

Acquiring the Possessive Construction in Modern Greek¹

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1 Introduction

The acquisition of the Possessive Construction is one of the main topics of interest within the acquisition of the DP. There are three main reasons for this: a) the Possessive Construction emerges very early in child speech, b) in many languages it involves movement, and thus it can provide evidence for the availability of movement operations, and c) it requires morphological marking both in languages with rich morphology, like Modern Greek (MG), and in languages with poor morphology, like English. It can, thus, provide insights not only into the acquisition of syntax, but also into the acquisition of morphology.

The acquisition of the DP in MG has been the topic of several studies during recent years.² The present paper aims to explore one aspect of the acquisition of the DP, the acquisition of the Possessive Construction. The goal is twofold: 1) to describe the acquisition sequence of the Possessive Construction in MG and 2) to come to some general conclusions about the availability of A- and A'-Movement in early child speech, as well as the availability of structures which involve the Left Periphery of the DP.³ The second goal will be achieved through the comparison of the acquisition of the Possessive Construction in MG with the acquisition of the Possessive Construction in two typologically distinct languages, German and Hebrew.

This paper is organized as follows: Section 2 deals with current analyses of the Possessive Construction in MG and the predictions for the acquisition sequence of the MG Possessive Construction deriving from each one of them. These predictions are evaluated in Section 3 through acquisition data. In Section 4, the data on the acquisition of the Possessive Construction in MG are compared with data on the acquisition of the Possessive Construction in two typologically distinct languages, German and Hebrew. The results of this study are then summarized and discussed in Section 5 within a broader context, the acquisition of the Left Periphery of the nominal domain.

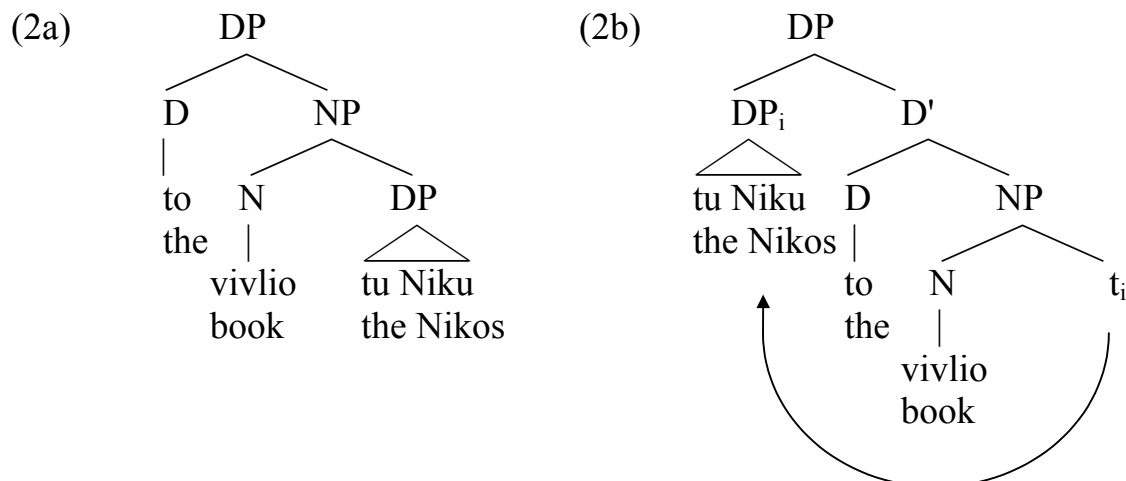
2 The Possessive Construction in Modern Greek

2.1 Theoretical Considerations

MG is a language in which the Possessive Construction displays two linearizations, Possessum > Possessor⁴ and Possessor > Possessum. It involves morphological marking on both determiners and nouns, and requires the use of multiple determiners, i.e. both Possessum and Possessor are obligatorily preceded by a definite article, as illustrated in examples (1a) and (1b).

- (1a) Pira to vivlio tu Niku. (Possessum > Possessor)
 took the-ACC book-ACC the-GEN Nikos-GEN
 ‘I took Niko’s book.’
- (1b) Pira TU NIKOU⁵ to vivlio. (Possessor > Possessum)
 took the-GEN Nikos-GEN the-ACC book-ACC
 ‘I took Niko’s book.’

According to previous analyses of the MG Possessive Construction within the DP-Hypothesis, originating in Horrocks & Stavrou 1987, the base word-order of the Possessive Construction in MG is the order Possessum > Possessor, as illustrated in example (2a). The Possessor is base-generated as complement of the Possessum, which governs and assigns genitive case to it. The order Possessor > Possessum is the result of an optional movement of the Possessor to the Specifier of the DP for focalization⁶, as illustrated in (2b).



Under the assumption that NP complements receive case in their base position and move optionally to Spec,DP for focalization, the destination of the moved constituent (i.e. Spec,DP) is a non-argument position. Moreover, focalization of the Possessor, as in (2b) is parallel to focalization of constituents in the clausal domain, as shown in (3a)-(3c). Consequently, Spec,DP is parallel to Spec,CP, and thus, the Modern Greek DP corresponds, unlike English, to the CP and not to the IP (cf. among others Horrocks & Stavrou 1987, Karanassios 1990, Alexiadou & Stavrou 1997).

- (3a) Edhose to vradio stin Afrodhiti.
 gave-3SG the prize to-the Afrodhiti
 ‘He gave the prize to Afrodhiti.’
- (3b) STIN AFRODHITI edhose to vradio.
 to-the Afrodhiti gave-3SG the prize
 ‘He gave the prize TO AFRODHITI.’

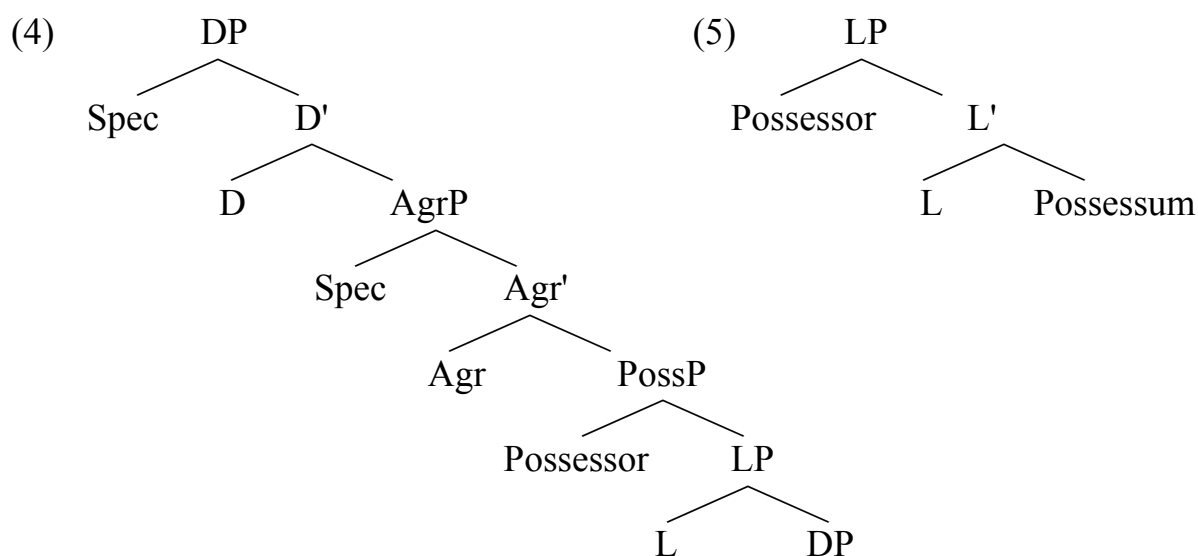
- (3c) TO VRAVIO edhose stin Afrodhiti.
 the prize gave-3SG to-the Afrodhiti
 'He gave THE PRIZE to Afrodhiti.'

(Horrocks & Stavrou 1987:86-87)

More recently, Alexiadou (1999) proposed an analysis of the Possessive Construction, which distinguishes Possessors from thematic arguments of nouns. Moreover, under this analysis, alienable Possessors do not have the same syntactic representation as inalienable Possessors.

Alienable Possessors are licensed by an external functional head, i.e. Poss, as illustrated in (4), and they parallel external arguments in the verbal domain. PossP is similar to *light v*: PossP introduces the Possessor like *light v* introduces the Agent. This analysis is in line with, among others, the analysis of Szabolcsi (1994), according to which possessors are licensed by the presence of certain syntactic-semantic features, such as *-s* in English. The thematic role of the Possessor is related to some head external to the projection containing the head noun. Inalienable Possessors, on the other hand, occupy a lexical phrase (LP), as in (5). This analysis is similar to, among others, the analysis of den Dikken (1995), in which the possession relation is treated in terms of small clauses.

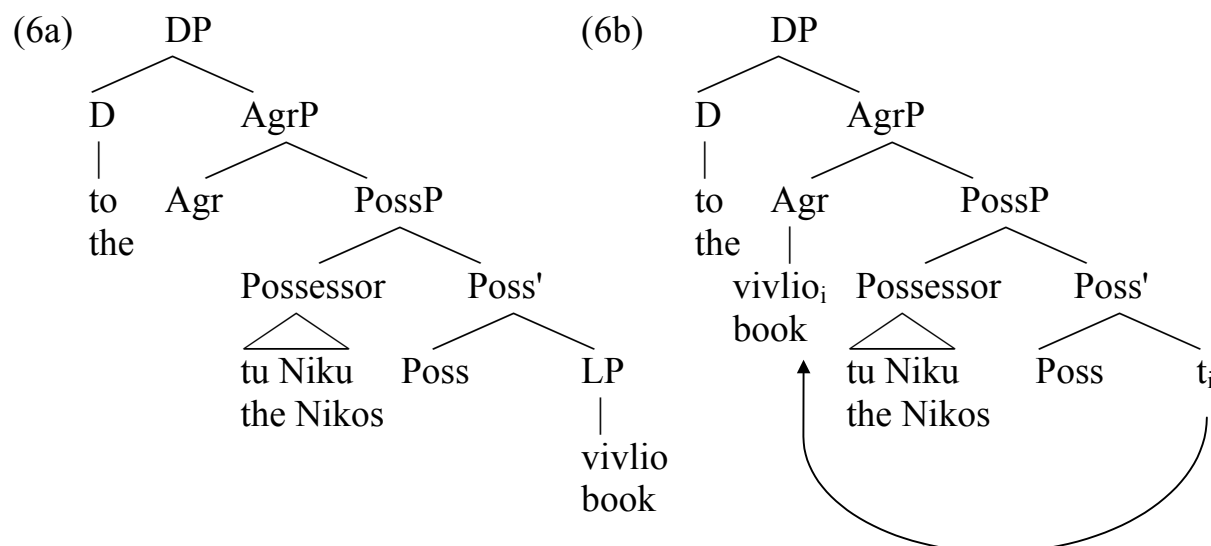
Evidence for the different syntactic representation of the two types of Possessors comes from their different syntactic and semantic properties (for details, see Alexiadou 1999:242-248). In this paper, I will deal only with the acquisition of alienable Possessors, due to lack of data on inalienable Possessors in the corpora used.⁷



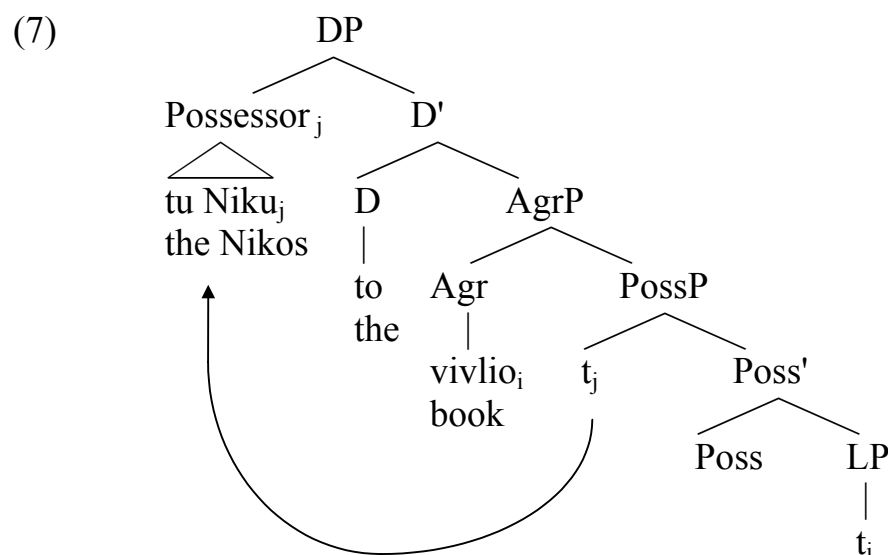
(Alexiadou 1999:33)

Possessive constructions in MG, like the ones in (2a) and (2b), are treated by Alexiadou (1999) in the following way: the Possessor is base-generated/merged within the PossP and the Possessum within the lexical projection (LP), as shown

in (6a). Thus, unlike in Horrocks & Stavrou, the base word-order is Possessor > Possessum.⁸ The Possessum moves to Agr⁰ (which is a nominal functional projection similar to AgrS or TP in the clausal domain) in order to check number and case, as shown in (6b).⁹ The result of this movement is the order Possessum > Possessor, which is the unmarked order in MG. It should be noted that N-Movement to Agr⁰ occurs not only in the Possessive Construction; it is a movement that all nouns undergo, in order to check their number/case features.



The order Possessor > Possessum is the result of a subsequent movement of the Possessor to Spec,DP, as in (7), for focalization. This movement is similar to the one in the analysis of Horrocks & Stavrou (1987).



2.2 Predictions for the acquisition of the Possessive Construction in MG

Under the assumption that early acquisition stages reflect the base word-order prior to movement (see among others Powers 1996, Armon-Lotem 1998), the prediction deriving from the analysis of Horrocks and Stavrou (1987) with respect to word-order is that children will initially use the word-order Possessum > Possessor. Since the order Possessor > Possessum is not related to case marking, we do not expect to find a correlation between word-order and case marking on the Possessor.

The analysis of Alexiadou (1999), on the other hand, predicts a correlation between word-order and case/number marking on nouns in general. Children should initially use the word order Possessor > Possessum, where nouns are not overtly marked for case/number. Overt case/number marking on nouns is an indication of checking of the case/number features in Agr⁰. Thus, when children start to check case/number features by moving the Possessum to Agr⁰, we expect them to use the order Possessum > Possessor. Moreover, as in Horrocks & Stavrou, we do not expect to find a correlation between case marking on the Possessor and the availability of the order Possessor > Possessum.

The predictions deriving from the two analyses are summarized in Table 1.

Table 1: Predictions deriving from the analyses of Horrocks & Stavrou (1987) and Alexiadou (1999)

	<i>Horrocks & Stavrou (1987)</i>		<i>Alexiadou (1999)</i>
1	Possessum > Possessor prior to Possessor > Possessum	1	Possessor > Possessum prior to Possessum > Possessor, correlation between case/number marking on nouns and Possessum > Possessor
2	no correlation between case marking on the Possessor and Possessor > Possessum	2	the same as in Horrocks & Stavrou

In order to test the predictions deriving from these two analyses, MG acquisition data have been analyzed with respect to word-order (see Section 3.2) and case/number marking on nouns in general and on the Possessor (see Section 3.3).

3 Acquiring the Possessive Construction in Modern Greek

3.1 Method

This study is based on two longitudinal corpora, the Christofidou Corpus and the Stephany Corpus. All children in the two corpora are monolingual Greek speakers, growing up in Athens, Greece.

The Christofidou Corpus consists of the recordings of one child, Christos, between the age of 1;7 and 2;8. The recordings in this corpus were made in a natural setting in the family home by the child's mother, A. Christofidou, who was the main person interacting with the child. The activities during the recording sessions consisted of the description of pictures from picture books, free play and talking about activities that had taken place during the day. The recording sessions took place on a weekly basis and on some occasions on a daily basis. Due to the amount of recordings in this corpus it is possible to make a fine grained analysis of the development of the speech of Christos from the age of 1;7 to 2;8. Details about the number of recordings and numbers of utterances are given in Table 2.

Table 2: The data

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

The sessions were recorded with a SONY WM-D6C Walkman professional recorder. All the utterances of both the child and the adults were initially transcribed by hand by a student in Greece. Two Greek students in Berlin, Olga Dougali and Efterpi Rizou, who have been trained in the CHAT transcription format, transcribed the recordings in CHAT format upon hearing the audio-cassettes and reading the initial transcripts. Finally, before coding the data and before starting the analysis, the transcripts were verified by the author of this paper.¹⁰

The Stephany Corpus consists of the recordings of four children, Spiros, Janna, Mairi and Maria and it is available in the CHILDES Database (MacWhinney & Snow 1985). The collection of the data was made by U. Stephany.¹¹ For one child, Spiros, the recordings took place at only one point in time. For the other three children, the recordings took place at two/three different points in time with an interval of six months between the recordings, as shown in Table 2. Thus, the data from the Stephany Corpus can bring insights into the language abilities of the children at the particular points in time, but not into the development that took place between those points. Therefore, the

developmental stages will be based on the data from the Christofidou Corpus, to which the data from the Stephany Corpus will be matched, where possible.

3.2 Word order in the Possessive Construction

The development of word-order in the Possessive Construction can be divided into three stages on the basis of the first use of each word-order in the speech of Christos, i.e. Stage 0, 1 and 2.

STAGE 0: POSSESSOR IN ISOLATION

In the first utterances expressing a possessive relation (Age = 1;10), Christos is using only the Possessor when he wants to express a possessive relation, omitting the Possessum. The same is true for Janna (Age = 1;11) and Mairi (Age = 1;9). Consider example (8).¹²

- (8) Adult: Tinos ine i tsanda?
 'Whose is the bag?'
 Child: Koko mu. (Janna 1;11.10)
 ine dhiki mu (target-utterance)
 is own my
 'It is mine.'
 Adult: Ochi.
 'No.'
 Child: Ine **Nanula**. (Janna 1;11.10)
 ine **tis Anulas** (target-utterance)
 is **the Anna-DIM**¹³
 'It is Anna's.'

The use of the Possessor without the Possessum is grammatical in adult Greek. However, due to the lack of an overt Possessum, it is not possible to derive any conclusions about the competence of the children with respect to the word-order in the Possessive Construction.

STAGE 1: POSSESSUM > POSSESSOR

In the first utterances involving Possessive Constructions consisting of both the Possessor and the Possessum (Age = 1;11), Christos uses the word-order Possessum > Possessor, as illustrated in example (9).

- (9) Adult: Afto ti ine?
 this whatis
 'What is this?'

Summarizing, when the children under investigation start to use both the Possessor and the Possessum, the first word-order attested is the order Possessum > Possessor. None of the children used the word-order Possessor > Possessum prior to the word-order Possessum > Possessor. The word-order Possessor > Possessum is attested in the speech of three out of the five children and it emerges later than the order Possessum > Possessor. This is illustrated in Table 3.

Table 3: Acquisition of the word-order in the MG Possessive Construction

<i>Stage</i>	<i>word-order</i>	<i>Christos</i>	<i>Spiros</i>	<i>Janna</i>	<i>Maria</i>	<i>Mairi</i>
Stage 0	Possessor	1;10.09		1;11		1;9
Stage 1	Possessum > Possessor	1;11.19	1;9	2;9	2;3	2;3
Stage 2	Possessor > Possessum	2;00.07			2;9.12	2;9

Do these data support the predictions given in Section 2.2?

Prediction 1, deriving from the analysis of Horrocks & Stavrou (1987), according to which children should initially use the word-order Possessum > Possessor since this is the base word-order, is supported by the data. Moreover, two out of five children (Spiros and Janna) do not use the word-order Possessor > Possessum at all, while they do use the word-order Possessum > Possessor. This observation supports the analysis of Horrocks & Stavrou, according to which the order Possessor > Possessum is the result of an optional movement and therefore does not appear in the speech of all children.

Crucially, three out of the five children, namely Christos, Janna and Mairi, use initially the word-order Possessum > Possessor when they start using the complete Possessive Construction, i.e. the Possessive Construction with definite articles preceding both the Possessor and the Possessum.¹⁵ This is illustrated in Table 4.

Table 4: First use of the complete Possessive Construction

<i>word-order</i>	<i>Christos</i>	<i>Janna</i>	<i>Maria</i>	<i>Mairi</i>
def.art. Possessum > def.art. Possessor	2;02.14	2;9	2;9	2;3
def.art. Possessor > def.art. Possessum	2;06.14		2;9	2;9

As we can see in Table 4, Christos and Mairi pass through a stage in which they use the complete Possessive Construction with the order Possessum > Possessor and only later do they use the order Possessor > Possessum.

There are no instances of the complete Possessive Construction with the order Possessor > Possessum in the speech of Janna. Recall that Janna uses only the order Possessum > Possessor, i.e. we do not have data from Janna from Stage 2. However, as noted above, Janna uses mainly possessive pronouns when she wants to express possession, i.e. there are very few instances of the Possessive

Construction consisting of the Possessor and the Possessum in her speech.

Maria is the only child for which we find the complete Possessive Construction with both word-orders in the same recording. However, due to the fact that we do not have any recordings between 2;3 and 2;9, it is not clear whether both word-orders emerge simultaneously, or if the complete Possessive Construction emerges initially with the order Possessum > Possessor and later with the order Possessor > Possessum, as in the speech of Christos and Mairi.

In order to test Prediction 1 from the analysis of Alexiadou (1999), we need to know, if nouns are marked for case/number, when children start to use the word-order Possessum > Possessor. Data on the acquisition of case/number marking on nouns will be presented in the next section. Furthermore, the next section is concerned with Prediction 2 deriving from the analysis of both Horrocks & Stavrou (1987) and Alexiadou (1999), which is related to case marking on the Possessor.

3.3 Acquisition of Case and Number Marking

Morphological marking in the speech of Christos has been extensively studied by Kilani-Schoch et al. (1997), Christofidou & Stephany (1997) and Christofidou (1998). Likewise, Stephany (1997) has studied at length the morphological marking in the speech of Spiros, Janna, Maria and Mairi. The results from these studies will be summarized in the next sections, as well as the consequences for Prediction 1 deriving from the analysis of Alexiadou and Prediction 2 deriving from the analyses of both Horrocks & Stavrou and Alexiadou.

3.3.1 Emergence of Case and Number Marking on Nouns

In the analysis of Alexiadou, the order Possessum > Possessor is the result of N movement to Agr⁰ for case/number-checking. Consequently, this analysis predicts that children will use the order Possessum > Possessor only when they have started to use case/number marking on nouns, i.e. when N movement to Agr⁰ has been established. If there is a stage at which nouns are not marked for case/number, i.e. if N movement to Agr⁰ is not operative, we expect children to use the order Possessor > Possessum (Prediction 1).

The first noun forms used by Christos do not show case marking, but rather represent unmarked forms of the inflectional paradigm. Case marking emerges prior to Number marking, at the age of 1;11, with the MASC/NOM/SG marker *-s* (IC 2)¹⁶ and within 10 days, *'the marker is being applied correctly to almost all old and novel nouns of Christos' (1;11.10) vocabulary (88,5% of the intended nominative forms of masculine nouns carry the standard marker -s, (N=97))'* (Christofidou, 1998:5). Moreover, in the next two sessions, the marker *-s* is used

contrastively at least on accusative and vocative and it is overgeneralized to foreign names, e.g. Mickey, Pluto.

Genitive case marking emerges at 1;11.19 with the FEM/GEN/SG suffix *-s*, which is used with just one lexeme, i.e. *mama = mom* (IC 3). Despite its limited use, the FEM/GEN/SG suffix *-s* is used contrastively on NOM and ACC, a fact that provides evidence for a rule-based use rather than a rote-learned use.

Evidence for genitive case marking with masculine nouns appears at 2;0.16. Christos uses the MASC/NOM/SG marker *-s* contrastively on GEN with one lexeme, i.e. *papu = grandpa* (IC 2). The MASC/GEN/SG suffix *-u* emerges at 2;4.1 and is used consistently with one lexeme, i.e. *Christos* (IC 1).

With respect to Number marking, the first noun forms in the plural appear at the age of 1;9.3 in the speech of Christos, i.e. *ne(r)a = waters*, *(porto)kalia = oranges*. However, as Christofidou (1998) notes, ‘*these plurals come as standard answers to standard pictures of a book that has been used very often as a basis for conversation*’ (p.5). Moreover, these words are used only in the plural. It is, therefore, very likely that these plural forms are instances of rote-learning.

Between 1;10 and 2;4, plural noun forms appear a) as instances of imitation, b) wrongly in contexts requiring the singular, c) functionally ambiguously or d) correctly, but non contrastively. Contrastive use of plural vs. singular noun forms appear for the first time at 2;4.12, as illustrated in (13) and (14).

- (13) Adult: Ti (i)n(e) afto?
‘What is this?’
Child: **Papaci.** (Christos 2;4.12)
duck-DIM-SG
‘A little duck.’
- (14) Adult: Afta ti ine?
these what are
‘What are these?’
Child: **Papacia.** (Christos 2;4.12)
ducks-DIM-PL
‘Little ducks.’

However, at the same age, Christos still uses plural forms interchangeably with singular. It is only one month later, at the age of 2;5, that Christos stops using plural forms interchangeably with singular.¹⁷

The development of Case and Number marking in the speech of Christos is summarized in Table 5.

Table 5: Development of Case and Number marking by Christos

<i>Age</i>	<i>Case and Number Marking</i>
1;7-1;10	no case and number marking
1;11	first use of <i>-s</i> MASC/NOM/SG (IC 2)
1;11.0-19	contrastive use of <i>-s</i> MASC/NOM/SG vs. ACC, VOC (IC 2)
1;11.19	contrastive use of <i>-s</i> FEM/GEN/SG vs. NOM, ACC (IC 3)
2;0.16	contrastive use of <i>-s</i> MASC/NOM/SG vs. GEN (IC 2)
2;4.1	consistent use of <i>-u</i> MASC/GEN/SG (IC 1)
2;4.12	contrastive use of SG/PL
2;5	SG/PL not interchangeable

According to Stephany (1997), ‘*case differences between unmarked singular accusative forms and the marked nominative of masculine stems as well as the genitive of the three genders may either develop later than or simultaneously with number distinctions*’ (Stephany 1997:224).

With respect to case marking, Spiros marks at the age of 1;9 85% of the NOM/MASC/SG nouns with the suffix *-os*, Mairi marks at 1;9 50% of masculine stems for nominative and Maria starts marking masculine stems for nominative only after 2;3. At the age of 2;5, Janna seems to have knowledge of nominative singular marking of masculine stems (Stephany 1997:223).

Do the data on case and number marking support Prediction 1 deriving from Alexiadou (1999)?

Recall that according to this analysis the word order prior to N-movement for checking of number/case is Possessor > Possessum. Thus, at a stage at which children do not use number/case marking on nouns, we expect them to use the order Possessor > Possessum. Moreover, when children use number/case marking on nouns, we expect them to use the order Possessum > Possessor. The relation between number/case marking on nouns and word-order in the Possessive Construction is summarized in Table 6.

Table 6: Relation between case/number marking on nouns and the word-order Possessum > Possessor

<i>first use of</i>	<i>Christos</i>	<i>Spiros</i>	<i>Janna</i>	<i>Maria</i>	<i>Mairi</i>
no case/number marking	1;7-1;10	-	1;11	-	-
case/number marking	1;11/2;4	1;9/1;9	2;5/2;5	2;3/2;3	1;9/1;9
Possessum > Possessor	1;11	1;9	2;9	2;3	2;3
Possessor > Possessum	2;00	-	-	2;3	2;9

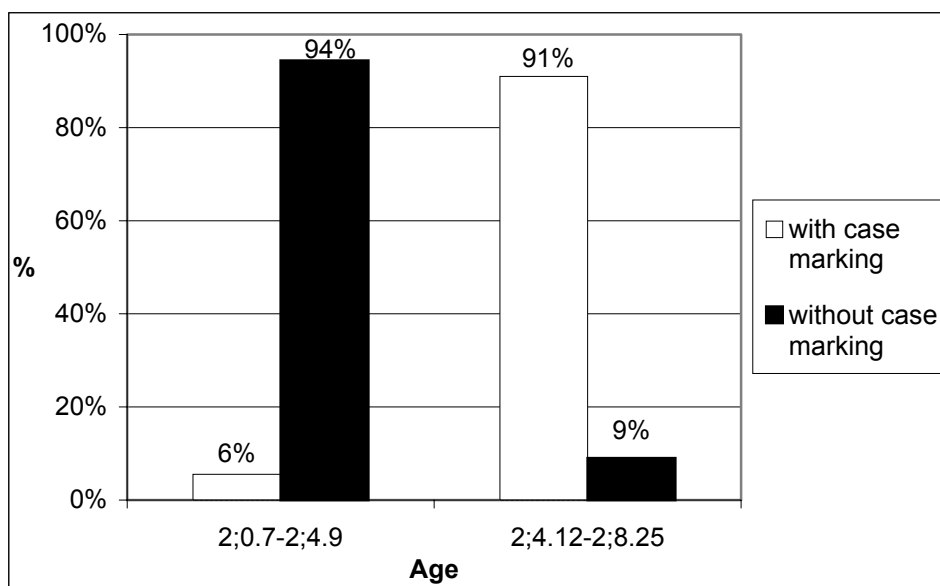
All the children under investigation have already started to use case marking on nouns when they use the word-order Possessum > Possessor. Moreover, all children except Christos also have number marking on nouns when they start to use the order Possessum > Possessor. Thus, there seems to be a correlation

the notebook **the-GEN Ulas-GEN**
 ‘Ula's notebook.’

In the speech of Maria, case marking on the Possessor seems to coincide with the first use of the order Possessum > Possessor and Possessor > Possessum. However, there are no recordings from Maria before 2;3. Consequently, it is not clear if there is a stage at which she used case marking on the Possessor simultaneously with the word-order Possessor > Possessum.

A further argument against a correlation between case marking of the Possessor and the word-order Possessor > Possessum comes from the consistency of case marking on the Possessor in the speech of Christos. As already shown in Section 3.3.1, Christos uses the FEM/GEN/SG suffix *-s* from 1;11.19 onwards contrastively (GEN vs. NOM/ACC) and from 2;0.16 the MASC/NOM/SG suffix *-s* (NOM vs. GEN). Moreover, the first use of case marking on the Possessor appears in 1;11.19. Nevertheless, Christos does not consistently mark Possessors with the genitive suffix in both word-orders, i.e. Possessor > Possessum and Possessum > Possessor, until the age of 2.4.12. This is illustrated in Diagram 1. Recall that the first use of the order Possessor > Possessum in the speech of Christos appears in 2;0.07.

Diagram 1: Consistency of Case Marking on the Possessor



A chi-square test shows that the difference between consistent case marking on the Possessor from 2;0.7 (first use of the order Possessor > Possessum) to 2;4.12 and after 2;4.12 is highly significant ($\chi^2 = 21.13$; $p < 0.001$).

4 The Possessive Construction in German and Hebrew

This section is concerned with the acquisition of the Possessive Construction in German and Hebrew, and a comparison with the acquisition of the MG Possessive Construction. The purpose of this comparison is to bring insights into a broader aspect of acquisition research, the availability of A- and A'-Movement in early child grammar.

4.1 Theoretical Considerations

The Possessive Construction in German, like in MG, displays two linearizations, Possessum > Possessor, as shown in (16a) and Possessor > Possessum, as shown in (16b). However, unlike in MG, the unmarked word-order in German is the order Possessor > Possessum (see Eisenbeiss, 2000).

- | | | |
|-------|--|-------------------------|
| (16a) | die Kenntnisse Svenjas
the knowledge Svenja's
'Svenja's knowledge' | (Possessum > Possessor) |
| (16b) | Svenjas Kenntnisse
'Svenja's knowledge' | (Possessor > Possessum) |
- (from Eisenbeiss, 2000)

Several analyses have been proposed in order to capture the word-order variation of the German Possessive Construction (see among others, Bhatt 1990, Olsen 1991, Vater 1991, Lindauer 1995, Johnson et al. 1996, Penner & Weissenborn 1996), all of which assume that the base structure of the Possessor is the one in (16a).¹⁸ If there are no Determiners present, the Possessor moves to Spec,DP, resulting in the linearization Possessor > Possessum, as in (16b). Thus, movement of the Possessor to the Specifier of the DP is related to the absence of determiners. Moreover, movement of the Possessor to Spec,DP is related to case checking.

A different analysis has been proposed by Penner & Weissenborn (1996). According to this analysis, the Possessor has an operator status; it is base-generated as an NP-Complement and is Q-raised to its scope position, i.e. to Spec,DP either in syntax or at LF. Movement of the Possessor to the Specifier of the DP is, contra Clahsen et al. (1994) and Eisenbeiss (2000), an instance of A'-Movement and is not related to Case marking of the Possessor.

The Possessive Construction in Hebrew has different properties than the MG and German Possessive Construction. For example, the Free Genitive construction in Hebrew displays only one word order, i.e. Possessum > Possessor, as shown in example (17), (the linearization Possessor > Possessum is ungrammatical in adult Hebrew) and the Possessor is preceded by the case marker *shel* = *of*.

- (17) xeder shel ima (Possessum > Possessor)
 room of Mommy
 ‘Mommy’s room.’

(Armon-Lotem 1998)

According to standard analyses of the Free Genitive in Hebrew (see Ritter 1991, Siloni 1996), the base word-order is the order Possessor > Possessum, i.e. the linearization which is ungrammatical in adult Hebrew. The Possessor is base generated in Spec,NP. The order Possessum > Possessor is the result of N-movement of the Possessum to the Specifier of a functional projection between the DP and the NP, i.e. to Spec,NumP according to Ritter (1991).¹⁹

4.2 Acquiring the Possessive Construction in German and Hebrew

In both German²⁰ and Hebrew²¹, children initially use the same linearization, i.e. Possessor > Possessum; only later do they use the order Possessum > Possessor. Moreover, initially there is no morphological marking in either language, i.e. children acquiring German do not use the possessive marker *-s* on the Possessor (see Clahsen et al. 1994, Penner & Weissenborn 1996, Eisenbeiss 2000), and children acquiring Hebrew do not use the case marker *shel = of* (see Armon-Lotem 1998).

The developmental route of the acquisition of the Possessive Construction in German is illustrated in Table 8.

Table 8: The acquisition of the Possessive Construction in German^{22 23}

<i>Child</i>	<i>Possessor > Possessum</i>	<i>Possessum > Possessor</i>	<i>-s insertion</i>
Simone	1;10	-	2;0
Andreas	2;1	-	2;1
Annelie	2;5	-	-
Hannah	2;4	-	2;4
Leonie	1;11	-	2;2
Mathias	2;4	-	3;1
Svenja	2;9	-	2;9

(Clahsen, Eisenbeiss & Vainikka, 1994, Penner & Weissenborn, 1996, Eisenbeiss, 2000)

As we can see in Table 8, children acquiring German use exclusively the word-order Possessor > Possessum. Eisenbeiss (2000) mentions only two instances of the order Possessum > Possessor.²⁴ However, both are attested after the use of the possessive marker *-s* with the linearization Possessor > Possessum. With respect to the use of the possessive suffix *-s*, the data from Simone, Annelie,

Leonie and Mathias provide evidence for a stage, at which children use the order Possessor > Possessum with the possessive marker *-s* missing.

Table 9 presents the developmental route of the acquisition of the Free Genitive in Hebrew.

Table 9: The acquisition of the Free Genitive in Hebrew

<i>Child</i>	<i>Possessor > Possessum</i>	<i>Possessum > Possessor</i>	<i>shel</i>
Hagar	-	1;07.2	1;07.17
Leor	1;09.4	1;09.17	1;10
Lior	-	1;10	1;11
Smadar	1;06	1;07	1;10

(Armon-Lotem 1998)

Two out of the four children studied (Leor and Smadar) initially use the order Possessor > Possessum, which is not a possible word-order in adult Hebrew, as discussed above. Moreover, the case marker *shel* is initially missing. In the next stage (attested in the speech of all children), all children use the target word-order, i.e. Possessum > Possessor; however, in all instances of the Free Genitive, the case marker *shel* is still missing. The case marking *shel* emerges later in all children's speech.

Summarizing, children acquiring German and Hebrew start using the Possessive Construction with the word-order Possessor > Possessum and with no overt morphological marking. In the next stage, German children acquire the possessive marker *-s* and only later the order Possessum > Possessor. In Hebrew, on the other hand, children switch from the order Possessor > Possessum to the order Possessum > Possessor before they use the case marker *shel*.

4.3 Acquiring the Possessive Construction in MG, German and Hebrew

If we compare the data on the acquisition of the Possessive Construction in MG with the German and Hebrew data, it seems, at first glance, that the developmental route of the MG Possessive Construction differs significantly from the one in German and Hebrew. Consider Table 10.

Table 10: Acquisition of the MG, German and Hebrew Possessive Construction

	<i>Modern Greek</i>	<i>German</i>	<i>Hebrew</i>
1	Possessum > Possessor case/number marking	Possessor > Possessum	Possessor > Possessum
2	Possessor > Possessum	<i>-s</i>	Possessum > Possessor
3	Possessor case marking		<i>shel</i>

MG children initially use the word-order Possessum > Possessor, while German and Hebrew children initially use the word-order Possessor > Possessum. The only commonality seems to be that in all three languages, there is initially no case marking on the Possessor. Greek children case mark the Possessor consistently only after they start using both word-orders (in the speech of Christos after the age of 2;4.12). The possessive marker *-s* in German emerges after the emergence of the word-order Possessor > Possessum and the case marker *shel* in Hebrew emerges after the emergence of both word-orders.

However, if we distinguish between base and derived word-order, i.e. if we replace in Table 10 the surface word-order with the status of the word-order (base vs. derived), some of the differences seem to disappear. Consider Table 11.

Table 11: Base vs. derived word-order in the MG, German and Hebrew Possessive Construction

	<i>Modern Greek</i>	<i>German</i>	<i>Hebrew</i>
1	derived a)	derived	base
2	derived b)	Possessor case marking	derived
3	Possessor case marking		Possessor case marking

The development of the word-order in MG is similar to German, i.e. the first word-order attested in both languages is the derived one.

If we focus on the type of movement that is involved, (A-Movement of case/agreement features vs. A'-Movement for checking of features of the peripheral system, e.g. force, topic, focus, cf. Chomsky 1998), Table 11 takes the form of Table 12.

Table 12: A- vs. A'-Movement in the MG, German and Hebrew Possessive Construction

	<i>Modern Greek</i>	<i>German</i>	<i>Hebrew</i>
1	A-Movement	A(')-Movement ²⁵	base
2	A'-Movement	Possessor case marking	A-Movement
3	Possessor case marking		Possessor case marking

The base word-order is attested only in the Hebrew data. In all three languages, consistent case marking on the Possessor does not seem to correlate with word-order, i.e. in all three languages it emerges after the emergence of A- and/or A'-Movement. Moreover, in the language which requires both A and A'-Movement in the Possessive Construction, i.e. MG, A-Movement for case/number checking is attested prior to A'-Movement for focalization. This observation is of considerable importance in the light of the distinction between the acquisition of phenomena related to the propositional core (V- and I-domain) vs. those related

to the Left Periphery (C-domain) (see Platzack 1999), as we will see in the next section.

5. Summary and discussion

Summarizing the results of the acquisition of the MG Possessive Construction:

- children use the word-order Possessum > Possessor prior to the word-order Possessor > Possessum,
- case marking on nouns emerges simultaneously with the word-order Possessum > Possessor,
- consistent case marking of the Possessor appears later than the emergence of both word-orders.

The predictions deriving from the analysis of Horrocks & Stavrou (1987) are supported by the data: the order Possessum > Possessor emerges prior to the order Possessor > Possessum (Prediction 1) and no correlation has been observed between case marking on the Possessor and the order Possessor > Possessum (Prediction 2 for both analyses). Prediction 1 deriving from the analysis of Alexiadou (1999) is only partially supported by the data: there seems to be a correlation between case marking on nouns and the order Possessum > Possessor. However, there is no stage attested with no case marking on nouns and the word-order Possessor > Possessum (Prediction 1). It is not clear whether the absence of the order Possessor > Possessum *without case marking* prior to the order Possessum > Possessor *with case marking* is due to structural reasons or if it is an effect of sampling. Recall that, at the stage when children did not use case marking on nouns, there were no Possessive Constructions consisting of both the Possessor and the Possessum. Further longitudinal and/or experimental data are necessary in order to find out whether children pass through such a stage.

Comparison of the MG data with data from the acquisition of the Possessive Construction in German and Hebrew has shown that in all three languages, case marking on the Possessor does not correlate with the word-order of the Possessive Construction that requires A- and/or A'-Movement. Moreover, in the MG Possessive Construction, which requires both A-Movement for case/number checking of nouns and A'-Movement for focalization, the word-order Possessor > Possessum, which requires movement to the Left Periphery of the nominal domain (to Spec,DP²⁶), emerges later than the word-order Possessum > Possessor, which requires movement within the Agr-domain²⁷ of the DP (N-Movement to Agr⁰ for case/number checking). How does this observation relate to more general aspects of acquisition research?

In the late 80s, Lebeaux (1988) developed the idea that early child speech consists of lexical-thematic structures. This idea has been further developed in

the work of, among others, Guilfoyle & Noonan (1992), Radford (1990), Tsimpli (1992), Powers (1996), who have claimed that early child speech lacks functional categories. With respect to the C-system, Meisel (1992), Penner & Müller (1992) and Müller, Crysman & Kaiser (1996), among others, have provided evidence that a fully-fledged C-system is not active early in development.

More recently, Platzack (1999) suggested that there exists ‘*a group of natural language speakers, called the C-group, whose members share a particular syntactic behavior: they process the syntax of lower structural levels accurately, but display a non-accurate processing of the highest structural level, the C-domain.*’ (Platzack 1999: 3). Evidence for this idea has been provided from studies on Swedish and German. More specifically, Platzack compared constructions that are related to the C-domain with constructions that are related to the V- and I-domain in the speech of L1 normally developing children, children with SLI, adults acquiring Swedish as L2 and Broca's aphasic patients. The comparison revealed that these four groups of speakers have difficulties with constructions that are related to the C-domain, but do well in phenomena related to the propositional core.

The observation that constructions involving A-Movement within the DP emerge earlier than constructions involving A'-Movement to Spec,DP indicates that structures that are related to the core-domain of the DP are available earlier than structures that are related to the Left Periphery of the DP. Thus, Platzack's observation seems also to hold for the nominal domain: L1 normally developing children pass through a stage at which they do well on phenomena related to the Agr-domain of the DP while having difficulties with the Left Periphery of the DP.²⁸

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¹ I would like to thank Anastasia Christofidou for providing me with the corpus of her son Christos. I am grateful to Susan Powers, Jürgen Weissenborn, Thomas Roeper, Artemis Alexiadou, Inge Lasser, Spyridoula Varlokosta, Tessa Say, Phoevos Panagiotidis and the audience of GALA' 99 for helpful comments. Thanks to Emma Thomas and Phoevos Panagiotidis for proofreading. Parts of this paper have been presented in the Psycholinguistic Colloquium at the University of Potsdam, at the ZAS in Berlin and at the Aristotle University of Thessaloniki.

² See Christofidou & Stephany (1997), Kilani-Schoch et al. (1997), Stephany (1997), Christofidou (1998) and Marinis (2000-a) for the acquisition of morphology, and Stephany (1997), Marinis (1998, 1999, 2000-a, 2000-b, in press-a, in press-b) and Varlokosta (this volume) for the acquisition of syntax of the DP by normal developing children. For the acquisition of the DP by children with SLI, see Tsimpli & Stavrakaki (1999), Tsimpli (to appear) and Varlokosta (this volume).

³ For the acquisition of the Left Periphery of the clause, see Platzack (1999). For the acquisition of the Left periphery of the DP, see Marinis (2000-b).

⁴ > means *prior to*.

⁵ Capitals denote focus.

⁶ According to Holton, Mackridge & Philippaki-Warburton (1999:264), the order Possessor > Possessum involves contrastive emphasis.

⁷ Lack of data on inalienable Possessors is likely to be an effect of sampling, since there were very few contexts during the recordings in which children could express inalienable possession. Hence, the acquisition of inalienable Possessors and its relation to the acquisition of alienable Possessors is left for future research.

⁸ It should be noted that the base word-order in the analysis of Alexiadou (1999) does not correspond to any surface word-order.

⁹ This functional projection is similar to Ritter's (1991) NumP. For arguments in favor of a functional projection within the Modern Greek DP, see Karanassios (1990), Stavrou (1996), Alexiadou & Stavrou (1997), Alexiadou & Stavrou (1998).

¹⁰ For details about the coding of the corpus, see Marinis (2000-a).

¹¹ For details about the data collection, see Stephany (1985).

¹² In non target-like child utterances, an extra line has been added below the child's utterance, which contains the well-formed/target-like utterance. The target-like character of utterances has been judged on the basis of contextual information.

¹³ DIM = Diminutive

¹⁴ The possessive pronoun is not used only by Janna, but also by Spiros, Maria and Mairi. These children express possession both with the possessive construction consisting of full DPs and with possessive pronouns. Janna, however, prefers to use possessive pronouns (tokens of possessive constructions with full DPs vs. tokens with possessive pronouns = 4/99). Christos, on the other hand, does not use any possessive pronouns until the age of 2;1.2.

¹⁵ For the acquisition of the definite article in MG, see Stephany 1997, Christofidou & Kappa (1998), Marinis (1998, 2000-a, in press-b), and for the relation between the acquisition of the definite article and the possessive construction, see Marinis (2000-a).

¹⁶ IC = Inflectional Class. For this notion and the classification of Modern Greek nouns in inflectional classes, see Ralli, 1994.

¹⁷ Interestingly, this development coincides with the emergence of numerals in his speech (see Christofidou, 1998, Marinis, 2000-a).

¹⁸ There is a debate with respect to the exact position in which the Possessor is base-generated. Penner & Weissenborn (1996) claim that the Possessor is base-generated as an NP-Complement, while Bhatt (1990), Lindauer (1995) and Johnson et al. (1996) argue that the Possessor is base generated in Spec,NP. For a comparison of these analyses and discussion, see Eisenbeiss, 2000.

¹⁹ Note that this analysis is similar to that of Alexiadou (1999) (NumP in Hebrew is similar to AgrP in MG), with the exception that according to Ritter (1991), the Possessor is generated in Spec,NP, while in Alexiadou (1999), it is generated in Spec,PossP.

²⁰ The German data presented in this paper are from Clahsen, Eisenbeiss & Vainikka (1994), Penner & Weissenborn (1996) and Eisenbeiss (2000).

²¹ The Hebrew data are from Armon-Lotem (1998).

²² The age represents the first use of each word-order and the first use of the suffix *-s*.

²³ The development of the Possessive Construction is presented in Eisenbeiss (2000) on the basis of file numbers and not on the basis of age. I wish to thank Sonja Eisenbeiss for providing me with the tables that give the correspondence between file numbers and the age of the children.

²⁴ One is in the speech of Svenja, i.e. *die Saschas = the Sascha's (shoes) = the shoes of Sascha* (Age = 3;2) and one in the speech of Simone, i.e. *die Fisch Mone's = the fisch Mone's = the fishes of Simone* (Age = 2;4). As Eisenbeiss notes, the possessive construction in the speech of Svenja does not involve an overt Possessum; therefore it is not possible to establish an order for Possessor and Possessum. However it contains a determiner, which is only possible in adult German with the order Possessum > Possessor.

²⁵ Within the analysis of Clahsen et al. and Eisenbeiss, movement of the Possessor to Spec,DP is an instance of A-Movement, according to Penner & Weissenborn, on the other hand, it is an instance of A'-Movement.

²⁶ Recall that the DP in MG, corresponds to the CP in the clausal domain like the Hungarian DP: the article, just like the complementizer, acts as a subordinator, i.e. '*it enables a propositional entity to act as an argument of a higher predicate*' (Szabolcsi 1994: 208), the specifier of the DP is a non-thematic position, like Spec,CP, which serves as a landing site for focalized constituents.

²⁷ The Agr-domain of the DP corresponds to the I-domain of the CP.

²⁸ This observation has been further developed in Marinis (2000-b) through data from two further phenomena, Determiner Spreading, which is an instance of adjective modification that involves the Left Periphery of both the DP and the CP and Clitic Left Dislocation, which involves the Left Periphery of the CP.