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The Acquisition of Person and Number Morphology Within the Verbal Domain in Early Greek

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The aim of this paper is to examine the acquisition pattern of person and number verb morphology within the generative framework and to compare the results of the analyses with previous research in Greek and other European languages. The study considers previous data on the acquisition of subject-verb agreement, and thereafter, examines the acquisition of person and number morphology in a new dataset of two monolingual Greek-speaking children. The analyses present quantitative data of accuracy of person and number marking, error data, and qualitative analyses addressing the productivity of person and number marking. The results suggest that person and number morphology is used correctly and productively from a very early age in Greek-speaking children. The findings provide new insight into early Greek language acquisition and are also relevant for research in early development of languages with rich inflectional morphology.

1. Introduction

The acquisition of subject-verb agreement has attracted a lot of attention in child language acquisition research by exploring whether or not person and number agreement morphemes are used in appropriate contexts and consistently from very early on. Previous research has shown that plural morphology is initially absent at an early stage of development, and hence, plural morphemes appear some months after singular ones (Pizzuto & Caselli 1992; Hyams 1986; Guasti 2002). According to Guasti, this phenomenon is not limited to plural verbal inflection, but seems to reflect a more general delay in the use of plurality. In early Italian at around 2 years of age, the use of singular morphemes amounts to 90% correct in obligatory contexts (Pizzuto & Caselli 1992). However, the delay in the use of plurality may reflect the limited contexts for the use of plural inflections.

In terms of agreement errors, it has often been argued in the literature that these are rare and mostly occur with plural subjects. This has been observed in a variety of languages; in early Italian (age range: 1;4–3;0), agreement errors are rare, about 3-4% out of the total agreement examples (Pizzuto & Caselli 1992; Guasti 1994). Torrens (1995) reported an error rate of about 1.72% in early Catalan and Spanish. In early German (Andreas: age 2;1), Poeppel and Wexler (1993) found that at around age 2, children used the 1st and 3rd singular morphemes accurately; the 2nd singular morpheme and the three plural morphemes were rare or absent in their speech but agreement errors were rare. Again in early German, Clahsen and Penke (1992) in their study of the Simone Corpus, considered the 2nd singular suffix *–st* to be the milestone for the acquisition of person and they positioned its productive use only after 2;4,17. Furthermore, Meisel and Ezeizabarrena (1996), in their study on agreement in early Basque (age range of three children: 1;9–4;0), found that subject as well as object agreement markings were used almost without errors from the very beginning, as far as the choice of the correct person features is concerned. Table 1 presents the rate of agreement errors in finite contexts in the studies mentioned above and shows that the rate of agreement error is 4% or lower. N represents the number of verb tokens examined.

Child	*Language*	*Age*	*N*	*Error*	*Source*
Simone	German	1;7–2;8	1,732	1.0%	Clahsen & Penke 1992
Martina	Italian	1;8–2;7	478	1.6%	Guasti 1994
Diana	Italian	1;10–2;6	610	1.5%	Guasti 1994
Guglielmo	Italian	2;2–2;7	201	3.3%	Guasti 1994
Claudia	Italian	1;4–2;4	1,410	3.0%	Pizzuto & Caselli 1992
Francesco	Italian	1;5–2;10	1,264	2.0%	Pizzuto & Caselli 1992
Marco	Italian	1;5–3;0	415	4.0%	Pizzuto & Caselli 1992
Marti	Catalan/Spanish	1;9–2;5	178	0.6%	Torrens 1995
Josep	Catalan/Spanish	1;9–2;6	136	3.0%	Torrens 1995
Gisela	Catalan	1;10–2;6	81	1.2%	Torrens 1995
Guillem	Catalan	1;9–2;6	129	2.3%	Torrens 1995

Table 1. Rate of agreement error in children's languages. Adapted from Hoekstra & Hyams (1998: 84).

To date, however, there is very limited research on the acquisition of subject-verb agreement in child Greek. The present study aims to fill this gap by investigating the acquisition of subject-verb agreement in two longitudinal datasets of monolingual Greek-speaking children.

2. Theoretical background and literature review

According to the Very Early Knowledge of Inflection hypothesis (VEKI) (Wexler 1998), children know the grammatical and phonological properties of inflection components in the language they learn at the earliest observable stage (from the time the child enters the two-word stage around 18 months of age). It has also been suggested that agreement morphemes are known to very young children (Wexler 1992, 1994). In a similar vein, Hoekstra and Hyams (1995) proposed that children acquire the specifics of inflection of the target language at a strikingly early age. Hoekstra and Hyams referred to this hypothesis as Early Morphosyntactic Convergence (EMC). These hypotheses will be tested against data on the acquisition of verbal agreement in early child Greek.

2.1. Person and number in Greek and their acquisition pattern

Greek has a rich inflectional morphology. Verbal morphology marks three persons and two numbers (Holton et al. 1997; Klairis & Babiniotis 2004). This means that person and number of the verb agree with person and number of the subject.

Third person singular has been claimed to be the most unmarked form of the inflectional paradigm because it is used in adult Greek in impersonal constructions where no thematic subject is required (Tsimpli 1992/1996). Furthermore, the 3rd person singular form of the verb involves the suffix *-i* (e.g. *pez-i* 'plays'). This suffix is also used in the non-finite form of the verb in complex tenses that is marked with perfective aspect (e.g. *echo peks-i* 'I have played') (Varlokosta et al. 1996, 1998; Klairis & Babiniotis 2004).

There is limited research on the acquisition of verbal morphology in early Greek. Katis (1984) used a longitudinal dataset of one Greek-speaking girl, Marilena, between the ages of 2;6–4;0, alongside cross-sectional data from 21 children of an age range of 2;0–4;11. The cross-sectional sample showed that singular emerged earlier and was more frequent than plural. Katis (1984: 98) proposed the following development stages:

i. Emergence of the 3sg form only
ii. Differentiation between 1sg and 2sg
iii. Differentiation between the 2sg and 3sg

The longitudinal dataset showed high fluctuation in the use of 2sg, as the child did not distinguish between 2sg and 3sg, whereas the other children of the study substituted the 3sg with the 2sg in all cases. Katis proposed that the categories of person and number within verbal morphology were the first to be acquired with productive use already from the age of 2;6, even though with some errors in their production. Number and person errors disappeared only after the age of 2;9.

Stephany (1995) analysed data of five children between the age of 1;8 and 2;11. The data showed, similarly to Katis, that singular verbs were more frequent than plural ones. Most person-number agreement forms occurred before the end of the 2nd year, but 2nd person plural forms emerged after 1;10 and remained extremely rare until 2;10; 2nd singular forms were used at 1;10 only by one child and were found a year later in other children.

Tsimpli (1992/1996) showed that children's early verb forms were restricted to the 3rd person singular, but other singular agreement affixes were also attested. This pattern is in line with Katis' developmental stages. Based on these data, Tsimpli proposed that children pass through a prefunctional stage, during which children's grammar lacks functional categories. Tsimpli claimed that at the prefunctional stage, children use mostly the 3rd singular person because of its unmarked nature.

Varlokosta et al. (1996, 1998) analysed data from the Stephany Corpus. The data showed that during early stages (1;9–1;11), children overused the 3rd singular form (suffix *-i*), with a large proportion of these forms used in non-3rd singular contexts. They also showed that the non-3rd singular verb forms were very rare and not overgeneralised, and concluded that there is little evidence for the agreement paradigm. Similarly to Tsimpli, they proposed two stages of acquisition for early Greek. However, in contrast to Tsimpli, they argued that children do not lack functional categories at Stage 1, based on the fact that when agreement is used, it is mostly used correctly.

3. Aims of this study

Previous studies on the acquisition of person and number in early Greek were based on a very small set of data, as acknowledged by Varlokosta (2002). The present study investigates this issue further by analysing a new dataset of the spontaneous speech of two children. The aim of the analyses is to investigate how person and number marking is acquired by addressing the following questions:

- When does the distinction between 1st, 2nd, and 3rd person emerge (first use) and is acquired?
- When does the distinction between singular and plural emerge (first use) and is acquired?
- Do children substitute 1st and 2nd person forms with 3rd person forms?
- Do children use person/number marking productively from the outset? If not, when do they use person/number marking productively?

For the first two questions, VEKI and EMC predict that children acquire inflectional morphology very early. For the third question, the properties of the 3rd person singular form predict that children will substitute 1st and 2nd person with 3rd person. For the last question, VEKI and EMC predict that children will use the inflectional paradigm productively from the outset of acquisition.

4. Methodology

The data analysed in this study come from the Doukas Corpus, a new corpus of spontaneous speech collected from two Greek-speaking children (Maria and Eve) in Athens, Greece.

Maria was tape-recorded from the age of 2;0.24 until the age of 2;8.27 for a total of eight sessions, once a month for 30 to 45 minutes. Eve's data were collected in a similar way to Maria's data. Eve was tape-recorded from the age of 1;7.15 until the age of 2;11.11 for a total of 16 tape-recordings of 30 to 45 minutes with approximately monthly intervals. Eve's recordings were rearranged into 13 files with some recordings merged when the intervals were too short.

4.1. Procedure

The recordings containing the speech production of Maria and Eve were made in their home, in an environment familiar to them. The recordings were made mostly in the presence of the first author in the context of playing or reading fairy tales. When this was not possible, they were made in the presence of well instructed relatives of the children. All tape recordings were transcribed according to the transcription format of CHILDES, Codes of the Human Analysis of Transcripts, also known as CHAT (MacWhinney 2000). For both children, transcriptions of the recordings were done using Latin characters. When in doubt of a recorded sentence, the transcripts were checked by, discussed and agreed with other native speakers of Greek. In Maria's data, a total of 1,261 utterances were transcribed, while in Eve's data the total was 6,916.

4.2. Coding

In Maria's corpus, the data extraction, coding, and all analyses were conducted manually. For Eve's data, a morphological code was created for verbal forms and verb related elements. Each verb was coded for category, voice, mood, tense, aspect, person, and number. An error code was also created. All errors were checked against the adult target and they were divided in seven categories, i.e. phonological errors, missing particle, root infinitive, agreement, missing clitic, missing verb, and other. The same error categories were manually applied to Maria's data. The codes were created to allow us to use computerised analyses provided by CLAN (Computerised Language ANalysis).

5. Results

5.1. Person morphology

This section examines the accuracy of person morphology in Maria's and Eve's data. Two error analyses were conducted: one analysis looks at errors of form and a second one at errors of context. Subject-verb agreement accuracy was established by examining the person and number of the subject. This was defined from the context because in many utterances the subject was not overtly realised.

The accuracy of singular and plural person morphology in Maria's and Eve's speech respectively are summarised in Tables 2-5 below. Correct use of person and number morphology is given in percentages and raw numbers represented by N (correct instances out of the total). Incorrect use contains only agreement errors. The MLU is given next to the biological age for ease of comparison.

Table 2 shows that a number of contexts are available for all three persons in the singular. Singular morphology is used from the outset of Maria's speech production and it increases with time. At the age of 2;0 there are 12 correct instances of 1st singular, 3 correct instances of 2nd singular and 18 correct instances of 3rd singular in Maria's speech. The accuracy rate is very high from the outset of the data collection, 100% of the 1st singular, 100% of the 2nd singular, and 85.7% of the 3rd singular suffixes have been used in the appropriate context. Most errors are observed with the form of the 3rd singular. The accuracy for 1st and 2nd singular is at ceiling, whereas the accuracy for 3sg increases with age.

Age	*MLU*	*1SG*		*2SG*		*3SG*	
		N	*%*	*N*	*%*	*N*	*%*
2;0	3.8	12/12	100	3/3	100	18/21	86
2;2	3.4	34/34	100	27/27	100	12/13	92
2;3	3.8	45/46	98	17/17	100	61/65	94
2;5,4	4.2	39/39	100	19/19	100	66/67	98
2;5,24	3.6	33/33	100	13/13	100	66/66	100
2;7	3.7	29/29	100	10/10	100	43/44	98
2;8,3	3.6	29/29	100	22/22	100	14/16	88
2;8,27	4.0	41/41	100	9/9	100	65/65	100

Table 2. Maria's accuracy of person morphology (singular verbal paradigm).

Table 3 shows that the use of plural morphology is limited compared to singular morphology – there are substantially less contexts for plural than for singular. However, similarly to singular marking, plural marking can be observed from the outset of the data collection. At the age of 2;0 there are six correct instances of 1st plural and one correct instance of 3rd plural. 2nd plural emerges at the age of 2;3. There are considerably less contexts for 2nd plural in the data. The accuracy rate is very high from the beginning, 100% of 1st plural and 100% of 3rd plural at the age of 2;0. The accuracy is very high throughout the dataset.

Age	*MLU*	*1PL*		*2PL*		*3PL*	
		N	*%*	*N*	*%*	*N*	*%*
2;0	3.8	6/6	100	0/0	-	1/1	100
2;2	3.4	7/7	100	0/0	-	4/4	100
2;3	3.8	10/10	100	1/1	100	6/6	100
2;5,4	4.2	15/15	100	1/1	100	16/16	100
2;5,24	3.6	5/5	100	0/0	-	10/10	100
2;7	3.7	3/3	100	1/1	100	8/8	100
2;8,3	3.6	1/2	50	0/0	-	3/3	100
2;8,27	4.0	0/0	-	1/1	100	2/3	67

Table 3. Maria's accuracy of person morphology (plural verbal paradigm).

The next two tables present the accuracy rate of singular and plural morphology in Eve's speech.

Table 4 shows that Eve uses 1st, 2nd, and 3rd person singular suffixes from the outset of the data collection. At the age of 1;7 and with MLU of 2.0, there are 11 correct instances of 1st singular, 26 correct instances of 2nd singular, and 38 correct instances of 3rd singular suffixes. The accuracy rate is also very high from the outset of the dataset. 100% of the 1st, 2nd and 3rd singular suffixes have been used in the appropriate context. Throughout the data collection the accuracy rates remain very high, and errors involve mainly the use of the 3rd singular person form.

Table 5 shows that plural morphology is also used from the beginning of the data collection. At the age of 1;7 there are 4 correct instances of 1st plural and 1 correct instance of 3rd plural in Eve's speech. The 2nd plural emerges later, at the age of 1;10. There are substantially less contexts for plural in Eve's data. However, plural marking emerges from the first recording and the accuracy is very high.

Age	*MLU*	*1SG*		*2SG*		*3SG*	
		N	*%*	*N*	*%*	*N*	*%*
1;7	2.0	11/11	100	26/26	100	38/38	100
1;8	1.6	25/25	100	4/4	100	2/5	40
1;9	2.0	57/58	98	39/39	100	65/66	98
1;10	1.9	93/93	100	67/67	100	104/107	97
1;11	2.3	54/54	100	34/34	100	83/83	100
2;0	2.4	66/66	100	72/73	99	185/190	97
2;2	2.5	111/111	100	55/55	100	77/77	100
2;3	2.3	51/51	100	56/56	100	159/159	100
2;5	2.8	85/85	100	73/73	100	152/152	100
2;6	2.5	83/83	100	31/31	100	80/80	100
2;9	2.8	29/29	100	18/18	100	16/16	100
2;10	2.7	41/42	98	27/27	100	37/37	100
2;11	4.4	1/1	100	9/9	100	14/14	100

Table 4. Eve's accuracy of person morphology (singular verbal paradigm).

Age	*MLU*	*1PL*		*2PL*		*3PL*	
		N	*%*	*N*	*%*	*N*	*%*
1;7	2.0	4/4	100	0/0	-	1/1	100
1;8	1.6	0/0	-	0/0	-	0/0	-
1;9	2.0	18/18	100	0/0	-	3/3	100
1;10	1.9	7/7	100	2/2	100	12/12	100
1;11	2.3	6/6	100	1/1	100	20/20	100
2;0	2.4	20/20	100	0/0	-	58/58	100
2;2	2.5	25/25	100	0/0	-	5/5	100
2;3	2.3	10/10	100	0/0	-	6/6	100
2;5	2.8	13/13	100	1/1	100	8/8	100
2;6	2.5	15/15	100	0/0	-	2/2	100
2;9	2.8	4/4	100	1/1	100	3/3	100
2;10	2.7	43/43	100	3/3	100	9/9	100
2;11	4.4	0/0	-	0/0	-	3/3	100

Table 5. Eve's accuracy of person morphology (plural verbal paradigm).

To summarise, the rates of agreement error are very low in both Maria's and Eve's speech. Most errors involve 3rd person singular in both Maria's and Eve's speech. Error rates decrease with age. Both singular and plural morphology are present and produced in Maria's and Eve's speech from the outset of the data collection. However, there are limited contexts for plural in both datasets compared to singular.

5.2. Error analysis

The following section examines the distribution of agreement errors in Maria's and Eve's corpora. Agreement errors consist of a substitution of one form for another. Tables 6 and 7 present agreement errors in Maria's and Eve's data respectively. They contain only agreement errors, given in raw numbers (N) and percentages (%).

Maria's agreement error rate is at its highest at the beginning of the data collection at the age of 2;0, namely 7.9%. Between the ages of 2;2 and 2;7, the agreement error rate fluctuates between 0.7% and 3.6%, and there is a decrease of errors with age. At 2;8,3 the error rate

rises up to 4.5% and then during the last recording, at the age of 2;8,27, it falls to 0.9%. Maria's mean agreement error rate is at 1.9%.

Age	*MLU*	*N*	*%*
2;0	3.8	3/35	7.9
2;2	3.4	1/80	1.3
2;3	3.8	5/136	3.6
2;5,4	4.2	1/147	0.7
2;5,24	3.6	0/122	-
2;7	3.7	1/92	1.1
2;8,3	3.6	3/64	4.5
2;8,27	4.0	1/118	0.9
		15/794	*1.9*

Table 6. Maria's agreement errors.

Eve's agreement error rate (Table 7) is at its highest at the age of 1;8, at 7.3%, and thereafter, the rate decreases with age and ranges between 1.1% and 1.5% between the ages of 1;9 and 2;0. Eve's average agreement error rate is 0.7%.

Age	*MLU*	*N*	*%*
1;7	2	0/72	0
1;8	1.6	2/30	7.3
1;9	2	2/173	1.2
1;10	1.9	3/272	1.1
1;11	2.3	0/196	0
2;0	2.4	6/394	1.5
2;2	2.5	0/267	0
2;3	2.3	0/281	0
2;5	2.8	0/327	0
2;6	2.5	0/209	0
2;9	2.8	0/71	0
2;10	2.7	1/119	0.9
2;11	4.4	0/27	0
		14/2438	*0.7*

Table 7. Eve's agreement errors.

5.3. Error analysis by context

A second analysis looks at the breakdown of errors from a context point of view. Tables 8 and 9 below show agreement errors in Maria's and Eve's data presented within their context, i.e. based on which form was used and which one was required by the context.

Table 8 shows that 14 out of 15 of Maria's errors (93%) occur in singular contexts, and from those, most involve the 3rd singular form. The majority of 3sg errors involve a 3sg form used in a 1sg context (n=7/15). The second most frequent error (n=5/15) involves the use of 3sg form in a 2sg context. There is only one case of number error i.e. a 3pl form used in a 3sg context.

Table 9 shows that Eve's agreement errors are similar to Maria's, namely 11 out of 14 (78%) occur in singular contexts. A similar pattern is shown for the 3rd singular person involving the majority of errors, where a 3sg is used in 1sg and 2sg contexts. There are three number errors where singular was used in a plural context, all involving 3sg person.

Form used	*Form required by context*					
	1sg	*2sg*	*3sg*	*1pl*	*2pl*	*3pl*
1sg			1			
2sg						
3sg	7	5				
1pl						1
2pl						
3pl			1			

Table 8. Maria's distribution of agreement errors.

Form used	*Form required by context*					
	1sg	*2sg*	*3sg*	*1pl*	*2pl*	*3pl*
1sg			2			
2sg						
3sg	8	1		1		2
1pl						
2pl						
3pl						

Table 9. Eve's distribution of agreement errors.

Maria's and Eve's agreement errors can thus be summarised in the following types:

	Maria	*Eve*
a. 3rd person form in 1st and 2nd context	79.9%	85.7%
b. 1st person in 3rd context	13.3%	14.3%
c. 3rd plural form in 3rd singular context	6.7%	-

6. Productivity of person and number inflections

According to Pizzuto and Caselli (1992), an inflectional form is considered to be productive when either or both of the following conditions hold: (i) the same verb root appears in at least two distinct inflected forms; (ii) the same inflection is used with at least two different verbs. In line with their approach, Guasti (1994) showed that Italian-speaking children used from a very early age a variety of agreement morphemes, i.e. different verbs with the same agreement morphemes, and the three singular agreement markers with the same verbal root.

Based on Pizzuto and Caselli's criteria, we investigated whether each suffix in the two datasets is being used only with one verb in each recording or whether it is being used with a variety of different verbs, and whether each verb is being used with only one suffix or with a variety of different suffixes from the inflectional paradigm. The next two tables show how many different verbs were used with each person and number in Maria's and Eve's speech. The number of instances of each person and number is given under N and the number of verbs produced with the respective inflection is given under V.

Singular and plural agreement markers are used with a variety of verbs from very early on in Maria's and Eve's speech. In particular, singular morphology appears to be very productive in all persons from the first recordings whereas the contexts for plural morphology are initially limited. Examples of the same verb inflected with all the three singular persons are observed from the age of 2;2 for Maria and 2;0 for Eve, whereas examples of the same verb used with plural markers are observed from the age of 2;3 for Maria and 1;10 for Eve.

Age	*MLU*	*1SG*		*2SG*		*3SG*		*1PL*		*2PL*		*3PL*	
		N	*V*	*N*	*V*	*N*	*V*	*N*	*V*	*N*	*V*	*N*	*V*
2;0	3.8	12	10	3	3	18	15	6	6	-	-	1	1
2;2	3.4	34	22	27	15	12	9	7	5	-	-	4	3
2;3	3.8	45	21	17	10	61	28	10	8	1	1	6	3
2;5,4	4.2	39	25	19	12	66	37	15	9	1	1	16	10
2;5,24	3.6	33	25	13	10	66	25	5	4	-	-	10	5
2;7	3.7	29	18	10	9	43	19	3	2	1	1	8	2
2;8,3	3.6	29	10	22	16	14	14	1	1	-	-	3	3
2;8,27	4.0	41	24	9	8	65	29	-	-	1	1	2	2

Table 10. Maria's distribution of different verbs used with each person and number.

Age	*MLU*	*1SG*		*2SG*		*3SG*		*1PL*		*2PL*		*3PL*	
		N	*V*	*N*	*V*	*N*	*V*	*N*	*V*	*N*	*V*	*N*	*V*
1;7	2.0	11	6	26	5	38	7	4	3	0	0	1	1
1;8	1.6	25	3	4	3	2	2	0	0	0	0	0	0
1;9	2.0	57	11	39	8	65	23	18	4	0	0	3	2
1;10	1.9	93	33	67	17	104	34	7	3	2	2	12	7
1;11	2.3	54	21	34	13	83	27	6	6	1	1	20	9
2;0	2.4	66	20	72	17	185	29	20	6	0	0	58	12
2;2	2.5	111	35	55	22	77	28	25	9	0	0	5	4
2;3	2.3	51	12	56	11	159	23	10	5	0	0	6	5
2;5	2.8	85	32	73	23	152	44	13	7	1	1	8	6
2;6	2.5	83	31	31	15	80	34	15	11	0	0	2	2
2;9	2.8	29	14	18	9	16	8	4	4	1	1	3	2
2;10	2.7	41	18	27	16	37	13	3	3	3	2	9	2
2;11	4.4	1	1	9	7	14	12	0	0	0	0	3	2

Table 11. Eve's distribution of different verbs used with each person and number.

The data above suggest that Maria and Eve started to build a verbal paradigm analysing the verb into its inflectional affix from the outset of the data collection. The limited use of some forms of the verbal paradigm, such as plural morphology, does not imply lack of knowledge or evidence that the children have not acquired subject-verb agreement.

7. Summary and discussion

This study addressed four research questions. For the first two (When does the distinction between 1st, 2nd, and 3rd person emerge and is acquired? When does the distinction between singular and plural emerge and is acquired?) we predicted, based on VEKI and EMC, that children would acquire person and number marking very early. This was borne out by the data. The analyses showed that person and number morphology appeared from the outset of the dataset of both Maria and Eve, from the age of 2;0 and 1;7 respectively, and the children distinguished between 1st, 2nd, and 3rd person, singular and plural.

For question 3 (Do children substitute 1st and 2nd person forms with 3rd person forms?) we predicted that children substitute 1st and 2nd person with 3rd person. This was based on the properties of the 3rd person singular form, which is the most unmarked form of the

inflectional paradigm (Tsimpli 1992/1996) and corresponds to the non-finite form of the verb in complex tenses (Varlokosta et al. 1996, 1998). The average rate of person and number errors in Maria's and Eve's data was very low, at 1.9% and 0.7% respectively, and the predominant error in both children involved use of 3rd person in 1st and 2nd person context.

As far as the last question is concerned (Do children use person/number marking productively from the outset? If not, when do they use person/number marking productively?), VEKI and EMC predict that children use the inflectional paradigm productively from the outset of acquisition. This was also supported by the data. The productivity analysis showed that the inflectional paradigm is used productively from the outset of the data collection.

How do the present data compare to previous evidence on the acquisition of verbal morphology in Greek and in other languages? All studies on the acquisition of Greek have shown that children at an early age of development commit a frequent substitution error, i.e. they use 3rd singular verbs in 1st and 2nd singular context. This error type was attested also in the present study. However, there were also some differences between our findings and those of Katis (1984). Katis found that singular is acquired before plural and 3rd person before 1st and 2nd person. This was not attested in Maria's and Eve's data. What could be the source of this discrepancy? Maria's and Eve's age is similar to the age of Marilena in Katis' study. However, Maria and Eve show productive use of person and number marking from the outset of the recordings. Moreover, the majority of person and number errors in Maria and Eve cease at the age of 2;2 and 1;9 respectively, i.e. much earlier than in Marilena's data (at the age of 2;9).

The discrepancy between the two datasets may be caused by individual differences between the children and differences in the speed of development. Maria and Eve may have reached a more advanced stage of development than Marilena. This highlights the limitations of single-case data, which can easily be affected by individual variation between children. It also highlights the necessity to complement single-case data with group data. A comparison of our data with agreement errors in other languages (see Table 1) shows that Maria's and Eve's rates are similar to the rates observed in a range of different languages. The results provide further support to the hypothesis that correct agreement features of the verbal inflectional domain are available in children's grammar from the earliest stages of acquisition (cf. VEKI and EMC).

To conclude, in contrast to previous studies, our results suggest that person and number morphology is used correctly and productively from a very early age in monolingual Greek-speaking children. Differences with earlier results can be addressed in future research using longitudinal data from more children and group data that can generalise findings to a wider population.

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