics began to be considered from a broader perspective and that a classification of clitic types, which takes into account their various syntactic, morphological and phonological properties, was proposed. In his typology, Zwicky distinguishes two classes of clitics: “simple clitics”, which are syntactically normal elements that are phonologically dependent on an adjacent word, and “special clitics”, which are elements whose placement cannot be accounted for by the normal processes of syntax and for which specific rules must be stipulated.

Italian (and Romance) clitics are clearly “special clitics” according to this distinction since they do not have the same distribution as the corresponding full forms. It is their peculiar distribution that has captured the interest of many linguists and has assigned them a central position within several generative studies.

Thus, a crucial question in the study of clitics is whether the elements that are grouped under this label constitute a separate class or, on the contrary, whether there is no unified category of clitics and they should be analysed as independent words or as affixes according to the situation.

In Monachesi (2005), an attempt is made to tease apart the roles that morphology, phonology and syntax play in the analysis of cliticization. Instead of assuming the existence of a special class “clitics”, the elements of which exhibit different properties, I show that it is possible to assimilate them to other well established categories: in particular, I claim that they behave as inflectional affixes. I extend thus a line of research which I have initiated in Monachesi (1996) and which I have developed further in Monachesi (1999). Ultimately, characterizing these elements as clitics, affixes or words will always remain a controversial matter and probably a terminological one. The crucial issue which needs to be

addressed, however, is how these labels translate in an appropriate analysis and, in particular, which module of the grammar is responsible for their analysis.

The main challenge that clitics pose is that their morphological properties must be reconciled with their syntactic properties; for example they satisfy the subcategorization requirements of the verb, as well as their phonological properties, and that is the special position they occupy in sentence structure.

Therefore, a comprehensive analysis of cliticization must be able to deal with the affixal character of Italian (and Romance) clitics, that is the fact that they are attached to the verb and that they follow a rigid order. I have argued that these properties are best treated within morphology. In addition, Italian (and Romance) clitics can precede or follow the verb and they are subject to various idiosyncratic phonological changes which are usually morphologically triggered: these characteristics should be dealt with in (morpho) phonology. Furthermore, they satisfy the subcategorization requirements of the verb they attach to, behaving as full complements: a property which should be dealt with in syntax. It is evident that clitics are a topic of major importance for any theory of grammar since they play a role at all the various levels.

Within the generative literature, two kinds of approaches have been competing in accounting for the special status of Romance clitics: a “movement approach” and a “base generation” approach.

The first to propose a “movement” analysis (for French) was Kayne (1975). In his treatment, the clitic is generated in an argument position and it moves from there to adjoin to the verb. The source position is analysed as a trace. One motivation behind such a movement analysis is the fact that, in French and in Italian, clitics and the related complements are in complementary distribution. However, a potential problem for an analysis such as the one proposed by Kayne is posed by languages which exhibit clitic doubling, as in Spanish or Romanian.

The existence of this phenomenon has led to the formulation of “base generation” analyses put forward by Rivas (1977), Strozer (1976), Jaeggli (1982) and Borer (1984). Under this view, a clitic is base generated in its surface position, while the argument position is filled by “pro”. Alternatively, in the case of clitic doubling, this position can be filled by the relevant NP.

Recently, mixed approaches have emerged such as that of Uriagereka (1995) and Sportiche (1996) that try to reconcile the “movement” and the “base generation” approaches.

Uriagereka (1995) claims that pronominal clitics are not arguments but rather represent the functional part of an argument, that is the determiner head, that undergoes movement from within the argument to the functional domain of the clause.

On the other hand, Sportiche (1996) assumes that clitics are base generated in pre-existing slots, namely they are X₀s which head their own projections, and that clitic constructions may also involve movement. In particular, he suggests that this process should be decomposed into a first step which has properties of XP movement, while the second step should be considered Head movement. Sportiche argues for this type of analysis on the basis of motivations related to blocking effects of intervening subjects on clitic placement, past participle agreement and the similarity of long NP movement and clitic climbing in restructuring environments. Under this view, in clitic-doubling languages, the XP that moves is overt, while in non-clitic-doubling languages it is covert. Sportiche claims that his analysis can capture the advantages of both the “movement” and the “base generation” approaches, while providing a uniform treatment of cliticization.

In Monachesi (2005), I have proposed an alternative approach to cliticization that shares some insights with the syntactic accounts discussed above, in particular with the “base generation” analyses and with the proposal of Sportiche (1996). In the analysis suggested, clitics are not considered lexical items, which are located in a specific position by rules of syntax, but featural information which is provided in the lexicon and employed in morphophonology for the realization of the cliticized verb form. Cliticization is a lexical operation which has both a syntactic/semantic effect and a morphophonological one (cf. Monachesi [1996; 1999]; Miller – Sag [1997]). The former is reflected in the fact that clitics satisfy the subcategorization requirements of the verb they are an argument of. The lexical analysis is thus able to deal with the challenge posed by the syntactic properties of clitics. Cliticized verb forms are present in the lexicon as the result of an operation that derives cliticized verbs from simple ones. The cliticized forms differ from the simple ones in that the former have the subcategorization list reduced. This does not imply that object clitics reduce the number of semantic arguments of the verb, it only means that the verb no longer needs a lexical NP to occur as complement since that position is filled by the clitic which gets assigned the appropriate semantic role.

As already mentioned, the lexical analysis proposed takes into consideration the syntactic properties of cliticization, that is the fact that the presence of clitics affects the subcategorization requirements of the verb they combine with. However, in Monachesi (2005), I have provided ample evidence that Italian (and Romance) clitics also play a relevant role at the morphological level: thus a comprehensive analysis must be able to deal also with their morphophonological properties.

Crucial issues in this respect are how the fixed order of clitics in the clitic cluster can be derived and how it is possible to account for the morphophonological idiosyncrasies which Italian (and Romance) clitics exhibit. Both syntactic and morphological approaches have been proposed in the literature to deal with these issues. In Monachesi (2005), I have adopted a morphological analysis to deal with these properties of Romance clitics. However, my treatment differs in certain respects from previous analyses. In particular, instead of assuming a templatic approach to clitic ordering, I have suggested that the combination of two or more clitics is conceived as a new unit, which does not result from merging two individual forms. In Monachesi (1999), I have proposed that such a unit is not the result of a word formation process such as template morphology, but that appropriate constraints relate the featural information present on verbs to the actual phonological realization of the clitic. They are sensitive to the morphosyntactic form of the verb. Clitics are therefore the phonological spell out of certain morphosyntactic features of the verb. This analysis can account for the ordering of the clitics in the cluster. Under this view, the issue of their ordering does not even arise, since the combination of two or more clitics is conceived as a new unit.

It is clear that previous accounts have failed in providing a principled explanation of clitic ordering: a templatic approach is simply a mere description of the facts. It might therefore be more reasonable to assume that the different combinations of clitics are new units, which are “stored” as such in the lexicon. An additional advantage of the approach I have proposed is that it can provide a straightforward account of the morphophonological idiosyncrasies in which Italian clitics are involved.

To conclude: clitics represent a topic of crucial importance because their analysis constitutes a challenge for any grammatical theory due to their properties, which can be analysed only through an appropriate interaction of the different modules of the grammar. Therefore, a comprehensive analysis of cliticization requires a deep understanding of the nature of the interfaces between morphology,

phonology and syntax.

4. The acquisition of Italian clitics

As already discussed, following Nespor *et al.* (1996), I have assumed that relative prominence, that is the location of main stress, plays a role in language acquisition since it determines whether complements follow or precede their head (i.e. the Head-Complement parameter). Italian clitics, however, might constitute a problem for this view since they play the role of complements in a sentence even though their position is different from that of NPs or pronominal complements.

However, if the analysis proposed in Monachesi (2005) is accepted, the problem doesn't arise given that clitics, unlike pronouns and NPs, are considered featural information present on verbs (as result of a lexical operation) which is spelled out at the interface between morphology and phonology. Therefore, pronouns and noun phrases are elements with a given phonological weight and thus their placement is determined in syntax and it is subject to the head-complement parameter. On the other hand, clitics are unstressed elements, they are features which are spelled out in morphophonology: different strategies play a role in the way their placement is acquired by Italian children.

In particular, I assume that clitics appear in child grammar as fillers given their functional status. According to Kilani-Schoch *et al.* (1997) fillers are means of replacing unanalysable grammatical material of adult speech, such as articles, determiners, clitics, auxiliaries and other function words, by children who first rely on prosodic and phonological structure to make grammatical hypotheses. Fillers have clear prosodic properties: in the beginning they are not morphologically differentiated among each other. They usually appear in unstressed position before a stressed item.

Assuming that clitics are indeed fillers, a question which needs to be addressed is which underlying developmental strategy might be held responsible for their presence (cf. Bottari *et al.* [1994] for some hypotheses). I assume the "Phonetic Imitative Hypothesis" which suggests that the production of fillers stems from imitation. Some sort of phonological bootstrapping is responsible for the shift from phonetic imitation to morphosyntactic competence.

If the first clitics are fillers (cf. also Avram [2003] for Romanian), it is only at a later stage that the child becomes aware of their morphological and referential properties. Under this view, clitics are

learned as part of the verb, in the same way inflection is learned: it is for this reason that there are no mistakes in their placement, as there are no mistakes in the placement of inflection. Under this hypothesis, clitics, in this initial phase, are not considered complements of the verb, and hence do not interfere with the Head-Complement parameter.

The child is initially not aware of the referential properties of clitics, i.e. that they replace a complement. Supporting evidence might come from several examples, found in the literature, in which clitics coexist with the direct/indirect object. It will be necessary to assess whether they are cases of dislocation (i.e., whether there is a pause before the relevant complement) or if they could be used as evidence that the child is not aware of the fact that, in Italian, the clitic is in complementary distribution with the relevant complement:

(7) Colla mano l'ho massata quell'ape.

with the hand CL.ACC.have killed that bee

“With the hand I have killed that bee”.

(Matteo 1;10-2;1) (Kilani-Schoch *et al.* 1997)

(8) Ci faccio uno shampoo al cocodrillo.

CL.DA. make a shampoo to the crocodile

“To it I make a shampoo to the crocodile”.

(Matteo 2;1-2;3) (Kilani-Schoch *et al.* 1997)

(9) L'ha fatta la pipì.

CL.ACC has done the pee

“it has done a pee”.

(Diana 1;10) (Guasti 1993/1994)

Furthermore, it is possible to identify mistakes in the agreement of the clitic with the element they refer to, as can be noticed by the following example from the CHILDES database. It might constitute evidence of the fact that the child is not aware of the referential property of clitics:

- (10) *Quetti limaletti mettilo qui.*
these animals put.CL.SING.ACC. here
'These animals put it here.'

In the sentence above, there is a singular clitic *lo* 'it', which relates to the plural NP *quetti limaletti* 'these animals'.

Experimental data suggest that Agent and Patient are not always appropriately identified by the child, as shown by agreement errors. The child uses an object clitic which agrees in gender and number with the subject, and not with the object, as discussed in Tedeschi (2006). She reports that five children out of six made errors similar to the one presented below:

- (11) *Lo trucca.*
CL.ACC makes up
'(she) makes him up' (Alessandro, 3;6.21)

This sentence is uttered by the child as answer to the question «what is the lion doing to the monkey»? The masculine clitic *lo* ('it') is thus erroneously employed to refer to a feminine antecedent *la scimmia* ('the monkey'). It seems thus that the clitic refers to the subject instead of the object, as it would be the case in adult grammar.

The fact that the child is using a clitic instead of an NP to refer to the argument might indicate that at this stage the child is aware of the anaphoric properties of the clitic. However, he is not always referring the clitic to the appropriate antecedent. These examples might show that the child has not fully mastered the argument structure properties of the verb and he has problems in relating the clitic to the relevant argument.

Tedeschi notices that there is evidence that the child is aware of the gender of the entities involved in the situation described because when children use a full NP to refer to the characters, they always choose the correct gender.

Recent studies (Jakubowicz *et al.* [1998]) have shown that object clitics are often omitted in early child grammar. One wonders what the reasons behind the omission of these elements might be given that children are aware of the existence of the clitics, since they are not always omitted.

Under the view assumed here, clitic omission may be related to the fact that the child is initially not aware of the anaphoric function of clitics. Support for this claim comes from the frequent mistakes, previously discussed, with respect to the form of the clitic and its agreement. They might be due to the fact that the child is not aware that clitics must be related to a nominal discourse antecedent. This explanation shares similarities with the claim made in Guasti (1993-1994) which proposes that the free omission of determiners may be due to children's not having completely mastered the referential properties of the determiner system, although they may know that the corresponding syntactic category exists. Therefore, a similar conclusion could be reached for object clitics: children are not aware of their referential properties, even though they may well know their morphophonological properties.

The next question might thus be: How does the child become aware of the referential property of clitics, a property they share with pronouns and which differentiates them from noun phrases? More generally, one wonders how are the children going to learn the differences among these elements.

A possible answer is that, at a certain stage, the child can recognize the selectional and argument structure properties of the verb. In other words, s/he can recognize that transitive verbs require a direct object. They then attribute the argument status to the only possible candidate present, which is either a clitic or a pronoun. It should be noticed that Jakubowicz *et al.* (1998) gives a similar explanation for the fact that French children score better in comprehension than in production of object clitics.

5. Conclusions

It has been argued that the location of main stress, may play a role in language acquisition since it can determine whether complements follow or precede their head (i.e. the Head-Complement parameter). Clitics might pose a problem for this hypothesis since they obey a different order than NPs and strong pronouns even though they replace a complement in Italian.

I have argued that if the analysis of cliticization proposed in Monachesi (2005) is adopted, the problem doesn't arise since clitics are considered featural information which is spelled out at the

interface between phonology and morphology. Therefore, different strategies play a role in the way clitic placement is acquired.

Some hypotheses have been sketched with respect to the way clitics are acquired by Italian children. If the suggested line of reasoning is correct, it would constitute additional evidence for the lexical analysis of cliticization proposed in Monachesi (2005) and against standard analyses of cliticization, which assign to accusative clitic pronouns the status of determiners (Uriagereka [1995]) that undergo movement.

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