

# The Acquisition of Clitic Objects in Modern Greek: Single Clitics, Clitic Doubling, Clitic Left Dislocation\*

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## 1 Introduction

Previous studies on the acquisition of clitics by monolingual<sup>1</sup> normally developing children<sup>2</sup> in Romance and Germanic languages (cf. Guasti, 1993/94; Gianelli & Manzini, 1995 for Italian, Jakubowicz, 1989; Hamann, Rizzi & Frauenfelder, 1996; Jakubowicz, Müller, Rigaut & Riemer, 1997 for French, Avram (2000) for Romanian, Haverkort & Weissenborn, 1995/96 for German and Swiss German, Haegeman, 1996 for Dutch) have shown that:

- children's earliest productions do not show clitic misplacement,
- object clitics in Italian are sensitive to the tensed/untensed distinction,
- subject clitics in French are sensitive to the tensed/untensed distinction, but not object clitics,
- object clitics in Romanian are not sensitive to the tensed/untensed distinction,
- both subject and object clitics in Dutch are sensitive to the tensed/untensed distinction.

Data on the acquisition of clitics has been claimed to bring insights into the representation of the clausal structure in child grammar. Hence, the existence or omission of clitics has been taken as evidence for difficulties in forming A-chains<sup>3</sup> (Guasti, 1993/94), for a truncated clause structure (Hamann, Rizzi & Frauenfelder, 1996; Haegeman 1996), for the (in)capability of children to cope with Multiple Spell-Out operations (Avram, 2000) or for a full fledged CP (Haverkort & Weissenborn, 1995/96). Moreover, object drop in French has been taken as evidence for the use of a pragmatic strategy that licenses an empty element (PRO) via discourse, as long as the CP is not lexically instantiated as required by the target language (see, Müller, Crysmann & Kaiser, 1996).

In the Minimalist Program (Chomsky, 1995; 1998) and assuming the Syntax-Morphology Interface as in the framework of Distributed Morphology (Halle & Marantz, 1993), the computational system operates prior to Spell-Out with formal features; lexical items are inserted after Spell-Out. Consequently, under the assumption that clitics are inserted after

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<sup>1</sup> For the acquisition of clitics by bilingual children, see Müller, Hulk & Jakubowicz (1999).

<sup>2</sup> For the acquisition of clitics by children with SLI, see Bottari, Cipriani & Chilosi (1998) for Italian, Jakubowicz, Nash, Rigaut & Gérard (1998) for French, Tsimpli (to appear) and Tsimpli & Stavrakaki (1999) for Standard Modern Greek, Petinou & Terzi (1999) for Cypriot Greek.

<sup>3</sup> For the unavailability of children to form A-chains cf. Borer & Wexler (1987; 1992).

Spell-Out, omission of clitics in child speech does not necessarily provide evidence of an impoverished clausal structure in the child's grammar. If children do not use any clitics at all, clitic omission may be the result of an incomplete lexicon and not of an impoverished computational system. Unambiguous evidence for an impoverished clausal structure can only be provided by data showing clitic misplacement (see, Petinou & Terzi, 1999 for clitic misplacement in Cypriot Greek).

Within this framework, the emergence of clitics in child speech may reflect the construction of language specific lexical items in the child lexicon. Moreover, the right positioning of clitics within the clause makes the operations of the computational system visible. In this paper, it will be shown that:

- Greek children do not misplace clitics; they use simultaneously preverbal clitics with verbs in the indicative and in the subjunctive and postverbal clitics with verbs in the imperative and gerunds, a pattern that is predicted, if the computational system involved in the generation of utterances containing clitics is target-like at the time when the language specific lexical items are constructed,
- there is no correlation between the Early Non-Finite verb form in MG (verb with the suffix *-i*) and clitic/object omission,

Studies on the acquisition of clitics have focused mainly in constructions involving single clitics. Although a lot of attention has been drawn on theoretical grounds on the analysis of Clitic Doubling and Clitic Left Dislocation, there is only one study dealing with the acquisition of these two structures, Torrens & Wexler (to appear), who looked at the acquisition of Clitic Doubling in Spanish.<sup>4</sup> The present study is concerned with Single Clitics, as well as with Clitic Doubling and Clitic Left Dislocation constructions and will test the Uniformity Hypothesis (Sportiche 1992), according to which all three constructions involve the same underlying structure. It will be shown that:

- acquisition data pose a problem for the Uniformity Hypothesis (Sportiche 1992) and support rather the idea that Single Clitic, Clitic Doubling and Clitic Left Dislocation constructions do not involve the same underlying structure,
- omission of definite articles in Clitic Doubling and Clitic Left Dislocation constructions parallels omission of definite articles in simple DPs,
- selective omission of some types of Determiners, i.e. definite articles and use of another type of Determiners, i.e. clitic pronouns, can be explained in terms of the different feature specification of words belonging to the category D and the different status of clitics vs. definite articles.

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<sup>4</sup> Torrens & Wexler compared the acquisition of Clitic Doubling with the acquisition of Clitic Left Dislocation, Dative Experiencers, Quantifier Floating and Scrambling in Spanish. According to Torrens & Wexler (to appear), Varela (1988) is the only other study concerning the acquisition of Clitic Doubling. However, since Varela studied only the comprehension of sentences with non-pronominal indirect objects, it is not relevant for our study.

## 2 Clitics in Modern Greek

With respect to their morpho-phonological instantiation, third person clitics in MG are almost identical to definite articles. This is illustrated in Table 1.

Table 1: Clitics and definite articles in MG

	<i>Clitic</i>			<i>Definite Article</i>		
	<i>Masculine</i>	<i>Feminine</i>	<i>Neuter</i>	<i>Masculine</i>	<i>Feminine</i>	<i>Neuter</i>
<b>Singular</b>						
<i>Nominative</i>	tos	ti	to	o	i	to
<i>Genitive</i>	tu	tis	tu	tu	tis	tu
<i>Accusative</i>	ton	tin	to	ton	tin	to
<b>Plural</b>						
<i>Nominative</i>	ti	tes	ta	i	i	ta
<i>Genitive</i>	ton	ton	ton	ton	ton	ton
<i>Accusative</i>	tus	tis	ta	tus	tis	ta

In the genitive and accusative they are identical, while in the nominative they are not. However, clitics in nominative appear in very restricted environments (MG does not have subject clitics), i.e. with the deictic *na-* (*na-tos* = DEICTIC-he = ‘here he is’) and with the interrogative *pu-* (*pu-tos* = where-he = ‘where is he’), see Joseph & Philippaki (1987: 214).

A further difference between third person clitic pronouns and definite articles, is that definite articles have the property to individualize an entity denoted by the noun, whereas clitics do not restrict or individualize, but only refer to a nominal discourse antecedent (cf. Jakubowicz, Nash, Rigaut & Gérard, 1998)<sup>5</sup>.

With respect to the position of clitics relative to the verb, clitics may surface pre- or post-verbally depending on the form of the verb:

- clitics appear pre-verbally with verbs in the indicative and in the subjunctive, as shown in (1) and (2) respectively,
- clitics appear post-verbally with verbs in the imperative and gerunds, as in (3) and (4) respectively.

(1) **Tu to edhosa** chthes. *(verb in the indicative)*

him-GEN it-ACC gave-1SG yesterday

‘I gave it to him yesterday.’

(2) Thelo **na tu to dhoso.** *(verb in the subjunctive)*

want-1SG PRT-SUBJ<sup>6</sup> him-GEN it-ACC give-1SG

‘I want to give it to him.’

(3) **Dhos tu to** amesos. *(verb in the imperative)*

give-2SG him-GEN it-ACC immediately

‘Give it to him immediately.’

<sup>5</sup> However, according to Tsimpli & Stavrakaki (1999) (following Cardinaletti & Starke (1994), clitic objects do not refer directly, but indirectly, due to their lack of a referential index. For further discussion about the referentiality of clitics, see Marinis (in preparation).

<sup>6</sup> *na* = PRT SUBJ = subjunctive particle

- (4) **Dhinontas tu to, ton cheretise.** (*Gerund*)  
 giving-GERUND him-GEN it-ACC him-ACCgreeted  
 'He greeted him, giving it to him.'

The structures that will be considered in this paper are structures involving single clitics, as shown in (5), Clitic Doubling, as shown in (6), and Clitic Left Dislocation, as shown in (7).

- (5) **To dhiavasa.** (*Single Clitic*)  
 it-ACC read-1SG  
 'I read it.'
- (6) **To dhiavasa to vivlio.** (*Clitic Doubling*)  
 it-ACC-CLITIC read-1SG the-ACC-DEF.ARTICLE book-ACC  
 'I read the book.'
- (7) **To vivlio to dhiavasa.** (*Clitic Left Dislocation*)  
 the-ACC-DEF.ARTICLE book-ACC it-ACC-CLITIC read-1SG  
 'Concerning the book, I read it.'

### 3 Theoretical considerations

#### 3.1 Single Clitics

The two main hypothesis for the generation of object clitics are: a) the *movement hypothesis* (cf. Kayne 1991), according to which clitics are base generated within the VP as arguments of the verb and then move to a functional category, and b) the *base generation hypothesis* (cf. Borer 1984; Jaeggli 1986), according to which clitics are base generated to the left of the verb.

The *movement hypothesis* has been adopted for the analysis of clitics in Modern Greek by Philippaki-Warburton (1987; 1998), while Rivero & Terzi (1995) and Terzi (1996; 1999) do not discuss the position in which clitics originate. Despite crucial differences between the two hypothesis, post-verbal clitics are in both the result of verb movement to a higher functional projection, MoodPhrase in Philippaki-Warburton, CP in Rivero & Terzi and Terzi. Moreover, pre-verbal clitics are the result of the verb not moving higher than the IP<sup>7</sup> in Philippaki-Warburton and the TP in Rivero & Terzi and Terzi.

In Philippaki-Warburton (1998), clitics are base generated as arguments of the verb and appear in a pre-verbal position through a *clitic-to-I* movement (Kayne 1991). The functional projections relevant for the position of clitics are MoodP and IP. MoodPhrase hosts the subjunctive particles *na* and *as*,<sup>8</sup> the  $\emptyset$  indicative marker and the affix, marking imperative.<sup>9, 10</sup> Movement of the verb is restricted to cases where it is motivated by morphological considerations.<sup>11</sup> Movement to Aspect<sup>0</sup> and Voice<sup>0</sup> involves checking of the features of the stem. Movement to I<sup>0</sup> involves checking of the person, number and tense features of the

<sup>7</sup> IP is in Philippaki-Warburton the fusion of AgrP and TP as in the pre-Pollock framework. The reason for the fusion of AgrP and TP is the fact that person, number and tense are fused in many verb forms (cf. *dhiavaz-o* = 'I am reading', *dhiavaz-a* = 'I was reading', in which *-o* and *-a* mark Person, Number and Tense).

<sup>8</sup> For a different analysis of the particle *na* (as complementizer), see Agouraki (1991).

<sup>9</sup> For a different analysis of imperatives, see Terzi (1996; 1999).

<sup>10</sup> Mood<sup>0</sup> hosts according to Rivero (1994) and Alexiadou (1994) additionally the future particle *tha*, claiming that future is a modality and not a real tense. In Tsimpli (1990) on the other hand, the particle *tha* is a tense marker located under T<sup>0</sup>.

<sup>11</sup> The order of functional categories within the clausal domain in the analysis of Philippaki-Warburton is: CP - MoodP - NegP - IP - VoiceP - AspectP. AspectPhrase is placed nearest to the verb because it affects the verb morphology more centrally, often causing internal stem modification (cf. imperfective: *per-n-o* = 'I am taking', perfective: *tha par-o* = 'I will take', *pir-a* = 'I took'. For the reverse order for VoiceP and AspectP, see Rivero (1990).

suffix. In the indicative and in the subjunctive, there is no overt movement higher than  $I^0$ , because there is no morphological marking of the verb for indicative and subjunctive. (8) and (9) demonstrate the derivations of the indicative and subjunctive respectively. In the case of the imperative, overt movement takes place to Mood<sup>0</sup>, in order for the imperative affix to be checked, as shown in (10).

(8) [CP [MoodP  $\emptyset$  [NegP **dhen**<sup>12</sup> [IP **graf**<sub>i</sub> [VoiceP **t<sub>i</sub>** [AspectP **t<sub>i</sub>** [VP **t<sub>i</sub>** ]]]]]]]]  
 not write-1SG  
 'I am not writing.'

(9) [CP [MoodP na [NegP **min** [IP **grapsis**<sub>i</sub> [VoiceP **t<sub>i</sub>** [AspectP **t<sub>i</sub>** [VP **t<sub>i</sub>** ]]]]]]]]  
 PRT-SUBJ not write-2SG  
 'You shouldn't write.'

(10) [CP [MoodP **grapse**<sub>i</sub> [IP **t<sub>i</sub>** [VoiceP **t<sub>i</sub>** [AspectP **t<sub>i</sub>** [VP **t<sub>i</sub>** ]]]]]]]]  
 write  
 'Write!'

Movement of the clitics to  $I^0$  derives from their intrinsic characteristics which differentiate them from lexical DPs: according to Philippaki-Warbuton, clitics have formal features ([definiteness], [case], [ $\phi$ -features])<sup>13</sup>, but lack lexical semantic ones; additionally they are deficient elements in terms of stress. They behave, thus, as affixes that need to adjoin to a head. They are attracted by Infl because Infl is the node containing Agr. Examples (11)-(13) show the permutations involving clitics in the indicative, the subjunctive and the imperative respectively.

(11) [MoodP  $\emptyset$  [IP **to**<sub>k</sub> **graf**<sub>i</sub> [VoiceP **t<sub>i</sub>** [AspectP **t<sub>i</sub>** [VP **t<sub>i</sub>** **t<sub>k</sub>** ]]]]]]  
 it write-1SG  
 'I am writing it.'

(12) [MoodP na [IP **to**<sub>k</sub> **grapsis**<sub>i</sub> [VoiceP **t<sub>i</sub>** [AspectP **t<sub>i</sub>** [VP **t<sub>i</sub>** **t<sub>k</sub>** ]]]]]]  
 PRT-SUBJ it write-2SG  
 'You should write it.'

(13) [MoodP **grapse**<sub>i</sub> [IP **to**<sub>k</sub> **t<sub>i</sub>** [VoiceP **t<sub>i</sub>** [AspectP **t<sub>i</sub>** [VP **t<sub>i</sub>** **t<sub>k</sub>** ]]]]]]  
 write it  
 'Write it!'

Terzi (1996; 1999), adopting Kayne's (1994) antisymmetry theory<sup>14</sup> and the restrictions deriving from the Linear Correspondence Axiom (avoidance of multiple adjunction),<sup>15</sup> argues for a bipartition with respect to the functional heads that serve as adjunction sites for clitics.

<sup>12</sup> NegPhrase hosts the negative particles *dhen* and *min*. For a discussion about one NegP hosting both particles, *dhen* and *min* or two NegPs, one for each particle, see Alexiadou (1994).

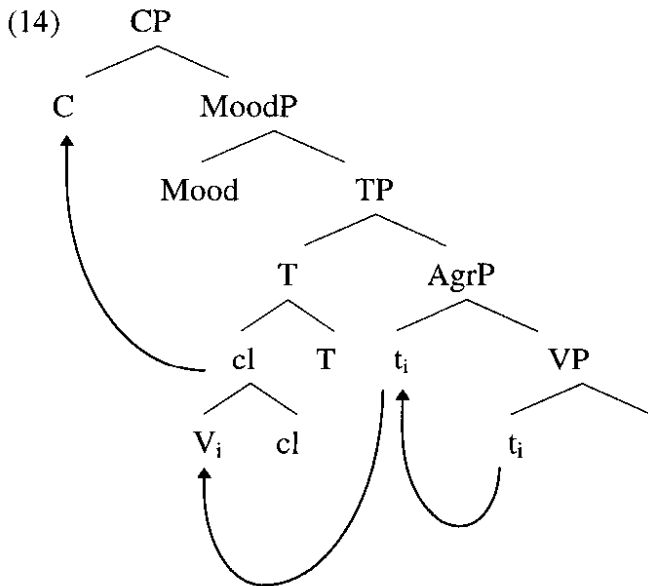
<sup>13</sup> But cf. Tsimplici & Stavrakaki (1999) for an extensive discussion concerning the feature specification of clitics. According to Tsimplici & Stavrakaki, clitics do not have +Interpretable features.

<sup>14</sup> Terzi (1999) makes a slight modification of the Linear Correspondence Axiom (LCA); unlike in Kayne (1994) who considers the LCA to apply at all levels of representation, in Terzi it does not apply after Spell-Out, which is consistent with Chomsky (1995).

<sup>15</sup> For an analysis involving multiple adjunction, see Anagnostopoulou (1999).

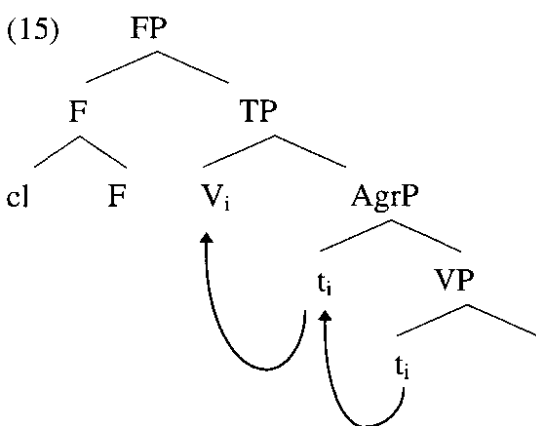
Clitics are left adjoined to  $T^0$  when Tense is in some way impoverished,<sup>16</sup> i.e. in the imperative and in gerunds. In other syntactic environments, i.e. in the indicative and in the subjunctive, they adjoin to a featureless functional head,  $F^0$ . FP is partially reminiscent of the Clitic Voice of Sportiche, but significant different from Uriagereka's  $F^0$ .<sup>17</sup>

In the imperative, the verb moves to  $C^0$  in order to check illocutionary features,<sup>18</sup> which are located in  $C^0$ , carrying along the clitic, as illustrated in (14). V to C movement is responsible for the post-verbal position of the clitic.



Post-verbal clitics with gerunds do not involve verb movement to  $C^0$ , but rather to  $Mood^0$ <sup>19</sup> in order to check the gerundive suffix (Rivero 1994) or for the licensing of a PRO subject (Terzi 1996).

In the indicative and in the subjunctive, clitics are adjoined to a featureless<sup>20</sup> head, F. The Verb moves to  $T^0$ , but does not move higher, as illustrated in (15). Consequently, clitics surface pre-verbally.



<sup>16</sup> Impoverished  $T^0$  amounts to a  $T^0$  that does not require feature checking before Spell-Out.

<sup>17</sup> For a comparison with Sportiche's Clitic Voice and Uriagereka's  $F^0$ , see Terzi (1999:93), footnote 10.

<sup>18</sup> For illocutionary features/the feature representing the logical mood of the imperative, cf. Rivero 1994; Rivero & Terzi 1995.

<sup>19</sup> MoodP is located in Rivero & Terzi and in Terzi, like in Philippaki-Warbuton, higher than IP but lower than CP, but unlike in Philippaki-Warbuton, lower than NegP.

<sup>20</sup> Featureless = devoid of verb-related features

### 3.2 Clitic Doubling and Clitic Left Dislocation

For the structure of Clitic Doubling and Clitic Left Dislocation, I adopt the analysis of Anagnostopoulou (1994), who has convincingly argued against the Uniformity Hypothesis (Sportiche 1992),<sup>21,22</sup> based on the different properties of the two constructions.<sup>23</sup>

According to Anagnostopoulou (1994) and Alexiadou & Anagnostopoulou (1996), in Clitic Doubling constructions the clitic is a nominal agreement morpheme of the verb. Doubled DPs are not in a dislocated position, but in the complement position of the verb,<sup>24</sup> the clitic and the full DP form a chain for Case checking.

In Clitic Left Dislocation constructions, on the other hand, the clitic is a topic marker, full DPs are base generated IP-adjuncts; the clitic forms an operator-variable chain with the full DP expressing topichood (Anagnostopoulou 1994).

## 4 Acquiring clitics in MG

This paper will focus on the acquisition of direct object clitics, i.e. accusative clitics, because direct object clitics are more frequent in child speech than indirect object clitics.

Since in both hypotheses, the *movement hypothesis* and the *base generation hypothesis*, post-verbal clitics are the result of verb movement to a functional projection, and pre-verbal ones the result of the fact that the verb does not move higher than the IP/TP, we will remain neutral to the two analyses.

The first set of questions that will be addressed deal with the relation of clitics to the architecture of child clauses:

1. *Do clitics in early production obey the positional restrictions of the adult grammar?*
2. *Do children omit clitics?*
3. *Are clitics sensitive to the tensed/untensed distinction?*

The second set of questions is related to the complexity of structures involving clitics:

4. *Under the assumption that Clitic Doubling and Clitic Left Dislocation constructions involve a more complex structure than Single Clitic constructions, do Clitic Doubling and Clitic Left Dislocation constructions emerge later than Single Clitics constructions?*
5. *Under the assumption that Clitic Doubling and Clitic Left Dislocation constructions do not have the same underlying structure, do children start using them simultaneously, or does one of the two constructions emerge first?*

The last set of questions is related to the acquisition of determiners :

6. *Do children omit definite articles in Clitic Doubling and Clitic Left Dislocation, as they do in simple DPs?*

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<sup>21</sup> Under the Uniformity Hypothesis (Sportiche 1992), Single Clitic, Clitic Doubling and Clitic Left Dislocation constructions have the same underlying structure.

<sup>22</sup> For an analysis of MG Clitic Doubling and Clitic Left Dislocation in which both constructions underlie the same structure, as far as the position of the full DP is concerned, see Agouraki (1992).

<sup>23</sup> For example, animacy constraints in Clitic Doubling constructions but not in Single Clitic constructions. For a detailed argumentation against the Uniformity Hypothesis, see Anagnostopoulou (1994).

<sup>24</sup> But see also Berendsen-Zonneveld (1984), Drachman (1984), Theophanopoulou-Kontou (1986/87), according to which an empty category is in the complement position of the verb and the doubled DPs in a dislocated position.

7. Do children omit *D*-elements altogether, or do they selectively omit only a subpart of the class of Determiners?<sup>25</sup>

#### 4.1 The data

This study is based on a longitudinal corpus, the Christofidou Corpus, from one monolingual Greek child, Christos, growing up in Athens, Greece. The corpus consists of 69 recordings, covering the age of 1;7-2;8. The frequency of the recordings was approximately one every week. The data from the Christofidou Corpus have been compared with data from the Stephany Corpus, a cross-sectional corpus consisting of the recordings of 4 monolingual Greek children, Spiros, Janna, Mairi, Maria, between the age of 1;9-2;9 which is available in the CHILDES Database (MacWhinney & Snow 1985). The age of the children, the number of recordings and the number of utterances are summarized in Table 2.

Table 2: Christofidou Corpus, Stephany Corpus

Child	Christofidou		Stephany		
	Christos	Spiros	Janna	Mairi	Maria
Age	1;7-2;8	1;9	1;11-2;9	1;9-2;9	2;3-2;9
Nr. of recordings	69	2	9	12	5
Nr. of utterances	12,383	443	1,357	4,154	3,074

#### 4.2 Clitic Placement

Christos starts using clitics in both positions, post-verbally and pre-verbally, as in the adult grammar, from the age of 2;1 onwards.<sup>26</sup> He uses clitics post-verbally with the verb in the imperative, as in (16), and pre-verbally with the verb in the indicative, as shown in (17) and (18) and in the subjunctive, either with the subjunctive particle *na* present, as in (19), or missing, as in (20).

(16) Ate **tin.** (Christos 2;1.9)  
 ase tin (target utterance)  
 leave-2SG her  
 'Leave her.'

(17) **To** chalai. (Christos 2;1.14)  
 it destroys-3SG  
 'He/she destroys it.'

<sup>25</sup> This question is of considerable interest, because it has been observed that normal developing Greek children pass through a stage, in which they retain one type of Determiners, i.e. demonstrative pronouns, while they omit another type, i.e. definite articles (see Marinis, 1998; 1999). Moreover, according to Tsimpli & Stavrakaki (1999), Greek children with SLI retain indefinite articles and strong pronouns, while they omit definite articles, third person clitics, and the *wh*-phrase *what* in *wh*-questions.

<sup>26</sup> Two months earlier, at the age of 1;11.10, there is a single utterance found in the corpus with a post-verbal clitic, which is illustrated in (i).

(i) Par' **ta.** (Christos 1;11.10)  
 take them  
 'Take them.'

Since a) we find only a single utterance with a clitic at that age, and b) in the recordings of the next two months there are no clitics found whatsoever, it is very likely that the clitic in (i) does not reflect productive usage of clitics.



- (18) **To** chalacie (Christos 2;1.14)  
to chalase (target utterance)  
it destroyed-3SG  
‘He/she destroyed it.’
- (19) Na **to** ghie to Mimiti. (Christos 2;1.23)  
na to dhoso s-to Dimitri (target utterance)  
PRT-SUBJ it give to-the Dimitris  
‘I want to give it to Dimitris.’
- (20) **To** palo to kukuci. (Christos 2;1.23)  
na to paro to kukutsi (target utterance)  
to it take-1SGthe stone  
‘I want to take the stone.’

There is no misplacement of clitics observed, i.e. clitics appear throughout the whole corpus post-verbally when the verb shows up in the imperative (there were no instances of gerunds found), and pre-verbally when the verb is in the indicative and in the subjunctive.

The number of clitics used by Christos pre- and post-verbally is summarized in Table 3.

Table 3: Number of clitics used by Christos

<i>Child</i>	<i>Age</i>	<i>MLU</i>	<i>Pre-verbal</i>	<i>Post-verbal</i>	<i>Total</i>
Christos	1;07	1.2	0	0	0
	1;08	1.1	0	0	0
	1;09	1.1	0	0	0
	1;10	1.3	0	0	0
	1;11	1.4	0	1	1
	2;00	2.0	0	0	0
	2;01	2.1	23	3	26
	2;02	2.2	13	3	16
	2;03	2.2	22	5	27
	2;04	2.0	26	6	32
	2;05	2.4	49	4	53
	2;06	2.6	79	2	81
	2;07	2.6	134	6	140
	2;08	2.9	181	14	195
			= 527	= 41	= 571

Summarizing, in the speech of Christos we find:

- a stage in which there are no clitics present,
- simultaneous emergence of both post- and pre-verbal clitics,
- no instances of clitic misplacement.

All four children in the Stephany Corpus use clitics both pre- and post-verbally from the very first recording available. Comparing the use of clitics by Spiros, Janna, Mairi and Maria (Stephany Corpus) with the use of clitics by Christos (Christofidou Corpus), we see that all children in the Stephany Corpus, even the ones in the earliest recordings, i.e. Spiros and

Janna, have already passed the stage, in which no clitics are used.<sup>27</sup> There are no instances of clitic misplacement found in the recordings available in the CHILDES database.<sup>28</sup>

Examples involving early occurrences of post- and pre-verbal clitics in the speech of Spiros, Janna, Mairi and Maria are illustrated in (21)-(28).

- (21) Pa **to**. (Spiros 1;9.11)  
 par to (target utterance)  
 take it  
 'Take it.'
- (22) **Ta** evale (Spiros 1;9.2)  
 ta evala (target utterance)  
 them put  
 'I put them.'
- (23) Pa **to!** (Janna 1;11.6)  
 par to (target utterance)  
 take it  
 'Take it.'
- (24) **O** selo. (Janna 1;11.6)  
 to thelis (target utterance)  
 it want-2SG  
 'You want it.'
- (25) Kita **ta!** (Maria 2;3.9)  
 look-2SG them  
 'Look at them!'
- (26) (N)a **ta** valo edho. (Maria 2;3.9)  
 na ta valo edho (target utterance)  
 PRT-SUBJ them put-1SG here  
 'I want to put them here.'
- (27) Ase **to!** (Mairi 1;9.17)  
 leave-2SG it  
 'Leave it!'
- (28) Pu **tha to** valume? (Mairi 1;9.17)  
 where PRT-FUT<sup>29</sup> it put-1PL  
 'Where are we going to put it?'

The number of clitics used by the four children is summarized in Table 4.

<sup>27</sup> Stephany (1997) reports a stage in the speech of Janna, in which she uses clitics only post-verbally. However, the recordings of this stage are not available in the CHILDES database.

<sup>28</sup> Three instances of clitic misplacement in the speech of Mairi at 1;10 and 2;4 and in the speech of Maria at 2;4 are reported in Stephany (1997). In these cases clitics are used post-verbally when the verb in the indicative.

<sup>29</sup> *tha* = PRT-FUT = future particle

Table 4: Number of clitics used by Spiros, Janna, Mairi and Maria

<i>Child</i>	<i>Age</i>	<i>MLU</i>	<i>Pre-verbal</i>	<i>Post-verbal</i>	<i>Total</i>
Spiros	1;09	1.6	3	3	6
Janna	1;11	1.4	1	5	6
	2;05	2.4	46	4	50
	2;09	2.8	37	0	37
Mairi	1;09	2.0	102	41	143
	2;03	2.2	122	62	184
	2;09	2.5	151	11	162
Maria	2;03	2.3	18	13	31
	2;09	2.9	67	20	87

Summarizing, in the Stephany Corpus:

- there is no stage attested, in which children do not use any clitics at all,
- all children produce both post-and pre-verbal clitic objects,
- there are no instances of clitic misplacement.

### 4.3 Omission of Clitics - Use of Early Non-finite Forms

Studies on the acquisition of clitics in Romance and Germanic languages have provided evidence for a correlation between the omission of clitics and the use of optional infinitives.<sup>30</sup> It has been shown that French children omit clitic subjects (Hamann, Rizzi & Frauenfelder 1996) and Dutch children omit clitic subjects and objects in sentences involving optional infinitives (Haegeman 1996). Moreover, Guasti (1993/94) has provided evidence that Italian children omit object clitics during the optional infinitive stage.<sup>31</sup>

MG verbs do not have an infinitival form. However, children at early stages do not produce full inflected verbs. Katis (1984), Stephany (1997) and Varlokosta et al. (1996; 1998) have reported that children pass through a stage in which they overgeneralize the suffix *-i*, which corresponds to the 3SG form of the verb and additionally marks the perfect participle.<sup>32</sup> Varlokosta et al. observe that verbs with the *-i* suffix show at this stage the distribution of root infinitives in languages which have infinitival forms. They propose, therefore, that there exists a stage in child Greek corresponding to the stage of root infinitives and they use a broader term for the notion of *Root Infinitive*, namely *Early Non-finite Form*.

As far as clitic omission is concerned, Stephany (1997) reports that children omit clitic objects in an early stage. Examples of clitic omission in the speech of Spiros are illustrated in (29) and (30).

- (29)                      Aniki                      Ula.    (Spiros 1;9.2)
- na                      to aniksi                      i                      Ula (target utterance)
- PRT-SUBJ                      it open                      the                      Ulla
- ‘Ulla shall open it.’ (addressing Ulla)

<sup>30</sup> For a detailed discussion about the stage of optional infinitives, see Wexler 1998; 1999.

<sup>31</sup> For Russian, Snyder & Bar-Shalom (1998) have provided evidence for a correlation between the absence of clitic negation and root infinitives. Snyder & Bar-Shalom suggested that clitic omission is the effect of morpho-syntactic inertness of root infinitives.

<sup>32</sup> Varlokosta et al. have put forth the idea that actually the suffix *-i* in that stage represents the participial form.

- (30) Seli o Pios. (Spiros 1;9.11)  
 to theli o Spiros (target utterance)  
 it wants the Spiros  
 'Spiros wants it' = 'I want it.'

However, what is unequivocal missing in these cases is the direct object, which could have either been a clitic or a full DP.<sup>33</sup> Of course there are contexts, in which adults would prefer to use clitics over full DP, e.g. when the referent has already been introduced into the discourse. Consider example (31), which represents the setting used by Avram (2000) for the elicitation of object clitics in Romanian.

- (31) [The child looks at a picture with a cow eating a flower]  
 Experimenter: This is a cow and this is a flower. What is the cow doing to the flower?

In such a setting, since both referents are introduced in the discourse by the experimenter, the natural answer in Romanian, but also in MG would be through the use of a clitic, as illustrated in (32) for MG.

- (32) Expected answer: To troi.  
 it eats  
 'It is eating it.'

However, Avram observed, that in such contexts children used often full DPs instead of clitics. As noted above, the decision to use a clitic over a full DP underlies some discourse rule. Crucially, the use of a full DP in example (32) would not result to an ungrammatical sentence, but would rather violate a discourse rule, which can also be violated in adult speech, resulting grammatical sentences. Considering these facts, in sentences with object omission, it is not clear, why we should suppose that we are dealing with clitic omission and not with omission of a full DP. Hence, I will refer to this phenomenon as object omission and not as clitic omission.

In order to see if there is a correlation between object omission and the use of Early Non-Finite Forms, I conducted a search on the verbs appearing in utterances involving object omission and have been coded in the Stephany Corpus as cases of clitic omission. The results are shown in Table 5.

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<sup>33</sup> From the 117 instances coded as clitic omission in the Stephany Corpus, only the 3 utterances, illustrated in (i)-(iii), involve unequivocal omission of a clitic.

- (i) Azoaki eki lene (Spiros 1;9.2)  
 aidhonaki eki to lene (target utterance)  
 nightingale there it call  
 'They call it nightingale.'
- (ii) Nene muli (Spiros 1;9.11)  
 tin lene mori  
 her call mori  
 'They call her mori.'
- (iii) To piruni, pjos echi? (Mairi 2;9.15)  
 to piruni pjos to echi (target utterance)  
 the fork who it has  
 'Who has the fork?'



- (34) Kiki **to** echtile **to** **cticinito**. (Christos 2;1.26)  
 i Kiki to estile to aftokinito (target utterance)  
 the Kiki it sent-3sg the car  
 'Kiki sent the car.'
- (35) **To** **klichia** ver(e) **ta** ta pepeciume. (Christos 2;1.02)  
 ta klidghia fer(e) ta na peksume (target utterance)  
 the keys bring-2SG them PRT-SUBJ play-1PL  
 'The keys, bring them in order to play.'
- (36) **To** **loo** **to** peticie o Picioch .... (Christos 2;1.14)  
 to nero to petakse o Christos (target utterance)  
 the water it threw-3SG the Christos  
 'Christos threw the water ...'

The number of clitics involving Single Clitic (SC), Clitic Doubling (CD) and Clitic Left Dislocation (CLLD) constructions used by Christos are summarized in Table 6.<sup>34</sup>

Table 6: Number of clitics involving SC, CD and CLLD constructions by Christos

<i>Child</i>	<i>Age</i>	<i>SC</i>	<i>CD</i>	<i>CLLD</i>	<i>Total</i>
Christos	1;07	0	0	0	0
	1;08	0	0	0	0
	1;09	0	0	0	0
	1;10	0	0	0	0
	1;11	1	0	0	1
	2;00	0	0	0	0
	2;01	13	9	4	26
	2;02	10	4	2	16
	2;03	18	5	4	27
	2;04	23	7	0	30
	2;05	40	5	5	50
	2;06	67	6	5	78
	2;07	120	15	2	137
	2;08	161	15	14	190
		= 453	= 66	= 36	= 555

However, in many cases of both Clitic Doubling and Clitic Left Dislocation constructions, the definite article that must obligatorily be used in the full DP is missing, as in (37)-(38) and (39)-(40) respectively.

<sup>34</sup> The number of clitics in Clitic Doubling and Clitic Left Dislocation consists of the constructions involving a clitic and a full DP (D+NP) as well as constructions involving a clitic and a strong pronoun, as in (i) and (ii):

(i) **O** pilie papuch Ko **ato**. (Christos 2;1.14)  
 to pire o papus apo tin Ko afto (target utterance)

it took the grandpa from the Kos this  
 'Grandpa from Kos took it.'

(ii) **Ato** to ghiughi tu Mimiti. (Christos 2;1.23)  
 afto tha to dhoso tu Dhimitri (target utterance)

this PRT-FUT it give the-GEN Dhimitri-GEN  
 'I will give this to Dhimitris.'







- (42) **Ta** chromata, pjos **ta** echi? (Mairi 2;9.15)  
 the colors who them has-3SG  
 'Who has the colours?'

The overall number of definite articles missing is lower than in the speech of Christos. Moreover, definite articles are missing only in Clitic Doubling constructions. However, it should be noted that there are very few instances of Clitic Left Dislocation constructions involving definite articles ( $n = 3$ ).<sup>36</sup> Therefore, it is not clear if the absence of omissions of the definite article in Clitic Left Dislocation constructions by Mairi reflects mastery of the structure or if it is an effect of sampling.

The mean percentage of definite articles in Clitic Doubling and Clitic Left Dislocation constructions in the speech of Mairi, who shows instances of both Clitic Doubling and Clitic Left Dislocation constructions involving definite articles, is illustrated in Table 10.<sup>37</sup> Examples of Clitic Doubling with definite articles missing are illustrated in (43)-(44).

Table 10: Mean percentage of definite articles in CD and CLLD by Mairi

	<i>CD</i>	<i>CLLD</i>
definite articles present	91.3 % (n = 21)	100 % (n = 3)
definite articles missing	8.7 % (n = 2)	0 % (n = 0)

- (43) **To(n)** chasame baba. (Mairi 1;9.26)  
 ton chasame to baba. (target utterance)  
 him lost the dad  
 'We lost dad.'
- (44) **Pos si** lene mama su? (Maria 2;9.13)  
 pos ti lene ti mama su (target utterance)  
 how her call the mom your  
 'How is your mother called?'

The rate of missing definite articles in obligatory contexts in the speech of Spiros, Janna, Mairi and Maria is illustrated in Table 11.<sup>38</sup>

Table 11: Definite article present vs. missing in obligatory contexts by Spiros, Janna, Mairi and Maria

<i>Child</i>	<i>Age</i>	<i>MLU</i>	<i>definite articles present</i>	<i>definite articles missing</i>
Spiros	1;09	1.6	23 % (n = 35)	77 % (n = 118)
Janna	1;11	1.4	15 % (n = 9)	85 % (n = 50)
	2;05	2.4	93 % (n = 67)	7 % (n = 5)
	2;09	2.8	97 % (n = 144)	3 % (n = 5)
Mairi	1;09	2.0	77 % (n = 294)	23 % (n = 90)
	2;03	2.2	88 % (n = 219)	12 % (n = 31)
	2;9	2.5	91 % (n = 258)	9 % (n = 26)
Maria	2;03	2.3	67 % (n = 32)	33 % (n = 16)
	2;09	2.9	93 % (n = 136)	7 % (n = 11)

<sup>36</sup> The remaining 8 Clitic Left Dislocation constructions involve strong pronouns and not D+NP.

<sup>37</sup> Clitic Left Dislocation constructions in the speech of Janna and Maria involve only strong pronouns.

<sup>38</sup> Definite article omission is discussed in Stephany (1997) and Marinis (1998; 1999; to appear).

Summarizing the results from the speech of Spiros, Janna, Mairi and Maria:

- Clitic Doubling is attested before Clitic Left Dislocation,
- definite articles are missing only in Clitic Doubling, and not in Clitic Left Dislocation constructions,
- definite articles are missing in simple DPs as well.

## 5 Summary and discussion

Let us now summarize the findings from the previous sections and discuss the questions introduced at the beginning of section 4.

The first set of questions was related to the architecture of child clauses:

1. *Do clitics in early production obey the positional restrictions of the adult grammar?*
2. *Do children omit clitics?*
3. *Are clitics sensitive to the tensed/untensed distinction?*

In sections 4.2 and 4.3 we saw that:

- clitics in early production obey positional restrictions of the adult grammar,
- children omit direct objects, a fact that does not necessarily imply that they omit clitics,
- clitics in MG are not sensitive to the tensed/untensed distinction.

The fact that clitics obey positional restrictions of the adult grammar in the early child production and the observation that children start using post- and pre-verbal clitics simultaneously, shows that at the time when children use clitics, the phrase marker which is involved in the positioning of clitics is adult-like. Within the analysis of Philippaki-Warbuton (1998) that means, that their phrase marker projects at least up to Mood<sup>0</sup>, to which verbs move in the case of the imperative; under the analysis of Rivero & Terzi (1995) and Terzi (1996; 1999), children should have a full fledged CP, since in this model verbs move to C<sup>0</sup> in the imperative, in order to check the strong feature of logical mood of imperative hosted in the CP. Evidence for a non-adult phrase marker or for the unavailability of verb movement would be indicated by misplacement of clitics in the imperative (we would expect them to appear pre-verbally, if the verb does not move to Mood<sup>0</sup> or C<sup>0</sup>). Such data, however, are not attested.<sup>39</sup>

We cannot derive any conclusions about the form of the phrase marker at a previous stage, when no clitics are used (in the speech of Christos between 1;7 and 2;0) only based on the unavailability of clitics, because a) this may reflect an incomplete lexicon or/and b) object omission in general, since there is no unequivocal evidence that children omit clitics and not full DPs. At the stage, in which children do use clitics, we still find instances of object omission. It is, however, not clear if object omission is the product of a non-adult phrase marker (see Müller, Crysmann & Kaiser, 1999), or if it is the consequence of a different pragmatic system operating<sup>40</sup> (see Hyams, 1996; Borer & Rohrbacher, 1998).

<sup>39</sup> For data on clitic misplacement in Cypriot Greek, cf. Petinou & Terzi (1999).

<sup>40</sup> See also Müller, Crysmann & Kaiser (1996), according to which object omission is the result of a pragmatic strategy that licenses empty elements (PRO) via discourse.

The idea that absence of morpho-phonological material does not necessarily reflect absence of syntactic representation is supported from the fact that object omission in MG is not sensitive to the tensed/untensed distinction. If object omission was the result of a non-adult like phrase marker, we would expect the verb in such utterances to appear in its non-finite form. However, there is no correlation between object omission and the use of the non-finite form of the verb.

The second set of questions concerned the complexity of structures involving clitics:

4. *Under the assumption that Clitic Doubling and Clitic Left Dislocation constructions involve a more complex structure than Single Clitic constructions, do Clitic Doubling and Clitic Left Dislocation constructions emerge later than Single Clitics constructions?*
5. *Under the assumption that Clitic Doubling and Clitic Left Dislocation constructions do not have the same underlying structure, do children start using them simultaneously, or does one of the two constructions emerge first?*

In section 4.4 it was shown that there is individual variation in the production of Single Clitic, Clitic Doubling and Clitic Left Dislocation constructions:

- Christos starts using all structures simultaneously,
- Spiros and Janna, on the other hand, first use Single Clitics and only later they start using Clitic Doubling,
- there is a stage, in which Janna, Mairi and Maria use only Single Clitics and clitics in Clitic Doubling constructions, but not in constructions involving Clitic Left Dislocation. Only later we find instances of Clitic Left Dislocation in their speech.

From the speech of Christos we can conclude, that structures showing high complexity are not necessarily acquired later than structurally simpler ones. Moreover, the fact that Single Clitics, and constructions involving Clitic Doubling and Clitic Left Dislocation emerge at the same time is in line with the observations of Torrens & Wexler (to appear), who found that clitics in constructions involving Clitic Doubling, Clitic Left Dislocation, Dative Experiencers and Floating Quantifiers are all attested very early in the speech of one child learning Spanish<sup>41</sup> and have, thus, argued in favor of the Uniformity Hypothesis (Sportiche 1992).

However, the fact that in the speech of Janna, Mairi and Maria we see a different developmental sequence, poses a problem for the Uniformity Hypothesis. If all three constructions underlie the same syntactic structure, it is not clear, why children should start using only one of them first, after a certain period of time the second one and only later the third one. On the other hand, under the assumption that these constructions do not share the same underlying structure, a fact that has been convincingly argued for on theoretical grounds by Anagnostopoulou (1994), individual variation can be explained in a straightforward way: children may acquire the three structures at different points in time, as Janna, Mairi and Maria; this, however, does not exclude the possibility that some children will acquire them simultaneously, as shown in the speech of Christos for Modern Greek and María for Spanish.<sup>42</sup>

<sup>41</sup> The age of the child was 1;7-3;11, the frequency of recordings was one per month with a gap between 3;1 and 3;6.

<sup>42</sup> Torrens & Wexler do not exclude the possibility that the structures developed at different but very early times. It should be noted that in the examples presented by Torrens & Wexler, the earliest example involving Clitic Doubling was at the age of 1;10, while the earliest example involving Clitic Left Dislocation was at the age of 2;3 (for Dative Experiencers = 2;2 and for

The last set of questions is related to the omission of definite articles in Clitic Doubling and Clitic Left Dislocation constructions and the omission of Determiners in general:

6. *Do children omit definite articles in Clitic Doubling and Clitic Left Dislocation, as they do in simple DPs?*
7. *Do children omit D-elements altogether, or do they selectively omit only a subpart of the class of Determiners?*

In section 4.4 we saw that children omit definite articles in Clitic Doubling and Clitic Left Dislocation constructions as they do in simple DPs:

- all children that produce Clitic Doubling constructions show instances of omission of the definite article. This is not the case in Clitic Left Dislocation constructions, i.e. Mairi does not omit definite articles, but Christos does. However, it is not clear, if the absence of omissions of the definite article in Clitic Left Dislocation constructions by Mairi reflects mastery of the structure or if it is an effect of sampling, since, unlike in the case of Christos, there is only a very small number of Clitic Left Dislocation constructions with definite articles found in the speech of Mairi,
- in Clitic Doubling and Clitic Left Dislocation constructions, children selectively omit the definite article but not the clitic pronoun.

Definite articles and clitic pronouns belong both to the category of Determiners. Both are closed class elements and have a clitic character (definite articles are always pro-clitics, clitic pronouns are pro- or en-clitics), both have case and  $\phi$ -features. In Clitic Doubling and Clitic Left Dislocation constructions, case, number and gender of the object is manifested in both the definite article and the clitic pronoun. However, children selectively omit one type of determiners, i.e. the definite article and produce another type of determiners, i.e. the clitic pronoun. This observation supports the trend reported in Marinis (1998; 1999), that children are more likely to omit definite articles than pronouns.

The idea that children are more likely to omit definite articles than pronouns has been put forward from the observation, that children pass through a stage, in which they systematically omit definite articles in obligatory contexts and produce more demonstrative pronouns than definite articles. Moreover, in structures involving both demonstratives and definite articles, as in (45) (which is grammatical in Modern Greek), children initially produce demonstratives with nouns, omitting the definite article, as shown in (46).

(45) **Afto to vivlio** ine poli endhiaferon.  
**this the book** is very interesting  
 'This book is very interesting.'

(46) E zo **ato vivlio**. (Spiros 1;9.2)  
 e dhose**afto to vivlio** (target utterance)  
 e give this the book  
 'Hey, give this book.'

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Floating Quantifiers = of 2;5). This does not exclude that Maria has been using clitics in constructions involving Clitic Left Dislocation, Dative Experiencers and Quantifier Floating at the age of 1;10 as well, something which is not clear because the paper has quantitative data only for Clitic Doubling but not for the other structures discussed.

Omission of definite articles and production of demonstrative pronouns has been explained by Marinis (1998; 1999) in terms of feature specification. Demonstratives have more semantic content than definite articles, their lexical entry is more specified than the one of definite articles, since they contain an extra feature, the feature [deictic]. Therefore they are more 'lexical-like' than definite articles, which are purely grammatical elements. Under this assumption, the observation that children use demonstratives, while they omit definite articles is parallel to the observation that children retain 'contentives', i.e. high information words and omit 'functors' (cf. among others, Brown & Bellugi 1964).<sup>43</sup>

The asymmetry between the dropping of definite articles vs. retaining of clitic objects in Clitic Doubling and Clitic Left Dislocation constructions is not expected from a morpho-phonological point of view, since both have the same PF realization, as shown in Section 2.1. This asymmetry can rather be explained on the basis of the different properties of these two lexical items. The properties that distinguish clitic pronouns from definite articles are: a) clitic pronouns have the status of intransitive Ds, i.e. they do not take complements and b) they are referential, i.e. they refer to a nominal discourse antecedent.<sup>44</sup> Definite articles, on the other hand: a) have the status of transitive Ds and cannot be used without a complement, and b) they are not referential, but they contribute to the reference of the whole DP, i.e. they individualize an entity denoted by the noun. As in the case of demonstratives vs. definite articles, children retain lexical items, whose lexical entries are more specified, i.e. clitic pronouns, which have the property to refer (indirectly), while they omit words that have a pure grammatical function, i.e. definite articles.

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<sup>43</sup> This is similar to the idea of Tsimpli (1999) that elements specified for features which are +interpretable only at PF (e.g. definite articles) are more problematic in Stage I of normal developing children as well as SLI children than elements specified for features which are +interpretable at LF and at PF (e.g. demonstratives).

<sup>44</sup> According to Tsimpli & Stavrakaki (1999), both definite articles and accusative clitic pronouns are -interpretable at LF. The reason for assigning accusative clitics to the class of elements that are -interpretable at LF is their status as nominal features on the verbal head. However, this does not disallow them from being associated with referential features. Following Cardinaletti & Starke (1994), strong pronouns refer directly, while deficient pronouns refer indirectly.

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