Subject-Object Asymmetry in the Acquisition of the Definite Article in Greek

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ABSTRACT

This paper offers new data on the acquisition of the DP in Greek by investigating the acquisition of the syntax-semantics mapping within Chierchia's Nominal Mapping Parameter Hypothesis. As Greek nouns have a [-arg,+pred] specification (Sioupi, 1999; Marinis, 2000/2003), this hypothesis predicts an initial stage of definite-article-drop followed by consistent use of definite articles, which was borne out by the data. A subject-object asymmetry in the use of bare arguments and the distribution of Bare-Singular-Count-Nouns revealed knowledge of the licensing conditions for bare arguments when definite articles were used productively. Finally, the use of definite articles with proper names and kinship terms shows that the contrastive frame vocative vs. non-vocative provides the unambiguous trigger for the feature-specification of nouns in Greek.
0. Introduction

The study of language acquisition has played a central role in the generative framework from the early 60s until now for reasons related to the innateness hypothesis. Based on the idea that humans have a genetic endowment that enables them to learn language - the *Language Acquisition Device* or *Language Faculty* - knowledge of language is considered to be innate. Although the ideas about the form of the *Language Faculty* have changed over time, the general idea remains the same: the *Language Faculty* is thought to provide the child with a *blueprint* for developing grammar on the basis of linguistic experience.

Although language acquisition studies for obvious reasons cannot explore the Initial State - the *Language Faculty* prior to any linguistic experience – they can shed light on intermediate grammars, i.e. grammars which are halfway between the Initial State and the Final State - the adult grammar. Consequently, by revealing how the *Language Faculty* develops, language acquisition studies can offer insights into the design of the *Language Faculty*.

The acquisition of the definite article has been one of the central topics of interest in the acquisition literature during the last decade. After the introduction of the DP-Hypothesis (Horrocks & Stavrou, 1986; 1987; Abney, 1987), studies on the acquisition of the definite article have been of considerable importance because - as definite articles belong to the category
D - they can provide evidence for the presence of the DP in child grammar, and thus, for the acquisition of the functional domain. As a result, the bulk of studies on the acquisition of the definite article within the generative framework has investigated the emergence and mastery of the definite article in child speech (Radford, 1990; Clahsen et al. 1994; Penner & Weissenborn, 1996, among others).

However, the majority of these studies have not separately investigated the different obligatory contexts of the definite article (e.g. definite articles used with different noun classes or in different syntactic positions). Moreover, very few, if any specific studies have been undertaken on the acquisition of grammatical bare nouns and their licensing conditions. As a result, very little is known as to when children acquire the licensing conditions for bare nouns and how this knowledge is related to the acquisition of the definite article. This paper addresses this vacuum by comparing the acquisition of the definite article with the acquisition of bare nouns in argument positions and the licensing of bare singular count nouns.

In Section 1, I will present the factors involved in the licensing of bare nouns in argument positions. These will be couched within Chierchia's Nominal Mapping Parameter hypothesis in Section 2. Section 3 is concerned with the predictions for the acquisition of the definite article and the licensing of bare nouns in argument positions, which will be tested on the basis of acquisition data in Section 4. The results are summarised and further discussed in Section 5.
1. **Factors involved in the licensing of bare nouns**

The main factors involved in the licensing of bare nouns are: a) argumenthood, b) syntactic position, c) noun class, d) number marking, e) verb type, and f) word-order.

Nouns in argument positions are, apart from the exceptions discussed below, used with articles, as shown in examples (1) and (2) below. This does not hold for nouns in non-argument positions, as shown in example (3) below.

(1) a. *To pedhi kimate.*  
\[\text{the child sleeps}\]  
\[\text{‘The child is sleeping.’}\]

b.* *Pedhi kimate.*  
\[\text{child sleeps}\]  
\[\text{‘The child is sleeping.’}\]

(2) a. *Ida to pedhi sto parko.*  
\[\text{saw the child in-the park}\]  
\[\text{‘I saw the child in the park.’}\]

b.* *Ida pedhi sto parko.*  
\[\text{saw child in-the park}\]
`I saw the child in the park.`

(3) Afto ine *vivlio.* (non-argument)

this is book

`This is a book.`

Since this paper focuses on the acquisition of argumental noun phrases, the issue of bare nouns in non-argument positions will not be further discussed.

There is a subject-object asymmetry in the use of bare nouns, as shown in examples (4) and (5) below. The generalisation is that bare nouns are in principle not licit in the subject position, whereas they can be licit in the object position.

(4) *Ghala* ine sto trapezi. (subject)

milk is on-the table

`Milk is on the table.`

(5) Aghorasa *ghala.* (object)

bought milk

`I bought milk.`

However, bare nouns in the object position are only licit under certain conditions. Moreover, in certain contexts bare nouns are also licit in the subject position. As far as bare nouns in the object position are concerned,
four factors are important for their licensing: noun class, number marking, verb type, and word-order.

The relevance of the factor noun class is illustrated in examples (6), (7) and (8) below. Mass nouns are licit as bare objects - consider example (6) below – whereas this does not hold in general for count nouns, as shown in example (7) below. Finally, proper names in their typical use cannot be used as bare objects, as shown in example (8) below.

(6) a O Nikos ipche to chimo. (object, mass noun)

the Nikos drank the juice

‘Nikos drank the juice.’

b O Nikos ipche chimo.

the Nikos drank juice

‘Nikos drank juice.’

(7) a O Nikos sidherose ena pukamiso. (object, count noun)

the Nikos ironed a/one shirt

‘Nikos ironed a/one shirt.’

b* O Nikos sidherose pukamiso.

the Nikos ironed shirt

‘Nikos ironed a/one shirt.’

(8) a Aghapao ti Maria. (object, proper name)

love the Maria

‘I love Maria.’
b* Aghapao Maria.
love Maria
‘I love Maria.’

Noun class interacts with number marking. Count nouns are illicit as bare objects when used in the singular, as already shown in example (7) above, but they are licit in the plural, as in example (9) below.

(9) O Nikos sidhërose pukamisa. \(\text{object, count noun, plural}\)
the Nikos ironed shirts
‘Nikos ironed shirts.’

Bare singular count nouns (BSCNs) are in general illicit, as illustrated in example (7b) above. However, in some contexts they are fully grammatical. This holds when they are objects of verbs of accomplishment (Vendler, 1967), as shown in example (10) below, light verbs, such as the verb \kano = do, see example (11) below, the verb \thelo = want, see example (12) below and the copula \exo = have, see example (13) below, something which has also been noted in Tzartzanos (1945), Mackridge (1990), Holton, Mackridge & Philippaki-Warburton (1997) and Tsimpli & Stavrakaki (1999).

(10) I Maria agorase aftokinito.
the Maria bought car
'Maria bought a car.'

(11) I Maria ekane banio sti Varkiza.

the Maria did bath in-the Varkiza

‘Maria had a bath/swim in Varkiza.’

(12) I Maria pantrevete ke theli spiti stin Kifisia.

the Maria gets married and wants house in-the Kifisia

‘Maria is getting married and wants a house in Kifisia’

(13) I Maria echi aftokinito Italiko.

the Maria has car Italian

‘Maria has an Italian car.’

As far as word-order is concerned, bare nouns in the object position are licit post-verbally, i.e. in lexically governed positions, as shown in examples (14) and (15) below, but they can also surface pre-verbally when they are focused, as shown in example (16) below.²

(14) I Maria agorase aftokinito.

the Maria bought car

‘Maria bought a car.’

(15)* Aftokinito aghorase i Maria.

car bought the Maria

‘Maria bought a car.’

(16) AFTOKINITO aghorase i Maria.
car bought the Maria

‘It is a car that Maria bought.’

Bare nouns in the subject position are licit in even more restrictive ways, namely, when the noun is used contrastively, as in example (17) below, in the scope of negation, as in example (18) below (Setatos 1995), in the context of headlines or as announcements, as in example (19) below (Marmaridou 1984:171; Mackridge 1990:300; Holton, Mackridge & Philippaki-Warburton 1997:284), as meta-language, as in example (20) below (Anastasiadi-Simeonidi p.c.) and with existential verbs, as in (21) below.3

(17) Stratiotis perase apo do, politis apo ki.
soldier passed from here civilian from there
‘A soldier passed from here, a civilian from there.’ (Setatos 1995)

(18) Skilos dhen troi tetia.
dog not eats such
‘Dogs do not eat such things.’ (Setatos 1995)

(19) Mitera skotose ta dhio tis pedhia ….
mother killed the two her children …
‘A mother killed her two children …’

(20) ‘Efimeridha’ ine usiastiko thiliki ghenus.
newspaper is noun feminine gender
‘Newspaper is a feminine noun.’

(21) Ghala echi sto psighio.
milk has in-the fridge

‘There is milk in the fridge.’

Finally, bare arguments have a different interpretation as compared to arguments involving articles; they are typically interpreted as non-specific, as shown in examples (22)-(24) below for bare nouns as objects and in examples (17)-(21) above for bare nouns as subjects.

(22) O Nikos ipche chimo. (object, mass, non-specific)
the Nikos drank juice

‘Nikos drank juice.’

(23) Aghorasa vivlia. (object, count, plural, non-specific)
bought books

‘I bought books.’

(24) I Maria echtise spiti. (object, count, singular, non-specific)
the Maria built house

‘Maria has built a house.’

Summarising this section, I have demonstrated that the relevant factors for the licensing of bare nouns are: argumenthood, syntactic position, noun class, number marking, verb type, and word-order. Crucially, there is a
subject-object asymmetry in the use of bare nouns. Bare nouns in the subject position are licit in much more restricted environments than bare nouns in the object position. These descriptive generalisations will be discussed in the next section within Chierchia's *Nominal Mapping Parameter* hypothesis (Chierchia, 1998).

2. **Chierchia's Nominal Mapping Parameter**

According to standard assumptions concerning the mapping of nominal categories onto their denotations, common nouns are of the type $<e, t>$ - they are mapped onto predicates -, whereas DPs are of the type $e$ (referential nominals), or $<e, t>, t>$ (quantificational nominals) - they are mapped onto arguments. Thus, bare common nouns should not appear in argument positions because they are of the wrong type, $<e, t>$, i.e. they cannot be mapped onto arguments. This has led to the assumption that the DP layer must be projected with a null $D^0$ each time a bare common noun appears in an argument position (Longobardi, 1994).

Chierchia's (1998) approach treats these facts differently. According to Chierchia, there is no cross-linguistic isomorphism between arguments and the DP layer. In his account, count nouns are not cross-linguistically of the type $<e, t>$, they are not per definition predicates. They can or even sometimes must be kind-denoting in the sense of Carlson (1977). In other
words, count nouns can and sometimes must be of the type \( e \), that of arguments. Hence, there is no need to assume the presence of a DP layer with a null \( D^0 \) each time when bare common nouns appear in argument positions.\(^5\)

The mapping of nouns onto their interpretations is constrained in Chiechia's model through the use of the binary features \([+\text{arg}]\) for argument and \([+\text{pred}]\) for predicate. When a noun has a \([+\text{arg}]\) specification, this means that it can be mapped onto an argument and it can appear as a bare noun in an argument position. Nouns with a \([-\text{arg}]\) specification, on the other hand, cannot be mapped onto arguments. In order to do so they need a DP layer. Similarly, for \([+\text{pred}]\) and \([-\text{pred}]\).\(^6\)

Cross-linguistic variation is expressed through the combination of these two binary features. Three combinations represent the possible language types, i.e. \([+\text{arg}, -\text{pred}]\), \([-\text{arg}, +\text{pred}]\) and \([+\text{arg}, +\text{pred}]\),\(^7\) each one of which represents a setting of the Nominal Mapping Parameter. The three possible combinations correspond to three language types, Chinese, Romance and Germanic. The specification \([+\text{arg}, -\text{pred}]\) appears in languages of the Chinese type, such as Chinese and Japanese, the specification \([-\text{arg}, +\text{pred}]\) in Romance languages, such as French and Italian, and the specification \([+\text{arg}, +\text{pred}]\) in Germanic languages, such as English and German.

Nouns in Chinese are \([+\text{arg}, -\text{pred}]\), they are argumental (names of kinds) and can occur without determiners in argument positions, as illustrated in example (25) below. The extension of all nouns is mass and there is no
plural marking, as shown in example (26). Finally, Chinese has a Generalised Classifier System, as illustrated in example (27).

(25) wò kànjiàn xiōng le.
I see bear ASP
‘I saw (some/the) bears.’
(26) liang zhang zhuozi.
two CL table
‘Two (pieces of) tables.’
(27) yí zhang zhuozi.
one CL table
‘One (piece of) table.’ (from Chierchia, 1998)

In Romance languages, nouns are [-arg, +pred] and are mapped onto predicates. Consequently, they need a DP layer whenever they occur in argument positions. The extension of nouns is count or mass, and count nouns may have plural marking. French does not have bare nouns in argument positions, as illustrated in examples (28) and (29) below, whereas Italian does so in positions governed by a lexical head, as illustrated in examples (30) and (31). In this case it is assumed that a null D⁰ is present. The null D⁰ is licensed by a lexical head, in this case the verb.

(28)* Enfants sont venus chez nous.
children are come at us

‘Children have come to our place.’

(29)* J’ai mangé biscuits dans mon lait.

I have eaten biscuits in my milk

‘I have eaten biscuits with my milk.’

(30)* Bambini sono venuti da noi.

children are come at us

‘Children have come to our place.’

(31) Ho mangiato biscotti con il latte.

have eaten biscuits with the milk

‘I have eaten biscuits with my milk.’ (from Longobardi, 1994)

Finally, nouns in Germanic languages have the specification [+arg, +pred], i.e. some nouns are argumental and some others are predicative. For example, English allows both predicative and argumental NPs, and behaves like French for certain aspects of its nominal system, i.e. for singular count nouns and like Chinese for other aspects, i.e. for plurals and mass nouns, as illustrated in examples (32) and (33) below.⁸

(32) Dogs are widespread.

(33) Gold is rare.
The distribution of bare objects in Modern Greek (hereafter MG) has been analysed within Chierchia's *Nominal Mapping Parameter* hypothesis by Sioupi (1999; 2001) and Marinis (2000/2003; 2002). Accordingly, MG matches the [-arg, +pred] setting, the Romance setting. The rest of this section provides the argumentation of Sioupi and Marinis for this claim.

As shown in Section 1, in MG bare nouns in argument positions are licit only in specific environments. Since nouns in MG have the specification [-arg, +pred], as nouns in Romance do, a null $D^0$ head is assumed to project a DP layer and map the interpretation of the noun onto an argument. In the case of post-verbal bare objects, the null $D^0$ is licensed by a lexical head, i.e. the verb that takes the bare object as its argument (cf. Longobardi, 1994; Rousou & Tsimpli, 1993). Pre-verbal focused bare objects, on the other hand, are licensed via Spec-Head Agreement by the head of a Focus Phrase in a system à la Rizzi (1997).

Evidence for a null $D^0$ in BSCNs has been provided in Sioupi (1999) by word-order facts, and in Sioupi (2001) by the interpretation of bare objects. Moreover, evidence against an incorporation analysis and a complex predicate analysis has been provided by a series of tests involving coordination, focalisation, wh-questions, adjectival modification, and the use of adverbs (Sioupi, 1999). Consider examples (33a)-(33e) below, which correspond to the five tests.

(34) a Efagha *milo* ke *portokali.* (coordination)
ate apple and orange
‘I ate an apple and an orange.’

b MILO troo. (focalisation)
apple eat
‘I eat an apple.’

c Ti echtise o Petros? - Spiti. (wh-question)
what built the Petros house

d Echtise oreo spiti. (adjectival modification)
built nice house
‘He built a nice house.’

e Dhiavaze sinithos efimeridha o Giannis. (use of adverbs)
read usually newspaper the Giannis
‘Giannis was usually reading the newspaper.’ (from Sioupi 1999)

Example (34a) above shows that BSCNs can be co-ordinated, example (34b) that they can be focused, example (34c) that they can be used in isolation as an answer to a wh-question, example (34d) that they can be modified by adjectives and example (34e) that adverbs may intervene between the verb and the bare object. If the bare object forms a unit with the verb either by incorporation or as a complex predicate, examples (34a) to (34e) above would be ungrammatical.
As far as bare nouns in the subject position are concerned, Section 1 showed that these are restricted to cases involving a contrastive interpretation, negation, context of headlines, use in meta-language and use with existential verbs. The context of headlines and the use of expressions as meta-language often display exceptional behaviour. Therefore, they will not be further discussed. Bare subjects in a contrastive context and in the scope of negation, however, can be analysed on a par with bare objects involving a null D0. The null D0 in bare subjects involving a contrastive interpretation can be licensed by a functional head similarly to the null D0 in bare objects involving focus, whereas the null D0 in bare subjects which appear in the scope of negation can be licensed by the head of a NegPhrase.

Summarising this section, within Chierchia's Nominal Mapping Parameter model, nouns in MG have the specification [-arg, +pred] and need a DP layer in order to be able to surface as arguments. Bare nouns in both the subject and object position involve a null D0, which is licensed by a lexical or a functional head. Based on these assumptions, in the next section I shall develop the predictions for the acquisition of the definite article and the licensing conditions for bare nouns in argument positions.

3. Predictions for the acquisition of the definite article and the licensing conditions for bare arguments
The *Nominal Mapping Parameter* model predicts a very specific acquisition sequence of articles. Based on the Subset Principle (Wexler & Manzini 1987), according to which children hypothesise the most restrictive grammar, children should start with the feature specification that rules out the most, so that they may revise their hypothesis on the basis of positive evidence. Consider (35) below.

(35)

In (35) above, the most restrictive feature specification within the *Nominal Mapping Parameter* model is [+arg, -pred], which corresponds to the Chinese setting. This is based on the idea that in languages of this type:

a) nouns occur without determiners,

b) the extension of nouns is mass,

c) there is no plural marking and

d) a classifier system is operative.
The properties a) to d) are contained in Romance and Germanic type languages. If the initial setting is [+arg, -pred], we expect children to initially omit definite articles, treat all nouns as mass and not use plural morphology. The existence of definite articles, plural morphology and numeral quantifiers combining directly with nouns (which are not part of the properties of Chinese type languages) can provide positive evidence to the language learner to change the feature specification of nouns. Upon discovering definite articles, plural marking and quantifiers combined directly with nouns in the input, children should change the initial feature specification to [-arg, +pred] (Romance type).

The value of Romance type languages is the next most restrictive feature matrix, since in Romance type languages:

a) the extension of nouns is mass or count,
b) nouns occur with determiners,
c) there is plural marking on count nouns and
d) a classifier system is operative.

The second setting excludes bare nouns altogether. Consequently, children are expected to project a DP-layer always, when the noun phrase is in an argument position. However, they have to figure out which nouns are mass and which are count, as well as when a null $D^0$ is licit and when it is not. Finally, unrestricted occurrence of bare mass nouns in argument positions
should lead children to change the value of the Nominal Mapping Parameter to the setting of Germanic type languages, i.e. [+arg, +pred].

The value of Germanic type languages is the most non-restrictive feature matrix, since:

a) the extension of nouns is mass or count,
b) nouns may occur with or without determiners,
c) there is plural marking on count nouns and
d) a classifier system is operative with mass nouns.

Since all children are expected to start with the Chinese setting irrespective of the language they are acquiring, the first prediction concerning the use of articles is that initially children will use only bare nouns. Children acquiring MG, upon discovering definite articles, plural morphology and/or numeral quantifiers combining directly with nouns, should switch to the Romance setting. This predicts that at a second stage, they will always project a DP-layer. However, the input to children acquiring MG contains bare nouns in argument positions. Thus, children must discover, in which positions bare nouns are licit. This involves:

a) discovering the distinction between argument vs. non-argument,
b) identifying the subject and object position and that MG displays a subject-object asymmetry,
c) discovering the distinction between mass and count nouns and the possibility of mass nouns to appear as bare singular objects,
d) detecting plural marking and finding out that bare plurals are licit in the object position,
e) identifying which verb classes allow BSCNs as arguments and
f) observing the impact of word-order and focalisation in the use of bare nouns.

Uncertainty in these aspects may result in the optional use of definite articles. However, given that the input to the child acquiring MG includes bare nouns, how is it possible to exclude the possibility that children will change the feature value of the Nominal Mapping Parameter to [+arg, +pred] (Germanic type)? Are there any contexts, which provide unambiguous evidence that nouns in MG are [-arg, +pred]?

Unambiguous contexts that nouns in MG are [-arg, +pred] can be provided by the use of proper names (hereafter PNs) and kinship terms (hereafter KTs). PNs and KTs are the only nouns that cannot be used as bare nouns in argument positions: in argument positions they must be used obligatorily with definite articles, in non-argument positions - for example in the vocative - they must be used obligatorily without definite articles. This minimal pair can act as a Unique Trigger (Roep & Weissenborn, 1990) providing the relevant information for the feature specification of nouns.
According to Roeper & Weissenborn, for each parameter there is a Unique Trigger in the input to the child, which causes the setting of the parameter to its target value. Roeper & Weissenborn developed this idea for the setting of the pro-drop parameter. The notion of Unique Triggers is related to the existence of specific syntactic domains, which provide unambiguous evidence to the child for Parameter Setting. For example, as far as the pro-drop parameter is concerned, according to Roeper & Weissenborn, the Unique Trigger for the setting of the pro-drop parameter is the subordinate clause.

With respect to the feature specification of nouns in MG, the Unique Trigger that shows the child that nouns have the specification [-arg, +pred] is provided by the distribution of PNs and KTs. Importantly, PNs and KTs are very frequent in child directed speech in both argument and non-argument positions, which ensures that children will get enough input from these two contexts.

Considering this last property of MG, under the assumption that the trigger not only contributes to the setting of a parameter, but also the structure comprising the trigger emerges quite early in child speech, it is expected that children will use definite articles with PNs and KTs as soon as they start using definite articles productively. This does not imply that they will use definite articles only with PNs and KTs but not with nouns belonging to other classes, since having the right specification will lead them to use definite articles with all noun classes.
As already shown in Section 2, there is a subject-object asymmetry in the use of bare nouns in MG. Moreover, BSCNs are restricted to appear as objects of a specific set of verbs. Acquisition of the MG nominal system should be reflected in the conformity of these restrictions, if children have knowledge of the grammar of the target language. The predictions for the acquisition of definite articles and for the licensing of bare arguments in MG are summarised in Table 1.

@@ Please insert Table 1 here

These predictions will be tested in the next section.

4. The Data

This study is based on a longitudinal corpus, the Christofidou Corpus which consists of audio-recordings of one monolingual child, Christos, growing up in Athens, Greece. The collection was made by the mother of the child, Anastasia Christofidou, who was the main person interacting with the child. The recordings, which were made on a weekly basis, took place in a natural setting in the house of the family and consisted mainly of the description of picture books, free play with toys and talking about activities during the day
or previous days. The data analysed in this study consist of 69 recordings between the age of 1;7 and 2;8.

The data have been transcribed in CHAT format and coded on the basis of the CHILDES coding scheme. Noun phrases involving article omission were coded separately from noun phrases involving grammatical bare nouns. Bare nouns in which it was not clear from the context whether they involve article omission or a grammatical bare noun were excluded from the analysis. Noun phrases involving imitations of preceding adult utterances, self-repetitions and formulaic expressions were also excluded. The total number of noun phrases entered into the analysis is 5,203.

4.1 The acquisition of definite articles: overall use of definite articles

There are four stages in the acquisition of articles, as illustrated in Figure 1. In Stage 0, which is at the age of 1;7 (MLU = 1.2), Christos does not use any definite articles at all. Definite articles are omitted in all 28 obligatory contexts.

Please insert Figure 1 here
Stage 1 covers the age of 1;8 to 1;11.0 and corresponds to Stage I according to Brown (1973), as the MLU of Christos is lower than 2.0. During this stage, Christos uses a very small number of definite articles (type/token = 9/12) with a restricted set of nouns. This indicates that he uses definite articles in a lexically based fashion. Additional evidence for a lexically based use of definite articles comes from the fact that from 1;11.10 to 1;11.19 he does not use any definite articles at all. As a result we can see a U-shaped curve in Figure 1.9

Stage 2, corresponds to Brown's Stage II, as from 2;0.15 onwards the MLU of Christos is over 2.0. As far as the use of definite articles is concerned, definite articles are used productively in the speech of Christos. Evidence for the productive use of definite articles comes from the fact that Christos uses definite articles:

a) with more nouns than he did before,
b) with nouns that appear for the first time in his speech,
c) with nouns from different noun classes (count nouns, PNs and KT)s) and
d) with nouns in different syntactic positions (in both the subject and object position).

Despite the productive use of definite articles, the percentage of definite articles in obligatory contexts is from the age of 2;0 until the age of 2;5 lower than 90% (Brown's acquisition criterion). This shows that definite
articles are used during this stage in an optional manner. Definite articles become obligatory in *Stage 3*, that is from the age of 2;6 onwards, when they are used in more than 90% in obligatory contexts. Stage 3 corresponds to Brown's Stage III, as the MLU of Christos at the age of 2;6 is over 2.5.

In sum, at the initial stage (*Stage 0*), there are no definite articles found in the speech of Christos. In the next stage (*Stage 1*), Christos uses definite articles, but there is no evidence for productivity. Productive use of definite articles is attested in the subsequent stage (*Stage 2*), however, at that stage definite articles are used optionally. Definite articles are fully acquired only at the last stage attested in Christos' speech (*Stage 3*). The stages in the acquisition of the definite article correlate nicely to Brown's developmental stages.

Does the use of definite articles by Christos support the predictions deriving from the *Nominal Mapping Parameter* model? The development of the use of definite articles attested in the speech of Christos is very similar to the one predicted by the *Nominal Mapping Parameter* model. As shown in Section 3, this model predicts an initial stage, in which children drop definite articles altogether (*Prediction 1*) followed by a stage of optional use of definite articles (*Prediction 2*). The stages predicted correspond to *Stage 0* and *Stage 2* in the speech of Christos. Although the *Nominal Mapping Parameter* model does not predict a stage of lexically based use of definite articles, such a stage does not pose a problem for the following reason: considering that the stage of lexical usage of definite articles is possibly the
result of memorising definite articles with nouns, this stage is not related to any model that predicts the development of a system of rules, like the Nominal Mapping Parameter model does.

4.2 Looking for the trigger: the use of articles with proper names and kinship terms

As discussed in Section 3, the presence of bare nouns in the input of the child acquiring MG may lead children to hypothesise that MG nouns have the feature specification of Germanic type languages, i.e. [+arg, +pred]. Unambiguous cues that MG has the Romance type specification, i.e. [-arg, +pred], can be provided by the use of PNs and KTs. Evidence for the function of PNs and KTs as triggers for the setting of the Nominal Mapping Parameter may be provided from the use of definite articles with these noun classes. If PNs and KTs are the unambiguous triggers, children should use definite articles with these noun classes as soon as they start to use definite articles productively. In the case of Christos, given that he uses definite articles from Stage 2 productively, the prediction is that he will use definite articles with PNs and KTs from that stage onwards.

In order to test this prediction, I analysed the use of definite articles with PNs, KTs and count nouns (hereafter CNs) in the speech of Christos at Stage 1 to Stage 3. The number of definite articles used with nouns
belonging to these noun classes and the percentage of definite articles used in obligatory contexts is illustrated in Table 2.

Table 2 shows that Christos uses a small number of definite articles with all noun classes at the stage in which definite articles are used in a lexically-based fashion (Stage 1). At Stage 2 there is an immense increase of the number of definite articles used with all noun classes. At this stage, Christos uses more definite articles with KTs and PNs than with CNs. However, comparison of the percentage of use of definite articles with these noun classes shows that in 2;0 and 2;1 the percentage of use of definite articles with CNs is higher than with KTs and PNs. From 2;3 onwards the reverse pattern is attested, but the differences are small.

Do these data pose a problem to the idea that PNs and KTs encode the trigger for the setting of the Nominal Mapping Parameter in MG? Unambiguous evidence that PNs and KTs cannot be the trigger would have been provided if the child had used definite articles only with CNs but not with PNs and KTs. This would have shown that the child has ignored the presence of definite articles with PNs and KTs. However, given the early use of definite articles with KTs and PNs, the data show that Christos as early as 2;0 has figured out that KTs and PNs (like CNs) are used with definite articles in MG. However, he has not yet discovered that definite
articles are obligatory with KTs and PNs when these are used in argument positions. Discovering that MG has the [-arg, +pred] setting entails that the child will start using definite articles with CNs. If this has been triggered by the use of definite articles with KTs and PNs, the prediction is that the child will use definite articles with those noun classes as soon as s/he uses definite articles with CNs. Identifying the trigger does not imply that the relevant structure has to be found in children's speech 100% of the time. Consequently, these data do not pose a problem to the idea that KTs and PNs provide unambiguous evidence that MG has the setting [-arg, +pred].

4.3 Acquiring bare arguments

Productive use of definite articles does not necessarily comprise a target-like use of definite articles. Indeed, as shown in Section 4.1, there is a high rate of definite article omission in the speech of Christos at Stage 2, although he uses definite articles productively. Given this observation, the next question is how much knowledge he has for the use of definite articles in obligatory contexts. This issue will be addressed by analysing the use of bare nouns in argument positions.

As shown in Section 1, MG allows bare nouns in argument positions under specific licensing conditions. This should be reflected in the speech of children acquiring MG, if they have the knowledge of the target grammar.
In the speech of Christos, the relevant stage for this issue is *Stage 2*, since this is the stage in which he uses definite articles productively, but the percentage of definite articles is lower than 90% in obligatory contexts indicating that he has not fully acquired the target grammar.

Figure 2 illustrates the percentage of bare (grammatical) nouns compared to the percentage of nouns used with definite articles present and missing in his speech.

@@ Please insert Figure 2 here

Bare nouns make up approximately one third of the noun phrases in argument positions at the age of 2;0. Comparison of the development of bare nouns as opposed to noun phrases with definite articles present shows that both types increase through time, but the rate of bare nouns increases in a different manner than the rate of noun phrases with definite articles:

a) at *Stage 2* there is a great increase of the rate of noun phrases with definite articles (from 18% to 44%), whereas the rate of bare nouns is at the beginning of *Stage 2* already 34% and ranges between 24% and 43%,

b) there is a radical increase of noun phrases with definite articles between 2;0 and 2;2 (from 18% to 49%), whereas there appears to be no radical increase in the rate of bare nouns, and
c) the increase rate of noun phrases with definite articles coincides with a
decrease rate of bare nouns and vice versa.

The rate of nouns with definite articles increases between 2;0 and 2;2 (from
18% to 49%) and between 2;5 and 2;6 (from 44% to 56%), whereas in the
same periods the rate of bare nouns drops (from 34% to 25% and from 43%
to 34% respectively). Additionally, the rate of nouns used with definite
articles decreases between 2;2 and 2;4 (from 49% to 42%) and between 2;7
and 2;8 (from 58% to 52%), and in the same periods the rate of bare nouns
increases (from 25% to 39% and from 40% to 45% respectively). A
simultaneous increase of both nouns used with definite articles and bare
nouns takes place only between 2;4 and 2;5 and between 2;6 and 2;7.

From this figure, it is not possible to establish whether there is a
correlation between the increase/decrease of nouns with definite articles and
bare nouns. However, two things are clear: a) a great percentage of
grammatical bare nouns is used by Christos from the beginning of Stage 2,
and b) the increase rate of bare nouns from Stage 2 to Stage 3 is only
approximately 10% (unlike the increase of definite articles, which is
approximately 40%). The fact that Christos is using (grammatical) bare
nouns along with noun phrases with definite articles from the beginning of
Stage 2 indicates that he has some knowledge of the target grammar. In
order to take a closer look at this issue, it is necessary to analyse the
contexts, in which Christos uses bare nouns. Is there a subject-object
asymmetry in his use of bare arguments? This issue will be discussed in the next section.

4.4 Subject-object asymmetry

The use of bare arguments in the subject versus in the object position is illustrated in figures 3 and 4. Here, the subject-object asymmetry in the use of bare nouns is apparent. Figure 3 shows that there are hardly any bare subjects present, whereas in Figure 4 bare nouns make up roughly two thirds of the noun phrases in the object position. Interestingly, although the rate of bare nouns in the object position at Stage 2 shows an increase and decrease in specific points in time, there is no vital change between Stage 2 and Stage 3.

@@ Please insert Figure 3 here
@@ Please insert Figure 4 here

The comparison of the two figures is also revealing with respect to the acquisition of definite articles. Looking at the acquisition of definite articles in Section 4.1, two stages have been established (based on Brown's criterion of 90% use in obligatory contexts): Stage 2, in which Christos uses definite articles productively, but the rate of omission is more than 10%, and Stage
3, in which he uses definite articles over 90% in obligatory contexts. This picture changes radically by distinguishing between noun phrases in the subject and in the object position. Although the rate of definite article omission at Stage 3 is similar in the two figures, the rate of definite article omission at the beginning of Stage 2 shows a profound difference: 73% in Figure 3 vs. 22% in Figure 4. Additionally, there is a remarkable difference in the course of development of definite article omission. In Figure 3 there is a considerable drop from 2;0 to 2;3 (from 73% to 26%). The rate of definite article omission in Figure 4, on the other hand, does not show any immense changes. There is a very gradual drop from the age of 2;0 until the beginning of Stage 3 (from 22% to 7%). Finally, there is a difference in the point of full acquisition of definite articles in the subject position as opposed to the object position. The rate of definite article omission in the subject position drops under 10% (Brown's criterion) at 2;7, whereas the same is true in the object position much earlier, at the age of 2;4.

The data concerning the subject-object asymmetry in the use of bare nouns in argument positions shows that Christos as young as 2;0 has grasped the target system according to which bare nouns in the object position are licit in a less restrictive way than bare nouns in the subject position. The implication is that productive use of definite articles goes hand in hand with the licensing conditions for the use of bare nouns.

The next issue to consider is how the licensing conditions for bare nouns are acquired. Since Christos uses very few bare nouns in the subject position
(types/tokens = 4/6), it is not possible to draw any conclusions about his knowledge of the licensing mechanism of bare subjects. On the other hand, it is possible to explore his knowledge of the licensing conditions for bare objects. Given that one of the distinctive properties of the MG DP is the existence of BSCNs, the analysis of the acquisition of the licensing conditions of bare arguments will focus on this type of noun phrases. This issue will be addressed in the next section.

4.5 Acquiring the licensing conditions for bare singular count nouns

BSCNs are restricted to appear as objects of a specific set of verbs (verbs of accomplishment, light verbs, the copula echo = 'have' and the verb thelo = 'want'). If Christos has the knowledge of the licensing conditions of BSCNs, this should be reflected in his use of BSCNs with this set of verbs. Indeed BSCNs emerge in the speech of Christos initially with this set of verbs, as shown in examples (36) and (37) below.

(36) Child: O Pupis ci petelo. (Christos 2;0.16)

o Gufi echi kapelo (target)

the Gufi has hut

‘Gufi has a hut.’

(37) Child: Oi teło cicineto. (Christos 2;3.14)
dhen thelo aftocinito (target)

not want car

‘I don’t want a car.’

BSCNs emerge in his speech at the age of 1;10 with the verb *thelo* = 'want'. The next verb to be used with BSCNs is the copula *echo* = 'have' at the age of 2;0, followed by the light verb *kano* = 'do'.

However, the use of grammatical BSCNs with this set of verbs does not necessarily provide evidence that Christos has acquired the licensing conditions for BSCNs. It may be that Christos uses BSCNs in a lexically based fashion. There are at least two ways to test whether he is using BSCNs in a lexically based way. Lexically based use of BSCNs can be indicated from their use with a small number of verbs. Moreover, if Christos is using BSCNs in a lexically based manner, he may use a specific set of verbs only with BSCNs and not with nouns preceded by a definite article.

In order to test the first scenario, I compiled all verbs used by Christos with BSCNs by month. The list is given in Table 3.

@@ Please insert Table 3 here

Table 3 shows that the core verbs used with BSCNs are the verb *thelo* = 'want', the copula *echo* = 'have' and the light verb *kano* = 'do'. From 1;10 to 2;3, Christos is using BSCNs only with this set of verbs. However,
subsequently, BSCNs are also used with other verbs and the number of verbs used with BSCNs increases through time. Consequently, the scenario in which Christos uses BSCNs in a lexically based manner in a sense that he uses them only with a small number of verbs can be maintained only for the age range of 1;10 to 2;3.

In order to test the second scenario, I looked at whether the verbs used with BSCNs appear exclusively with BSCNs or whether they are also used in noun phrases containing definite articles. Consider Table 4.

This is a possible scenario until the age of 2;3, because until then the verbs used with BSCNs are not used with noun phrases involving definite articles. The verb *echo* = ‘*have*’ is used initially only with bare objects. Only from 2;3 onwards does Christos start using it with objects preceded by the definite article. The same is true for the verb *thelo* = ‘*want*’, which is used initially with bare nouns. Consider example (38) below, in which Christos is using a BSCN with the verb *thelo* = ‘*want*’, but also examples (39) and (40), where he uses the same verb with mass nouns and abstract nouns.10

(38) Child:  *Theli pipilia*.  (Christos 1;10.9)

        thelo pipila (target-utterance)
        want pacifier
‘I want the pacifier.’

(39) Child:  Eli  ciaghet.  
  (Christos 1;10.9)  
  thelo  ghala  (target-utterance)  
want  milk  
‘I want some milk.’

(40) Child:  Eli  meki.  
  (Christos 1;10.9)  
  thelo  musiki  (target-utterance)  
want  music  
‘I want some music.’

As in the case of the verb echo = ‘have’, only from the age of 2;3 does Christos use the verb thelo = ‘want’ with nouns preceded by the definite article.

Summarising, this section showed that BSCNs are attested in the speech of Christos as early as at the age of 1;10. However, from 1;10 to 2;3, it is likely that he is using BSCNs in a lexically based fashion, because he is using BSCNs only with three verbs. Moreover, he uses these three verbs until 2;3 only with BSCNs and not with nouns preceded by the definite article. The use of BSCNs with a greater number of verbs and also the use of these verbs with noun phrases involving definite articles suggests that from the age of 2;3, Christos is using BSCNs productively. This can be taken as an indication that he has knowledge of the licensing conditions for BSCNs.
5. Summary and conclusion

The majority of studies on the acquisition of the definite article have focused on determining the emergence and target-like use of definite articles, the rationale behind this being that it can provide evidence for the acquisition of functional categories (Radford, 1990; Clahsen et al. 1994; Penner & Weissenborn, 1996, among others).

In the present study, I addressed four further issues:

a) the use of definite articles with different noun classes,
b) the use of definite articles in the subject vs. in the object position,
c) the use of bare nouns in argument positions,
d) the use of verbs with BSCNs.

Given that children pass through a stage in which they use definite articles productively but there is a high rate of definite article omission, investigation of these issues can shed light on children's knowledge of the obligatory contexts for the use of definite articles and the licensing conditions for bare arguments.

The main factors involved in the licensing of bare nouns in MG are argumenthood, syntactic position, noun class, number marking, verb type,
and word order. There is a subject-object asymmetry in the use of bare nouns: bare nouns in the subject position are licit in more restricted environments than bare nouns in the object position. These descriptive observations were framed in this paper within Chierchia's Nominal Mapping Parameter model. Based on the licensing conditions for bare nouns in argument positions, it was suggested that MG matches the Romance setting in Chierchia's model. Accordingly, nouns have the specification [-arg, +pred], which means that they are predicative, hence, they need a DP-layer in order to be able to be used in argument positions. Bare nouns in the subject and object position involve a null D, which is licensed by a lexical or functional head.

Chierchia's Nominal Mapping Parameter model makes a set of very specific predictions for the acquisition of articles, which was tested on the basis of acquisition data. This model predicts that children will initially drop articles irrespective of the language they are acquiring. The initial hypothesis of children will be that nouns are argumental, i.e. [+arg, -pred] (Prediction 1). This prediction was supported by the MG data. Christos does not use any definite articles at all in Stage 0. Prediction 2 consists of two parts. The first part is that at a second stage children acquiring MG will start using definite articles in obligatory contexts. This is based on the idea that children will change their initial hypothesis and shift to the Romance setting upon discovering articles in the input, plural marking and/or quantifiers combined directly with nouns. However, the presence of bare nouns in
argument positions may cause uncertainty as to when bare nouns are licit. This leads to the second part of the prediction according to which children will use definite articles in an optional manner until they discover the licensing conditions for bare arguments. The second prediction was also been borne out by the data. In *Stage 2*, Christos uses definite articles in obligatory contexts productively, however, the rate of definite article omission is less than 90% in obligatory contexts.

The next prediction (*Prediction 3*) is related to the triggering information for the setting of the *Nominal Mapping Parameter*. Given that PNs and KTs are the only nouns in MG that cannot be used as bare nouns in argument positions, PNs and KTs (but not CNs) can provide unambiguous information that MG nouns are predicative. Since structures comprising the trigger often emerge early in child speech (Penner, 1994), children should use definite articles with PNs and KTs as soon as they start using definite articles productively. Data from the speech of Christos support this prediction: Christos uses definite articles with KTs and PNs in *Stage 2*.

The next set of predictions is independent from the *Nominal Mapping Parameter* model; these are based on the idea that knowledge of the system of the target grammar should be reflected in the use of definite articles and bare nouns in argument positions. Consequently, a subject-object asymmetry in the use of bare nouns (*Prediction 4*) and compliance with the licensing conditions for BSCNs (*Prediction 5*) can be used as criteria for the knowledge of the target system of grammar. Christos uses (grammatical)
bare nouns in argument positions from the beginning of Stage 2. This indicates that he has some knowledge about the licensing of bare arguments when he uses definite articles productively. A subject-object asymmetry was attested at Stage 2, i.e. the rate of bare nouns in the object position is much higher than the rate of bare nouns in the subject position. Interestingly, there is also a subject-object asymmetry in the rate of definite article omission. The rate of definite article omission in the object position is below 10% at the age of 2;4, whereas in the subject position it is below 10% at the age of 2;7. This indicates that definite article omission is ruled out in the speech of Christos earlier in the object position than in the subject position.

Finally, evidence for the knowledge of the licensing conditions of BSCNs comes from the use of verb + BSCN combinations. From the age of 2;3 onwards Christos uses BSCNs with the set of verbs that may take BSCNs as complements in the target language. Moreover, these verbs are also used with nouns preceded by definite articles. This observation together with the fact that the rate of definite article omission for noun phrases in the object position is less than 10% after the age of 2;3 provides conclusive evidence that, from that age onwards, Christos has knowledge of the licensing conditions of BSCNs.

Some discussion about the advantages of the Nominal Mapping Parameter model for the acquisition process over other hypotheses are in order here. As far as the predictions for the acquisition process are concerned, the Nominal Mapping Parameter model is not the only model
that predicts a stage in which children should omit articles followed by a stage in which they should start using articles productively. For example, the *Structure Building Hypothesis* (Radford, 1990) makes exactly the same predictions. The advantage of the *Nominal Mapping Parameter* model is that it can provide predictions for the acquisition process across several languages, something that is not possible in other models. For example, the *Nominal Mapping Parameter* model predicts that definite articles should emerge in the speech of children acquiring Romance languages earlier than in the speech of children acquiring Germanic languages, a prediction that has was borne out in Chierchia, Guasti & Gualmini (1999).

In conclusion, a detailed analysis of the speech of one child acquiring MG revealed that the acquisition of definite articles is related to the acquisition of bare nouns in argument positions. Several issues have not been discussed, such as: a) how children find out that the language they are learning has null Ds, b) how they determine when to use null Ds and when contentfull Ds, c) how they identify lexically governed and focus positions and d) how they discover that BSCNs are licit with a specific set of verbs. These questions remain open for further research. Finally, given that the data used in this study consist of the corpus of one child only, further research is necessary in order to ensure that the development attested in the speech of Christos is typical for children acquiring MG.
References


Tzartzanos 1945. Νεοελληνική Σύνταξη [Modern Greek Syntax]. Thessaloniki: Kiriakidis.


**Table 1:** Predictions for the acquisition of definite articles and the licensing of bare arguments

<table>
<thead>
<tr>
<th>Prediction 1:</th>
<th>initial stage: drop of definite articles</th>
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<tbody>
<tr>
<td>Prediction 2:</td>
<td>second stage: optional use of definite articles</td>
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<tr>
<td>Prediction 3:</td>
<td>definite articles with PNs and KTs at the outset of productive use of definite articles</td>
</tr>
<tr>
<td>Prediction 4:</td>
<td>subject-object asymmetry</td>
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<td>Prediction 5:</td>
<td>compliance with the licensing conditions for BSCNs</td>
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<tr>
<td>Stage</td>
<td>Age</td>
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<td>1;08</td>
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<td>1;09</td>
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<td>2;08</td>
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<tr>
<td>Total</td>
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<tr>
<td>Age</td>
<td>Verbs used with BSCNs</td>
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</tr>
<tr>
<td>1;10</td>
<td><code>thelo = 'want'</code></td>
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<tr>
<td>1;11</td>
<td><code>thelo = 'want'</code></td>
</tr>
<tr>
<td>2;00</td>
<td><code>echo = 'have'</code></td>
</tr>
<tr>
<td>2;01</td>
<td><code>thelo = 'want', echo = 'have'</code></td>
</tr>
<tr>
<td>2;02</td>
<td><code>echo = 'have', kano = 'do'</code></td>
</tr>
<tr>
<td>2;03</td>
<td><code>thelo = 'want', echo = 'have', pezo = 'play'</code></td>
</tr>
<tr>
<td>2;04</td>
<td><code>echo = 'have', allazo = 'change', odhigao = 'drive'</code></td>
</tr>
<tr>
<td>2;05</td>
<td><code>thelo = 'want', echo = 'have', perno = 'take', vazo = 'put'</code></td>
</tr>
<tr>
<td>2;06</td>
<td><code>thelo = 'want', echo = 'have', kano = 'do'</code></td>
</tr>
<tr>
<td>2;07</td>
<td><code>thelo = 'want', echo = 'have', kano = 'do', perno = 'take', vazo = 'put', troo = 'eat'</code></td>
</tr>
<tr>
<td>2;08</td>
<td><code>thelo = 'want', echo = 'have', kano = 'do', perno = 'take', vazo = 'put', troo = 'eat', dhino = 'give', ftiachno = 'construct', safo = 'paint', vrisko = 'find'</code></td>
</tr>
</tbody>
</table>
### Table 4: Verbs used with BSCNs and definite articles

<table>
<thead>
<tr>
<th>Age</th>
<th>Verbs used only with BSCNs</th>
<th>Verbs used with BSCNs and def. articles</th>
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</thead>
<tbody>
<tr>
<td>1;10</td>
<td><code>thelo = 'want'</code></td>
<td></td>
</tr>
<tr>
<td>1;11</td>
<td><code>thelo = 'want'</code></td>
<td></td>
</tr>
<tr>
<td>2;00</td>
<td><code>echo = 'have'</code></td>
<td></td>
</tr>
<tr>
<td>2;01</td>
<td><code>thelo = 'want'</code>, <code>echo = 'have'</code></td>
<td></td>
</tr>
<tr>
<td>2;02</td>
<td><code>echo = 'have'</code>, <code>kano = 'do'</code></td>
<td></td>
</tr>
<tr>
<td>2;03</td>
<td><code>pezo = 'play'</code>, <code>thelo = 'want', echo = 'have'</code></td>
<td></td>
</tr>
<tr>
<td>2;04</td>
<td><code>allazo = 'change', odhigao = 'drive'</code>, <code>echo = 'have'</code></td>
<td><code>thelo = 'want', echo = 'have', perno = 'take', vazo = 'put'</code></td>
</tr>
<tr>
<td></td>
<td><code>thelo = 'want', echo = 'have', kano = 'do'</code></td>
<td></td>
</tr>
<tr>
<td>2;07</td>
<td><code>do</code>, <code>perno = 'take', vazo = 'put', troo = 'eat'</code></td>
<td><code>thelo = 'want', echo = 'have', kano = 'do'</code></td>
</tr>
<tr>
<td>2;08</td>
<td><code>ftiachno = 'construct', vrisko = 'find'</code>, <code>do</code>, <code>perno = 'take', vazo = 'put', troo = 'eat', dhino = 'give', vafo = 'paint'</code></td>
<td></td>
</tr>
</tbody>
</table>
Figure 1: Percentage of use of definite articles in obligatory contexts
Figure 2: Bare nouns Vs. definite articles present and missing
Figure 3: Bare subjects vs. definite articles present and missing
Figure 4: Bare objects vs. def. articles present and missing
Endnotes

∗ My research in language acquisition would not have started, had I not met Dimitra
Theofanopoulou-Kontou. I am indebted to her for her advice. I would like to thank
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University of Thessaloniki. An earlier version of this paper has appeared at the Essex
Research Reports in Linguistics 39 and parts of this paper are included in Marinis

1 See Marmardou (1984; 1989) for other uses of proper names.

2 According to an anonymous reviewer, the sentence in example (15) can become
grammatical when the subject ‘i Maria’ is stressed, in which case we have contrastive
focus and the interpretation is that it was Mary and not for example Helen that bought a
car.

3 I wish to thank an anonymous reviewer for bringing examples such as the one in (21) to
my attention.

4 As far as proper names are concerned, under the assumption that they are universally of
type e, they are of the right type to appear as bare nouns in argument positions. In order to
account for languages in which proper names are preceded by determiners (Northern
Italian dialects, Swiss German, High German and Modern Greek, among others),
suggested that definite articles used with proper names are expletive elements.
5 In Chierchia's approach, the denotation of proper names, like the denotation of common nouns, is not cross-linguistically uniform: proper names may have the semantic type $<$e, $r>$, meaning that they are predicates true of just one individual.

6 Since this paper focuses on the use of nouns in argument positions, we will not discuss further the issue of the specification of nouns that are used as predicates.

7 The [-arg, -pred] specification is not a possible option, because it would prevent nouns from having any interpretation at all, i.e. nouns would be mapped neither onto arguments nor onto predicates.

8 An anonymous reviewer questioned Chierchia's hypothesis on the basis that in German proper names may, but do not have to be preceded by the definite article. As nouns in Germanic languages have the specification [+arg, +pred], optional use of definite articles with proper names, instead of posing a problem, is predicted within this system.

9 A U-shaped curve has often been reported to indicate the switch from the use of elements belonging to functional categories as impostors into their use in a target-like fashion (Marcus, Pinker, Ullman, Hollander, Rosen & Xu, 1992; Eisenbeiss, 2000).

10 Interestingly, in all three examples the verb does not show target-like person marking, but is rather used with the suffix -i. Katis (1984), Stephany (1997) and Varlokosta et al. (1998) have reported that children acquiring MG pass through a stage in which they overgeneralise this suffix –i, which corresponds to the 3rd person singular. Varlokosta et al. have related the use of this suffix to the form of the past participle and suggested that although MG does not have infinitival forms, verbs with the suffix -i in MG child speech correspond to Root Infinitives in languages that have infinitival forms.