Acquisition of Functional Categories in Early Spanish: Evidence for the Strong Continuity Hypothesis*

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Abstract

This study examines empirical data from three monolingual Spanish-children and argues in favor of the strong continuity hypothesis and that the following functional categories are available in early Spanish grammar: agreement phrase (AgrP), tense phrase (TP), negation phrase (NegP), and complementizer phrase (CP). The distribution of the agreement paradigm suggests that the children in this study have knowledge of inflection very early in life, as they produce singular forms followed by plural forms. The data also reveal that children make present-past tense contrasts in early stages and pre-verbal negation is appropriately placed in early child utterances. Finally, the data provide empirical evidence that CP is available in early grammar, as seen in the movement of wh-elements and the production of true imperatives. The results from the Spanish data are discussed in light of other studies and support the view that functional structure is available throughout the course of first language acquisition.

Key words: Acquisition, Spanish, functional categories, tense, agreement, negation, CP.

Introduction

The acquisition of functional categories has been a major topic of debate in first language acquisition research within the framework of generative grammar (Friedemann & Rizzi, 2000; Guasti, 2002; Hoekstra & Schwartz, 1994; Ritchie & Bhatia, 1999). Theories which attempt to explain the emergence of syntax vary with respect to the existence or absence of functional categories, while others take an intermediate position and assume that some functional categories are present from the initial state. Functional categories are grammatical categories which play a formal role in a sentence and include tense phrase (TP), agreement phrase (AgrP), and complementizer phrase (CP), among others. With respect to the acquisition of functional structure in Romance languages, empirical results examining the development of syntactic knowledge in different languages and among children of diverse ages are mixed. In the current study, the acquisition of functional structure in early Spanish will be investigated using longitudinal data from three Spanish-speaking children as early as nineteen months.

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Hypotheses on the Availability of Functional Categories in Early Grammars

The debate on the emergence of functional structure involves three main hypotheses: maturational, weak continuity, and strong continuity. The maturational hypothesis states that early grammar differs from adult grammar in that children younger than 2;6 (years; months) lack functional categories (Lebeaux, 1988; Ouhalla, 1991; Platzack, 1990; Platzack & Holmberg, 1989; Radford, 1990). Most important, it is assumed "that certain principles mature. The principles are not available at certain stages of a child's development, and they are available at a later stage" (Borer & Wexler, 1987, p. 124). On the other hand, proponents of the weak continuity hypothesis argue that in child grammar the knowledge of functional categories emerges gradually, stemming from a bare verb phrase (VP) to the inflection phrase (IP) to the CP. Under this view, researchers suggest that the full inventory of functional categories in adult grammar is absent in early child grammar (Clahsen, 1990; Clahsen, Penke, & Parodi, 1993/1994; Meisel & Müller, 1992). Thus, the weak continuity hypothesis reflects a view of the acquisition of syntactic knowledge under which the developing grammar gradually approaches the adult grammar by slowly adding functional categories, and the CP appears at later stages of acquisition.

Unlike the previous hypotheses, the strong continuity hypothesis (SCH) (Lust, 1999) emphasizes the availability of complete functional structure from the initial state and conforms to the principles of Universal Grammar (UG). This hypothesis parallels the standard Government and Binding framework (Chomsky, 1982) in that all clauses are represented by a full CP projection. Under the SCH, the initial state refers to the onset of first language acquisition, even before experience (Crain, 1994), and "UG remains continuously available throughout the time course of first language acquisition. UG does not itself change during this time course" (Lust, 1999, p. 118). Additional support for the SCH was also provided by Poeppel and Wexler's (1993) full competence hypothesis which provided evidence for the existence of functional categories in early German grammar, including IP and CP (note, however, that optional infinitives were found in matrix clauses). Other studies that lend further support to the SCH include Hyams' (1992a) findings regarding the availability of fully functional structure in early grammar. Overall, the proponents of the SCH posit that children start off with a full CP projection; and, contrary to the maturational view, "children abide by universal principles at *all* stages of language development" (Crain, 1994, p. 371).

Although the previous studies investigated developmental acquisition of functional structure in English, German, and Swedish, little analysis of the availability of functional categories has been conducted in Romance languages, including Catalan, Italian, French, Portuguese, and Spanish. Most important, the empirical results for the acquisition of functional categories in early Spanish are mixed and do not all seem to support the SCH.

The objective of the current study is to examine whether functional categories such as AgrP, TP, NegP, and CP are available in early Spanish grammar from the start of syntactic (or multi-word) production beginning at 1;7. To achieve this end, longitudinal data from three Spanish-speaking children from the ages of 1;7 to 2;5 will be analyzed and discussed in light of the three hypotheses on the availability of functional structure.

This study is organized as follows. First, research on the acquisition of functional categories in Romance languages is discussed. Then, the structure of adult Spanish grammar with respect to the syntactic representation of functional categories is outlined, followed by a review of studies in early Spanish that have examined the availability of functional structure under the hypotheses reviewed above. Next, the method and data analysis for the current study are described. Finally, the results are presented, followed by a discussion of the results, and a conclusion.

Research on the Acquisition of Functional Categories in Romance Languages

Researchers on the acquisition of functional categories in Romance languages have not yet arrived at an agreement that the full set of functional categories is present in early grammar. Within the framework of the Principles and Parameters theory of grammar (Chomsky, 1995, Chapter 1) and in support of the SCH, Guasti (1993/1994) found that at the earliest stages Italian children have knowledge of the verbal agreement system; she also provided evidence that the initial structure of children's sentences includes the functional category IP, concluding that Italian children "are aware of the notion of verbal inflection and that verbal forms are not forms learned by rote" (p. 28). Other studies support the weak continuity hypothesis. For instance, Pizzuto and Caselli (1992) showed that the full agreement system in Italian is not acquired early because the children in their study produced mostly singular affixes, and plural forms constituted "a very small proportion in comparison with singular forms" (p. 532). Further, Simões and Stoel-Gammon (1979) presented data from a Brazilian girl (age 2;1 to 3;0) who did not show full command of the agreement paradigm since "[a]lmost all verbs were in the form of second/third person singular" (p.57). Finally, Déprez and Pierce (1993) showed that French acquisition data suggest that negation is properly placed in early grammar; the authors also argued that the inflectional system is also present in early French grammar from the start of syntactic development, unlike the CP system which is acquired later. Thus, apart from Guasti's (1993/1994) study which supports the SCH, the aforementioned studies in Romance seem to support the weak continuity hypothesis.

The Structure of Adult Spanish

The verbal paradigm for the present indicative of the verb *estudiar* 'to study' of the first conjugation is given in Table 1 and includes singular and plural inflections, and formal and informal true and negative imperatives.[1] The root of the verb is *estudi-* which is followed by inflectional verbal markings: conjugation markers, mood tense/markers, and

then person/number markers.

Table 1. Agreement Paradigm in Spanish. Present Tense of *estudiar* ('to study') and True and Negative Imperatives.

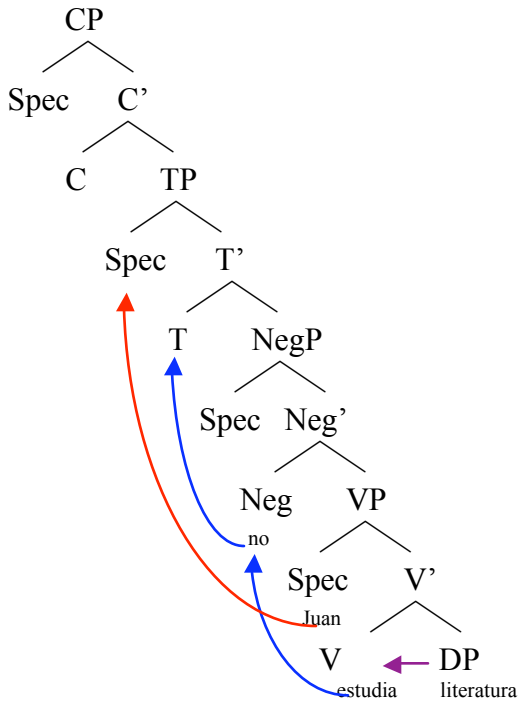
1st sg (yo)	estudi-o	'I study'
2nd sg (tú)-Informal	estudi-as	'You study'
(Usted)-Formal	estudi-a	'You study'
3rd sg (él/ella)	estudi-a	'He/She studies'
1st pl (nosotros)	estudi-amos	'We study'
2nd pl (vosotros*)	estudi-áis	'You study'
2nd pl (Ustedes**)	estudi-an	'You study'
3rd pl (ellos/ellas)	estudi-an	'They study'
Imperative: 2nd sg-Informal	estudi-a	'Study'
	no estudi-es	'Do not study'
2nd sg-Formal	estudi-e	'Study
	no estudi-e	'Do not study'
Imperative: 2nd pl-Formal/Informal	estudi-en	'Study'
	no estudi-en	'Do not study'
2nd pl-Informal (Spain)	estudi-ad	'Do not study'
	no estudi-éis	'Do not study'

* *Vosotros* is the address form equivalent to you-plural (informal) and is used in Peninsular Spanish.

** *Ustedes* is the address form equivalent to you-plural and is used in Latin American Spanish.

The structure of adult Spanish grammar assumed in the current study is schematized below in (1):

(1) Juan no estudia literatura
'Juan does not study literature'

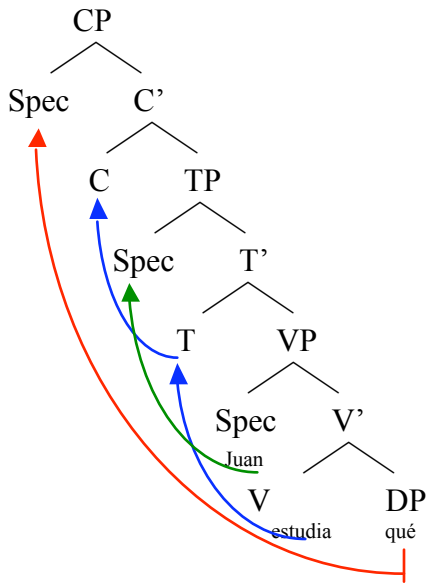


According to the Minimalist Program (MP) (Chomsky, 1995, Chapter 3), lexical items are drawn from the lexicon fully inflected, with all the morphological features of case and phi-features (tense and agreement), which in turn must be checked in the appropriate positions. Following the MP, syntactic movement is viewed as motivated by the need to check morphological or grammatical features. It will be assumed that head movement is triggered by the morphological features of the head. In Spanish, strong morphological features must be checked overtly prior to Spell-Out for convergence; should they remain visible at PF, the derivation crashes. Under the present analysis shown in (1), the verb will move to Neg to pick up the clitic negative marker, and ultimately move to T, where the tense and agreement features of the verb will be checked against the inflectional features of the TP. The subject 'Juan', then, moves to [Spec, TP] to check its NOMinative case feature. Finally, the DP-object, 'literature' checks its OBJ feature against the v-features of the verb. Having all features properly checked, the derivation converges. Assumptions on the syntax of negation follow directly from Pollock (1989), Belletti (1990), and Zanuttini (1997). Parallel to French *pas* and Italian *non*, the pre-verbal Spanish negative maker *no* is viewed as the head of NegP and is considered to be a clitic (Belletti, 1990).

Further, the following assumptions on CP and wh-movement are adopted in this study. Based on Chomsky (1995), wh-questions are assumed to be CPs headed by a C

constituent containing an interrogative affix Q which has a (wh) specifier-feature checked by movement of a wh-word to the specifier of CP. In addition, in accordance with Rizzi (1991)'s view, question formation must respect the Wh-criterion: (i) a Wh-operator must be in a Spec-head configuration with a [+wh] X_o, and (ii) a [+wh] X_o must be in a Spec-head configuration with a wh-operator. According to these assumptions, wh-movement requires two movement operations: movement of the wh-element to the specifier of CP and subject-verb inversion or I-to-C movement with the verb moving to C (Rizzi, 1990). Following the assumptions of wh-movement in Spanish (Fernández Lagunilla & Anula Rebollo, 1995)[2], the following derivation in (2) will be adopted:

(2) Qué estudia Juan?
what study-3SG-PRESENT Juan
'what does John study?



Following the theoretical assumptions regarding wh-movement outlined above, the question in (2) is derived as follows: from the head of the VP, the verb moves to T to check its tense and agreement features. From there, it moves to C to check the Q feature. Next, the wh-element *qué* ('what') moves to the specifier of CP to check the wh feature. Finally, the subject 'Juan' moves to the specifier of TP to check its NOMinative Case feature. Note that satisfaction of the Wh-criterion requires that tense be specified in order for the verb to move to C, resulting in subject-verb inversion.

Previous Research on the Acquisition of Functional Categories in Spanish

Empirical studies that examined the acquisition of functional categories in Spanish have mostly provided evidence for the acquisition of IP and partial evidence for the

availability of CP, supporting the weak continuity hypothesis. Durán (2000) examined the acquisition of verbal morphology and tense in four Spanish children and found that the children in her study used agreement morphology correctly and employed present-past tense distinctions in appropriate contexts from the beginning. However, the sample of the data was incomparable among the children (e.g., ALFI, *n* = 29; EDU, *n* = 30; ALF, *n* = 94; María, *n* = 697). Most important, due to the lack of a productivity criterion to determine when forms began to be acquired, it is hard to know with certainty whether the agreement system and true imperatives were productive in the children's early grammar. Further, in an examination of data from Spanish and French, Ojea (1997) observed that while the IP was properly placed in early grammar, due to difficulty in processing and production, children do not have access to subordination (i.e., CP is absent). A similar observation was made in a different study (Gathercole, Sebastián, & Soto, 1999) that examined verbal morphology in early Spanish. These authors concluded that there was little productive command of the agreement paradigm at early ages and that children learned forms verb by verb, suggesting piecemeal knowledge and rote-learned acquisition.

Using data from one Spanish child (ages 1;7–2;1) (Linaza corpus), Grinstead (2000a) found that tense and number morphology were absent in early stages of acquisition (1;7–1;9). In his study, the emergence of tense was considered to occur when the child began to use tense in contrastive ways (p. 126). It was found that the Spanish child began producing tense contrastively in later stages (2;0–2;1), although only six instances of past tense were documented. Regarding the acquisition of the Spanish agreement paradigm, the author found that the majority of verb forms bore a singular form (first and third singular agreement), and "[p]lural number agreement, however, is almost totally absent" (p. 130). These results should be interpreted with caution, however, since data from only one Spanish child were examined and these data were not robust enough to show appropriate contexts in which tense and agreement could have been used in the early stage. Similar claims regarding a delay of tense and number were also stated in Grinstead (1998) with data from three different Spanish children.

Further, partial evidence regarding the availability of CP was posited by Grinstead (1998) who examined the presence of imperatives in early grammar. According to Rivero's (1994) analysis, true imperatives raise to C to check their strong illocutionary force imperative features. In Spanish, V-to-C movement is motivated by Greed (Chomsky, 1995), that is, constituents only move to satisfy their own features. When imperatives are preceded by negation, however, V-to-C movement is blocked because it would violate a UG constraint, namely, Relativized Minimality (Rizzi, 1990): a logical operator (i.e., an imperative verb) cannot move over another logical operator (i.e., negation). According to Grinstead's analysis, children produce imperatives from the beginning, with the verb moving to C to check its imperative features.

Nevertheless, according to Grinstead, the production of negative commands that require the use of the subjunctive in Spanish is not possible in early Spanish and he concluded that "with respect to negative commands, [children's] speech is not adult-like" (1998, p. 140). Overall, Grinstead's analysis suggests that certain aspects of Spanish

child grammar are delayed and acquired at a later stage (e.g., number, tense, negative commands). While this later stage occurs at roughly two years for the three Spanish children he examined, each stage was not uniformly determined since each child's later stage started at a different period (Eduardo (1;11); Graciela (2;1); Carlos (1;10) (1998, p. 14). Finally, Grinstead suggested that "Spanish-speaking children do not begin to take advantage of left-peripheral movement until their discourse competence has matured" (1998, p. 94). In fact, no evidence of wh-question formation was found in the Spanish data he analyzed.

In light of the conclusions of the aforementioned studies and their limitations, additional investigation is needed to corroborate the complete absence of negative imperatives in Spanish with subjunctive morphology from earlier stages. Also, because no wh-questions were produced, no evidence against the existence of CP could be adduced. Overall, the results from these Spanish data seem to support the weak continuity hypothesis with respect to a delayed acquisition of tense and number morphology (Grinstead, 1998, 2000a), a gradual addition of inflectional forms to the agreement system as piecemeal acquisition (Gathercole et al., 1999), and an absence of functional categories in higher projections such as CP (Ojea, 1997). Finally, the few studies that support the SCH in Spanish have only presented evidence for the existence of IP (Torrens, 1995) or NegP (Bel, 1996).

Method

Participants

The data for the present investigation were taken from the transcripts of three monolingual Spanish-speaking children from the CHILDES database (MacWhinney, 1997): (a) Juan (Linaza corpus) is from Spain and his data included seven files (ages: 1;7, 1;9, 2;0, 2;1, 2;3, 2;4, 2;5); (b) Koki (Montes corpus), whose mother is Argentinean, was living in Mexico during the process of data collection and her data were analyzed from eight files (ages: 1;7, 1;9, 1;11, 2;1, 2;2, 2;3, 2;4, 2;5); and, (c) María (López Ornat corpus) is from Spain and her data included eight files (ages: 1;7, 1;8, 1;9, 1;10, 1;11, 2;0, 2;1, 2;2).

The Acquisition Data

The recordings consisted of interactions between the child and parents at home and often interactions took place with one parent only. Parent-child interactions included everyday family activities such as play sessions, dinner time, or bedtime. Two short files from Juan Linaza were excluded from the data; one file (1;7) only contained one repetition from the parent's immediate utterance and the other file (2;0) had only one verb form. Of the three children's files, Juan's were shortest, whereas Koki's and María's were longer. Regarding the children's varieties of Spanish, Juan's and María's data are representative

of Peninsular Spanish, and Koki's data represents mostly Mexican Spanish.

Data Analysis

The current analysis is based on a 21-file corpora (five for Juan, eight for Koki, and eight for María) from which a total sample of 879 utterances were examined: 115 utterances in Juan's, 372 in Koki's, and 392 in María's data. Of these utterances, 91% (n = 800) comprised grammatical utterances in the present or perfective tenses, 3.3% (n = 29) were true imperatives, and 5.7% (n = 50) included errors and were excluded from the analysis. True imperatives were counted separately because a true imperative is "a verbal form that is unique to the imperative and does not correspond to the second person singular in any other tense and mood" (Zanuttini, 1997, p. 114).

Of the utterances produced by the children in this study, all those that can be interpreted by a native speaker of Spanish and contained one finite verb were included in the analysis. All uninterpretable utterances were excluded. Only spontaneous utterances were included in the current analysis (i.e., those that were not exact repetitions of previous adult utterances). In cases where a child responded using the same verb as the adult, these utterances were included in the analysis only if a child used a person inflection which was different from the previous utterance. In the case of adjacent or serial repetitions produced by the child in one file, only the first non-elicited utterance was counted. Spontaneous repetitions of the same utterance that occurred in different turns were counted. Instances of verbs in the past tense which occurred in Juan's data as part of a song fragment were not counted because those instances were not considered spontaneous production, but rather memorized verb forms.

With respect to finite verbs, all constructions containing grammatical subject-verb agreement in modals and auxiliaries, copulas *ser/estar* ('to be'), and periphrastic constructions were analyzed. In addition to indicative instances, true and negative imperatives were included in the analysis. Instances of true imperatives that clearly expressed an illocutionary force in a particular context were included in the analysis and were counted separately under the CP section, whereas the few negative imperatives containing correct subjunctive morphology were included in the analysis of the agreement paradigm under the 2nd person singular form (e.g., *no te muevas* 'don't move').

Finally, most files provided the child's phonological production of the utterances and often included a transcription of the adult-like Spanish version in parenthesis. Each Spanish example in the current study is accompanied by a literal English translation, followed by an English translation corresponding to adult Spanish. It should be noted that the current study often relied on the information contained in parentheses regarding the adult Spanish equivalent of the child's utterance provided by one of the parents. In addition, the data analysis of this study is based solely on the production described in written transcripts, and as such, it does not contain prosodic or contextual information that is often captured on videotaped interactions.

Criterion of Productivity

The criterion for productivity commonly employed in Romance languages has been used in Italian (Pizzuto & Caselli, 1994) and Spanish (Gathercole et al., 1999). In these studies an inflection is considered productive when the following two conditions, proposed by Pizzuto and Caselli (1994, 156), are met:

a) the same verb root appear(s) in at least two distinct inflected forms
b) the same inflection (is) used with at least two different verbs

Other studies have applied criterion (b) (Pizzuto & Caselli, 1992) or either (a) or (b) (Ezeizabarrena, 1997) to determine the beginning of inflectional acquisition.

The current study applied criterion (b) to determine the beginning of productive use of verbal inflection. That is, when any given person inflectional form (e.g., 1st sg) was used with at least two different verbs in one file (e.g., *como* 'I eat'; *tengo* 'I have'), this inflection was considered productive. Further, following Grinstead (1998), the onset for person marking in the present study was determined by the use of more than one person (e.g., 1st and 3rd) in one file. Similarly, the onset of number marking was established by the first use of a plural and a singular verb in one file. Tense was considered to be active only when in one file at least one instance of perfective past forms (e.g., preterit, present perfect) occurred contrastively with another verb form in the present tense (simple present, present progressive, future tense). Regarding the presence of negation, at least two verbs in one file need to have pre-verbal negation properly placed, as in the adult grammar, in order to be considered a productive use. Finally, with respect to the presence of CP, this functional category was considered to be used productively when at least two instances of CP occurred in one file; these included instances of wh-questions and true imperatives in which there is movement to [Spec CP] and to C, respectively.

Results

Evidence of Agreement (AgrP)

Figure 1 displays graphically the overall distribution of the agreement paradigm and includes singular and plural inflectional forms produced by each child, and Table 2 shows numerically the frequencies and percentages of each inflectional form for each child. The raw counts and percentages are collapsed across all files examined.

Figure 1. Distribution of the Agreement Paradigm in Early Spanish: Singular and Plural Inflectional Forms: Juan (1;9-2;5; *n* = 91), Koki (1;7-2;5; *n* = 340), María (1;7-2;2; *n* = 369).

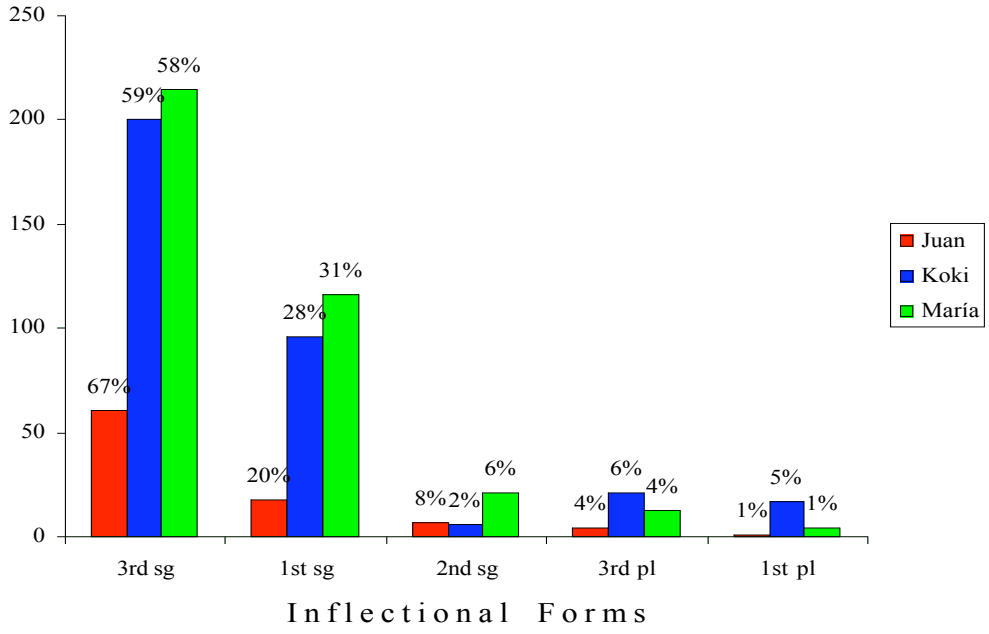


Table 2. Total Distribution of the Agreement Paradigm in Early Spanish: Singular and Plural Inflectional Forms in Frequency and Percentage: Juan (1;9-2;5; *n* = 91), Koki (1;7-2;5; *n* = 340), María (1;7-2;2; *n* = 369).

	3rd sg		1st sg		2nd sg		3rd pl		1st pl		
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	Total
Juan	61	67	18	20	7	8	4	4	1	1	91
Koki	200	59	96	28	6	2	21	6	17	5	340
María	215	58	116	31	21	6	13	4	4	1	369

Figure 1 and Table 2 show that of the six grammatical agreement inflectional markings in Spanish, only the second person plural (2nd pl) was not found in the data examined (not included in the Table). It should be noted that singular forms (1st sg, 2nd sg, 3rd sg) were more frequently used than plural forms (1st pl, 3rd pl) perhaps because the interactions were often limited to the child and a parent. With respect to singular forms, the 3rd sg

was the most frequently used by each child (Juan: 67%; Koki: 59%; María: 58%), followed by the 1st sg form (Juan: 20%; Koki: 28%; María: 31%), and with the 2nd sg being the least frequent singular form used by these children (Juan: 8%; Koki: 2%; María: 6%). Next, plural inflections, which were less frequently used, followed the same pattern as singular inflections: the 3rd pl (Juan: 4%; Koki: 6%; María: 4%) was used slightly more frequently than the 1st pl inflection (Juan: 1%; Koki: 5%; María: 1%). Overall, these findings showed that while the presence of singular forms was more pronounced in the data of the three children (92.5%; *n* = 740) than plural forms (7.5%; *n* = 60), the agreement system of these Spanish children contains evidence of singular and plural inflections by the age of two years and five months (2;5); more specifically, the verbal inflectional system of these children is characterized by both person and number inflection.

The distribution of the agreement paradigm for each child is presented in Tables 3 (Juan), 4 (Koki), and 5 (María). In these Tables, the agreement paradigm is presented longitudinally, as early as 1;7 (Koki, María) and 1;9 (Juan) throughout 2;2 (María) and 2;5 (Juan, Koki).

Table 3. Distribution of the Agreement Paradigm (Juan; *n* = 91)

Age	1st ps	2nd ps	3rd sg	1s pl	2nd pl	3rd pl
1;9	4	0	5	0	0	0
2;1	1	1	4	1	0	0
2;3	5	2	12	0	0	0
2;4	6	1	23	0	0	0
2;5	2	3	17	0	0	4
Total	18	7	61	1	0	4

n = number of tokens.

Table 4. Distribution of the Agreement Paradigm (Koki; *n* = 340)

Age	1st sg	2nd sg	3rd sg	1st pl	2nd pl	3rd pl
1;7	4	1	13	0	0	0
1;9	0	0	11	0	0	1
1;11	4	0	27	0	0	2
2;1	13	1	38	3	0	6
2;2	7	0	6	1	0	2
2;3	3	0	8	0	0	0
2;4	25	0	45	12	0	8
2;5	40	4	52	1	0	2
Total	96	6	200	17	0	21

n = number of tokens.

Table 5. Distribution of the Agreement Paradigm (María; *n* = 369)

Age	1st sg	2nd sg	3rd sg	1st pl	2nd pl	3rd pl
1;7	0	0	24	0	0	0
1;8	1	0	10	0	0	0
1;9	4	0	35	0	0	0
1;10	3	3	40	2	0	0
1;11	9	0	33	1	0	1
2;0	13	5	28	0	0	2
2;1	23	6	16	0	0	2
2;2	63	7	29	1	0	8
Total	116	21	215	4	0	13

n = number of tokens.

As shown in these tables, the first forms used productively and contrastively by the

children in this study were the 3rd sg and 1st sg as early as 1;7 for Koki and at age 1;9 for Juan and María. María began using the 3rd sg productively (n = 24) as early as 1;7. The 2nd sg was used (with at least two occurrences in one file) immediately after 1st sg and 3rd sg; the 2nd sg inflection occurred at 1;10 in María's data (n = 3), at 2;3 in Juan's data (n = 2), and at 2;5 in Koki's data (n = 4). In addition, each child produced a variety of verbs from 1;7. Examples of singular forms used by each child are shown below. The age at which these verbs were produced is indicated in parentheses**.** The version in adult Spanish is provided in parentheses followed by an English translation. In cases where word order differs from English, a literal translation (Lit.) is provided, followed by an English translation:

(3) Juan

a) eno momos (Adult Spanish: *tengo mocos* 'I have snot');
como pan 'I eat bread' (1;9)

b) *no pudo* (Adult Spanish: *no puedo* 'I can't'); *es de Juan* 'it's John's' (2;1)

c) *no quero* 'I don't want'; *no mordas* 'don't bite' (2;3)

d) *no mene Oscar* (Lit.: not come-3SG Oscar [Adult Spanish: *no viene Oscar* 'Oscar is not coming']); *tú tienes baba* 'you have a beard (2;4)

(4) Koki

a) *peino* 'I comb'; *pono ese piyito* (Adult Spanish: *pongo ese pelito* 'I put that little hair') (1;7)

b) *nenito llora* 'the little baby cries'
no se pueye? (Adult Spanish: *No se puede* 'it's not possible?') (1;9)

c) *miya apicitos* (Adult Spanish: *mira lapicitos* 'look at the little pencils') (1;11)

d) *no sabe Koki* (Lit.: not know-3SG Koki 'Koki doesn't know') (2;1)

e) *quero más melón* 'I want more cantaloupe'; *qué hace?* Koki refers to a dog: 'What does the dog do?' (2;2)

f) *quero más cikwo* (Adult Spanish: *quiero más chicle* 'I want more gum') (2;3)

g) *yo tengo as meyas* (Adult Spanish: *Yo tengo las medias* 'I have the socks');
la abuelita me la compó (Lit: the Granny me it-FEMININE buy-PAST 'Granny bought it for me' (2;4)

h) *yo quiero ver los dibujos* 'I want to see the pictures'; *yo pendo la música* (Adult Spanish: *Yo prendo la música* 'I turn the music on') (2;5)

(5) María

a) *notá Atí* (Lit.: not is Santí 'Santí is not here'); *se cae e nene* (Lit.: CLITIC fall-3SG PRESENT the baby 'the baby is falling') (1;7)

b) *Osé* 'I don't know'; *Paca nostá* 'Paca is not here' (1;8)

c) *No oio* (Adult Spanish: *No oigo* 'I don't hear');
chupa e guauguau (Lit.: licks the dog 'the dog licks') (1;9)

d) *s'a pedido e pendiente* (Lit.: 'has been lost the earring' 'the earring was lost')
sí quema 'it does burn' (1;10)
e) *tiene pelito papá* (Lit.: has little hair dad 'dad has little hair') (1;11)
f) *no quero* 'I don't want'; *mamá qué haces?* 'mom, what are you doing?' (2;0)
h) *tú te llamas mamá* 'your name is mom' (2;1)
i) *yo lo cierro* 'I close it'; *yo huelo a colonia* 'I smell like cologne' (2;2)

Examples (3)-(5) show that the singular person inflection was produced very early and included different verbs and various inflectional forms used by each child. It should also be noted that several verbs were produced with explicit lexical subjects in pre-verbal (e.g., *Oscar sí pega* 'Oscar does hit'; *yo mordo* 'I bite') and post-verbal (*no mene Oscar* (Lit.: not comes Oscar 'Oscar is not coming') position.[3] Tables 3-5 also display that the onset for person marking emerged very early, that is, when at least two different person inflections were used by each child in one file: person contrast between the 1st sg and 3rd sg began at 1;7 for Koki (Table 4) and at 1;9 for Juan (Table 3) and María (Table 5).

The emergence of the plural inflection occurred, while infrequently, immediately after the marking for singular person inflection. Plural forms accounted for 7.5% (n = 60) of the data of the three children. According to the criterion of productivity adopted in this study, the onset of number inflection was considered productive when it contrasted with at least one singular person in the same file. In Juan's data (Table 3), plural forms accounted for 5% (n = 5) of the data. Productive use of number in Juan's data occurred at 2;5 (n = 4), when he employed two different verbs with 3rd pl (*ir* 'to go'; *estar* 'to be') in one file, as shown in (6):

(6) Juan
dónde van monos 'where do monkeys go';
allá tán (Adult Spanish: *allá están* 'there they are') (2;5)

Koki's data (Table 4) displayed an 11% (n = 38) use of plural forms. Koki began using the 3rd person plural inflection at 1;11 (n = 2) which coincided with the productive use of 1st and 3rd person singular forms in the same file. A similar pattern was observed at ages 2;2 and 2;5. Also, production of at least two instances of plural inflection for each person (1st pl and 3rd pl) along with singular forms in the same file occurred at age 2;1 and at 2;4, as in the examples in (7):

(7) Koki
esos son chícharos 'those are peas' (2;2)
vamos a jugar con los muñequitos 'let's play with the little dolls' (2;4)
vamos a tirarlos 'let's throw them away' (2;5)

Finally, 5% (n =17) of María's data (Table 5) included the use of number inflection. Evidence for number was present for María at age 1;10 when she used the 1st pl (n = 2),

in addition to the three singular person inflections in the same file. María used the 3rd person plural twice at 2;0 and at 2;1, and more productively at 2;2 (n = 8), including one instance of 1st person plural in the same file. It should be noted that in this last file, María also used all three singular person inflections productively and correctly. The following examples show evidence of plural verb forms in each child:

(8) María
vamo a estudi (Adult Spanish: *Vamos a estudiar* 'let's go study') (1;10)
A mí me gutan las bujas pirujas (Lit.: 'bad witches are pleasing to me' 'I like bad witches') (2;2)

As shown in examples (6) – (8), when the children used plural inflections, they used them correctly most of the time.

Errors in early Spanish.

Regarding errors found in the speech of the three children, only 5.7% (n = 50) of the data contained some kind of error (Juan: 6%; n = 7; Koki: 5.6%; n = 21; María: 5.6%; n = 22). The most common errors found for each child are shown in the examples below (the main error is underlined):

(9) Representative errors found in Juan's data
a) *no <u>pupo</u> Juan* (Adult Spanish: *No puede Juan*) (2;1)
no can-1SG PRESENT Juan
'Juan (meaning 'I') can't'
b) *no puj<u>as</u>* (Correct: *No me empujes*) (2;4)
not push-2SG PRESENT
'don't push (me)'

(10) Representative errors found in Koki's data
a) *no <u>teye pono</u>* (Error: no quiere pongo (Correct: No quiero poner)) (1;7)
no want-3SG PRESENT to put on-1SG PRESENT
'I don't want to put (it) on'
b) *para que se* rom<u>*pe*</u> (Correct: para que se rompa)
for that CLITIC break-3SG PRESENT
'so that it breaks' (2;5)
c) *no <u>mene</u> a batas* (Correct: no vienen las vacas) (1;11)
not come-3SG PRESENT the cows
'the cows are not coming'

(11) Representative errors found in María's data

a) *nene sient<u>o</u>* (1;9)
baby sit-1SG PRESENT
'the baby (meaning 'I') sit'

b) *<u>nostá</u> bibis* (1;8)
not there is-3SG dolls
'the dolls are not here'

c) *yo <u>sabe</u>* (1;10)
I know-3SG PRESENT
'I know'

The infrequent number of errors found in each child's data included a third person singular overt subject in pre- or post verbal position used with a first person singular verb inflection, as in (9a) and (11a). These errors, however, may be due to the fact that the lexical subject refers to the child him/herself in the third person, followed by a first person singular inflection form. A similar error was also found by Torrens (1995) in an analysis of Spanish and Catalan verbal morphology. Other errors involved a lack of agreement for number as in (10c), and (11b), using a third person singular verb with a third person plural subject. Again, the same kind of error was also found in the acquisition of German (Poeppel and Wexler, 1993) and Italian (Guasti, 1993/1994). A different kind of error involved a third person singular verb followed by a first person singular verb inflection (10a), instead of an infinitival form. Other very infrequent errors included a negative command incorrectly used with a second person inflection in the present indicative (9b), instead of the subjunctive morphology (*no empujes* 'don't push'). Further, a lack of subjunctive morphology (10b) was also evident in some contexts which obligatorily required the subjunctive (*para que se rompa* 'so that it breaks'). Finally, a few errors involved an overt pronominal first person subject conjugated with a third person singular inflection (11c).

Overall, both the singular person and number inflections were present in early Spanish grammar as early as 1;7 and well before the age of 2;5. It is important to note that number agreement was added to person agreement in immediately subsequent stages of acquisition, but by the age of 2;2 (María) and 2;5 (Juan, Koki), the full morphological agreement system was available (except for the 2nd pl form which was not attested in the data), and these results provide support for SCH in that an AgrP is available from the initial state.

Evidence for tense (TP)

Pollock's (1989) conception of the tense morpheme "as a separate syntactic entity at an abstract level of representation" was adopted for the present analysis. Of the 800 correctly inflected verbs identified in the data (excluding true imperatives), perfective verb forms (i.e., preterit, imperfect, present perfect) accounted for 8.2% (n = 66) of the

data among the three children (Juan = 4; Koki = 29; María = 33). The following examples show the first occurrences of present-past tense contrasts produced by each child in the same file:

(12) Koki (1;7)
a) *pono ese piyito* (Adult Spanish: pongo ese pelito) (-PAST)
put-1SG-PRESENT that little hair
'I put that little hair'
b) *epotó* (Adult Spanish: explotó) (+PAST)
exploded-3SG PAST (PRETERIT)
'It exploded'

(13) María (1;7)
a) *Se cae e nene* (-PAST)
CLITIC fall-3SG PRESENT the baby
'the baby is falling'

b) Father: *Qué tenías cuando estabas malita*?
('what was wrong with you when you were sick?')
María: *Tenía pupa* (+ PAST)
had-1SG PAST (IMPERFECT) pupa
'I had pupa' (referring to some kind of skin irritation)

(14) Juan (2;5)
a) *aime no meme* (Adult Spanish: Jaime no duerme) (-PAST)
Jaime not sleep-3SG PRESENT
'Jaime does not sleep'
b) *se fue Pilla* (+PAST)
CLITIC go-3SG PAST (PRETERIT) Pilla
'Pilla left'

The examples above show that the onset for tense marking expressing a present-past tense contrast began as early as 1;7 for Koki (12) and María (13), and at 2;5 for Juan (14). Koki used the verb 'potó' ('it exploded') (12b) to mean that something had broken and this past tense form was repeated several times, in contrast with a verb in the present tense (12a). As shown in Table 5, the onset for person inflection marking was already active in Koki's speech at 1;7, when he used all three singular forms in the present tense. Other occurrences of perfective tenses which occurred in contrastive ways in Koki's data were found at the following ages: 1;9 (n = 1), 1;11 (n = 1), 2;1 (n = 4), 2;4 (n = 9), and 2;5 (n = 13) and mostly included the preterit (e.g., *se cayeron* [referring to dolls] 'the little dolls fell'), 2;4) and imperfect forms (e.g., *era un perrito con dientes* 'it was a little dog with teeth' (2;5).

Further, at the age of 1;7, María showed productive use of the 3rd person inflection form (n = 24; Table 6) and one example of the present tense form is shown in (13a). As can be seen in (13b), in the same file María answers her mother's question using the first person singular in the imperfective form (*tenía* 'I had'). While this verb is the same used in the previous sentence by her mother, it was included in the analysis since María did not repeat the same form using the same person (2nd person singular), but rather, she responded using the 1st sg form correctly conjugated in the imperfect form. Additional uses of perfective forms in María's speech were observed at 1;10 (n = 4), 1;11 (n = 10), 2;0 (n = 3), 2;1 (n = 9), and 2;2 (n = 6) and included utterances in the preterit (e.g., *se cayó e patito* 'the little duck fell', 2;0), imperfect (*tenía que tabaja mamá* 'mom had to work', 2;0) and present perfect (e.g., *s'a pedido el pendiente* 'the earring has gotten lost', 1;10). Finally, due probably to the length and quantity of files in Juan's data, the first (past-present) tense contrasts were only identified at 2;5 (n = 4), in which he used the same verb 'to go' four times in the past tense (singular and plural), as shown in (14b); thus, it is possible that the present-past tense contrast for Juan may have occurred at earlier stages for which no data were collected.

Overall, the aforementioned examples suggest that, while past tense forms were infrequently used, these children seem to have some knowledge of the temporal notion of past tense at an early age and that it is used contrastively with the present tense. This finding lends further support to the SCH in that the past tense morpheme is identified and used contrastively in early grammar.

Evidence for Negation (NegP)

In Spanish, the negative marker is placed to the left of the verb, forming a syntactic unit. Based on the analysis of the Spanish data, negation is placed in the same position in both child and adult grammar. Of the 800 finite constructions used in correct contexts, 23.1% (n = 185) involved negation. In all of these cases, negation was properly placed in pre-verbal position, as in the adult grammar. Of the 185 instances of correct use of negation, 18% (or 34 cases) occurred in Juan's data, 19% (or 35 cases) in Koki's data, and 63% (or 116 cases) in María's data. Some examples of the early acquisition of the negative marker in Spanish are shown below for each child:

(15) Koki
  a) *nostá e niño*
     not is-3SG PRESENT the boy
     'the boy is not here' (1;7)
  b) *no se peye* (Adult Spanish: no se puede)
     not PASSIVE CLITIC can-SG PRESENT
     'it is not possible' (1;9)

(16) María

a) *nostá Bis*
not is Luis
'Luis is not here' (1;7)

b) *no oio* (Adult Spanish: no oigo)
not hear-1SG PRESENT
'I don't hear' (1;9)

(17) Juan

a) *no tá*-3SG PRESENT
not is
'it is not here' (1;9)

b) *no pedo* (Adult Spanish: no puedo)
not can-1SG PRESENT
'I can't' (2;1)

The first cases of the overt use of *no* 'not' in the data were found as early as 1;7 and at 1;9 in Koki's (15a,b) and María's (16a,b) speech, and at 1;9 (17a) and 2;1 (17b) in Juan's data. As no instances of overt negative constructions in the corpora examined contained negation errors, it is hypothesized that the functional category NegP is available in child grammar as early as 1;7 for Koki and María, and at 1;9 for Juan. According to our criterion of productivity for the use of negation, each child produced at least two utterances where negation was correctly used in most files. Thus, the correct placement of negation in pre-verbal position in Spanish lends support to the claim that, regarding negation, language acquisition is relatively error-free (cf. Crain & Lillo-Martin, 1999), and this result further substantiates the SCH for the availability of NegP as early as 19 months of age.

Evidence for Complementizer Phrase (CP)

In Spanish, the CP occupies the highest position to the left of the clause containing a TP, as shown in the syntactic representation in (2). Table 6 shows the distribution of wh-questions and true imperatives found in each child's data. These results are presented in both frequencies and percentages and the examples account for 12.7% (n = 105) of the data.

Table 6. Distribution of CP Availability in Spanish Early Grammar in Frequency and Percentage: Wh-Movement (n = 76) and True Imperatives (n = 29) across the files.

		Wh-Movement		True Imperatives		Total CP Instances	
		n	%	*n*	%	*n*	%
Juan	(1;9-2;5)	1	6	17	94	18	100
Koki	(1;7-2;5)	53	83	11	17	64	100
María	(1;7-2;2)	22	96	1	4	23	100

Wh-questions accounted for 9.2% (n = 76) of the data. Examples of wh-questions produced by each child are shown below:

(18) María
a) *ostá a pota*? (Adult Spanish: *Dónde está la pelota*?)
where is-3SG PRESENT the ball
"where is the ball? (1;9)
b) *Qué tomas?*
what take-2SG PRESENT (you)
'What are you having?' (2;0)

(19) Koki
a) *One ta e apicito?* (Adult Spanish: *Dónde está el lapicito?*)
where is-3SG PRESENT the little pencil
'where is the little pencil?' (1;11)

b) *none está el otro perrito?*
where is-3SG PRESENT the other little dog
'where is the other little dog?' (2;4)

The examples above show that CP was used productively (i.e., two instances of wh-questions in one file) as early as 1;9 for María (n = 4), as in example (18a), and at 1;11 (n = 5) for Koki, as in (19a). It should be noted that when a lexical subject was overt in the wh-question, as in (19a), it always appeared to the right of the tensed verb, reflecting a correct subject-verb inversion operation**.** Other examples of wh-question formation in subsequent files are shown in (18b) and (19b). In María's data, wh-questions were also used at age 1;11 (n = 2), 2;0 (n = 10), 2;1 (n = 2), and 2;2 (n = 2), and in Koki's data at age 2;2 (n = 5), 2;3 (n = 7), 2;4 (n = 11), and 2;5 (n = 25). In Juan's data, however, no

productive uses of wh-question formation were found, since only one instance of a wh-question was observed at age 2;5.

True imperatives accounted for 3.5% (*n* = 29) of the data. Productive use of true imperatives was found in Juan's and Koki's data, as shown in the following examples:

(20) Juan
  a) *tú opla!* (Adult Spanish: tú sopla)
     you blow-2nd sg IMPERATIVE
     'blow!' (2;3)
  b) *ven*!
     come-2nd sg IMPERATIVE
     'come!' (2;5)

(21) Koki
  a. dame la mano!
     give me the hand
     'give me your hand!'(2;4)
  b. *muésteme los pellejitos*! (Adult Spanish: muéstreme)
     show me the little hangnails
     'show me the little hangnails!' (2;5)

As shown in the examples above, productivity of true imperatives was found in Juan's data as early as 2;3 (*n* = 2), as in (20a). Other instances of imperatives were also found in later ages at 2;4 (*n* = 3) and at 2;5 (*n* = 12); (20b) shows an additional example of a true imperative in Juan's data. Further, in Koki's data imperatives were used productively at age 2;4 (*n* = 4), as in example (21a), and at 2;5 (*n* = 6), as in example (21b) using a formal imperative.[4] Although María's corpus was the largest of the three children, it only contained one instance of a true imperative at age 1;11 (e.g., *toma un camelito, papá'* 'have a caramel, dad').

Overall, based on the evidence of wh-elements and true imperatives, it seems that CP is available from early stages of acquisition. Once again, the low frequency of wh-elements in Juan's data may be result of the limited data obtained. On the other hand, despite the large corpus analyzed in María's files, no productive use of true imperatives was observed in her data. In general, the absence of these elements in Juan's and María's data does not necessarily suggest that these elements are absent in their grammars, but rather, that perhaps there was no opportunity to produce these forms during the recording times.

Discussion

Using longitudinal acquisition data from three Spanish-speaking children from 1;7 to 2;5, the current study provided empirical evidence in favor of the strong continuity

hypothesis (SCH) (Lust, 1999) regarding the availability of the following functional categories in Spanish early grammar: AgrP, TP, NegP, CP. The findings from the current study lend support to the SCH in that the data show that principles of UG are available from the onset of language acquisition, such as functional categories, and these are held constant across language development. The results for each functional category will be discussed in turn.

The Agreement System

Regarding the availability of the agreement system in early Spanish, the results of the current study are consistent with previous studies in Spanish, Catalan, Italian, and French that found that the IP system is active in early grammar (Déprez & Pierce, 1993; Durán, 2000; Guasti, 1993/1994; Hawayek, 1995; Hyams, 1992a; Meisel, 1990; 1994; Torrens, 1995). Most important, the data from the present study demonstrated the availability of AgrP in even earlier stages than in other studies examining Spanish data from bilingual Spanish-Catalan children (e.g., Torrens, 1995, beginning at 1;9) and the current study showed that children are aware of the agreement system in Spanish as early as 1;7 (Koki and María). However, while the entire agreement paradigm may not be fully available at the beginning, most person singular inflections were used contrastively and correctly, followed by correct and productive use of number inflection forms. The distribution of inflectional markings included singular forms in the following order: 3rd sg, 1st sg, 2nd sg, followed by plurals in the same order (3rd pl, 1st pl), except for the second person plural form that was not observed in the data. The fact that the children in the current study did not produce the second person plural form does not invalidate the SCH. In this respect, other studies (Guasti, 1993/1994; Meisel, 1990; Poepel & Wexler, 1993) also reported absence of the second person plural inflection in their acquisition data in Italian and German, while Babarczy found that in Hungarian "agreement with second person subjects was acquired relatively late" (1997, p. 169).

However, unlike previous studies in Spanish that suggested that Spanish-speaking children move "step by step towards productivity by learning forms verb by verb" (Gathercole et al., 1999, p. 161), the current study found that the children examined showed evidence of person contrast quite early. For example, Koki began using singular inflectional person contrasts as early as 1;7 (1st sg [n = 4]; 3rd sg [n = 13]; 2nd sg [n = 1]), using a variety of verbs in different contexts and most were used correctly (see Table 4). Juan (Table 3) and María (Table 5) began using person contrastively from the age of 1;9 (1st and 3rd person singular forms). In fact, these children even used person contrast of the three singular forms as early as 1;7 (Koki), 1;10 (María), and 2;1 (Juan). Further, due to the variety of verb forms used, as seen in examples (3) to (5), the current study suggested that children are aware of the agreement system quite early. This finding suggests that the verbal inflectional forms identified do not seem to be rote-learned, especially in Koki's and María's speech that provided the largest amount of data; rather, it seems that these children are analyzing these inflections and almost always using them

correctly. Productive use of different verbs found in early stages was also documented in Torrens (1995), for bilingual Spanish and Catalan children, and in Guasti (1993/1994), for monolingual Italian children. Thus, the results of the current study, along with Torrens' and Guasti's findings, lend support to the SCH with respect to the existence of AgrP (or IP) from the initial state.

Unlike other studies in Catalan, Italian, Portuguese, and Spanish that observed that early grammar is mostly characterized by the acquisition of singular affixes (Grinstead, 1998; 2000a; Pizzuto & Caselli, 1992; Simões & Stoel-Gammon, 1979), this study found that, while infrequently used, plural inflection markings were employed by each of the three children; they accounted for 7.5% (n = 60) of the total data and were produced immediately after the singular inflection forms (see Tables 4-6). Grinstead (1998) suggested that number marking is acquired later and showed that plural forms emerged at a "later stage." As mentioned before, however, this "later stage" was determined arbitrarily for each child, beginning at 1;10 (Carlos), 1;11 (Eduardo), and 2;1 (Graciela), and the production of plural forms was only infrequently observed in two of the children: Graciela (n = 1) and Carlos (n = 15) (cf. Tables 4.21-4.23 in Grinstead, 1998). Further, in Grinstead (2000a) it is noted that plural number agreement is almost totally absent in the data of one Spanish-speaking child (Juan Linaza). Unlike Grinstead's findings, the results of the current study found that plural inflectional forms were used by all three Spanish-speaking children (Juan, n = 5; Koki, n = 38; María, n = 17) with the first occurrences appearing at ages 1;10 and 1:11 for María and Koki, respectively (see Tables 4-5).

The issue of the infrequency of plurality in early grammar needs to be addressed. Studies in the acquisition of early morphology in Portuguese and Italian found that singular affixes characterize child grammar. The infrequent use of plural inflection does not seem to be unique to verbal inflection, but rather, it represents a manifestation of late development in plural marking observed in other child grammars, and is probably due to the fact that children do not like to talk about plural things at an early age (Valian, 1990).[5] Due to contextual restrictions, it is also very likely that the children in the current study did not have opportunities to use plural forms with same frequency as they used singular forms in spontaneous contexts, especially since most interactions occurred between one parent and the child in particular play sessions that featured specific topics. Thus, the finding in previous literature that children do not use plural inflection, or that plurality is almost absent in early grammar, cannot be used as evidence to counter the SCH or to prove that children lack knowledge of agreement, as observed by Hyams' (1992b) in her comments to Pizzuto and Caselli (1992).

Meisel (1994) reported that verbal inflection markings for French and German (singular and plural forms) are acquired in the early stages of language development, with singular forms preceding plural ones, and concluded that "a period of six months is sufficient for the whole inventory of forms to be acquired" (1994, p. 99). For Quiché Mayan, Pye (1983) reported early instances of verbal inflection as early as two years, and Varma (1979) reported even earlier instances of verbal inflection for Hindi as early as

seventeen months (1;5). Overall, with the cross-linguistic evidence mentioned above and the clear empirical evidence from Spanish acquisition data as early as 1;7 through age 2;5, it is difficult to see, as Hyams (1992a) pointed out, how such languages (including Spanish) could be generated by a grammar which lacks an inflectional system. Thus, the evidence from the agreement system in the current study lend support to the SCH, specifically, that early grammar contains an AgrP with the (almost) complete set of verbal inflectional markings for person and number. The brief delay for number and the few morphological errors identified in each child's data, however, does not argue against the SCH.

Tense (TP)

With respect to the availability of tense, it was found that children in the current study used at least one form in the past tense (preterit or imperfect) in contrastive ways with the present tense singular inflection forms as early as 1;7 (Koki and María), and with higher frequencies in subsequent months (María, $n = 33$; Koki, $n = 29$; Juan, $n = 4$). As mentioned before, use of past tense forms (preterit, imperfect, present perfect) accounted for a total of 8.2% ($n = 66$) of the total data. Unlike Grinstead's (1998; 2000a) finding that tense contrasts are acquired after person contrasts, the current study found that early tense (present-past tense distinctions) and person contrasts occurred simultaneously, rather than at different stages. Further, it should be observed that Grinstead's (2000a) claims on the acquisition of Spanish tense are based on data from one participant (Juan Linaza, 1;7-2;1), while the current study used data from three children from age 1;7 to 2;5.

It was also found that the present-past tense contrast was used among the children in the present study appropriately as in adult Spanish; that is, there is a correspondence between the morphological forms used to express tense and the intended temporal reference. When the children used finite forms with present and past reference, they used them correctly with no mistakes in temporal reference. This finding is consistent with previous studies which argued for the early acquisition of temporal notions in other languages (Behrens, 1993; Meisel, 1985). Similar results were found in Bar-Shalom's (2002) study on the acquisition of past tense in early Russian with children producing telic and atelic predicates in the past tense such as telic imperfective verbs (e.g., *went*) at age 1;7 and atelic imperfective verbs (e.g., *wanted*) at age 1;8. Additional evidence for the existence of TP in early grammar was provided by Torrens (1995) whose Spanish data from bilingual Spanish-Catalan children distinguished between finite and non-finite verbs in the correct contexts with respect to the feature (+/- finite). A similar observation was made in Guasti (1993/1994) with Italian children who distinguished between finite and nonfinite verbs correctly as early as 1;8 and 1;10.

Overall, the finding that the children in the current study were aware of the present-past tense temporal notions at a young age is consistent with Hawayek (1995) who observed that while Mexican children do not use a large number of verbs at the

beginning, it is common to find a verb correctly conjugated in both present and past tense, highlighting the fact "that children do not make mistakes in the use of tenses" (p. 157).

Negation (NegP)

The finding that negation was properly placed in the 185 utterances that occurred with pre-verbal negation in the children's data suggests that the position of a negative marker is the same in both child and adult grammar. This finding is consistent with other studies in Italian (Guasti, 1993/1994) and French and English (Déprez & Pierce, 1993). As discussed before, since person (e.g., 1st sg vs. 3rd sg) and tense (present vs. past) contrasts were observed in the Spanish data, the children in the current study seemed to have knowledge of the notion of tense (TP) by the age of 2;2. Further, in accordance with Zanuttini's (1991) observation that the presence of TP may trigger negation in Romance languages, Bel (1996) suggested that the acquisition of the notion of tense was responsible for the parameter associated with negation. That is, if TP is absent in early Spanish grammar, pre-verbal negation cannot appear. Thus, the correct placement of negation observed in the Spanish data in the current study can be explained as a result of the existence of TP in early grammar.

Complementizer Phrase (CP)

The data from the three Spanish-speaking children in this study provided two types of movement to CP that suggest that the maximal projection CP is available as early as 1:9. Unlike Grinstead (1998) who did not find any instances of wh-movement in his Spanish data, due perhaps to the unavailability of earlier and more robust data in Juan's corpus, the results from the current study suggest that at least two children (María and Koki) at the ages of 1;9 and 1;11, respectively, began using wh-questions in appropriate contexts. This finding shows that wh-movement to the specifier of CP is active in child grammar and suggests that the Wh-criterion (Rizzi, 1991) is satisfied in early grammar. As discussed previously, in Koki's and María's files the onset for tense marking (i.e., at least one present-past tense contrast in one file) was evident from the beginning (1;7) where at least one verb in the past tense was found. This finding suggests that since tense and agreement were active in the speech of these children, verb movement to T and further to C is operative in early Spanish grammar, accounting for the correct setting of question formation.

With respect to the production of true imperatives, or V-to-C movement, it was found that imperatives were fully available in the speech of the three children in the present study. Following the observations in Rivero (1994), in Spanish C is an indicator of illocutionary force, and hosts the imperative features that the verb with imperative morphology must check. That is, true imperatives in Spanish must head move to C to check the strong imperative feature. Based on this analysis, the data for these children showed that while they all produced at least one true imperative, it was Juan's (n = 17)

and Koki's (n = 11) data that showed the highest frequencies of appropriately used true commands. This finding is consistent with other studies in Spanish which showed evidence of the CP by means of the production of true imperatives in child Spanish (Durán, 2000; Grinstead, 1998).

Despite finding evidence of true imperatives, Grinstead (1998) observed that negative commands, which require subjunctive morphology, were absent in children's Catalan and Spanish. However, the results from the current study found that these negative commands are not completely absent, as five instances were observed in the data of the three children (Juan, n = 2; Koki, n = 1; María, n = 2), and these constructions were used in appropriate contexts with correct subjunctive morphology. The two examples found in Juan's and María's data are shown below:

(22) Juan (2;3)
  a) *No mordas*! (Adult Spanish: No muerdas)
     not bite-2SG-SUBJUNCTIVE
     'don't bite!'
  b) *No comas mia*! (Adult Spanish: No comas papilla)
     not eat-2SG-SUBJUNCTIVE food
     'don't eat baby food!'

(23) María
  a) *No te caigas*
     not fall-2SG SUBJUNCTIVE
     'don't fall' (2;1)
  b) *No des un golpe*
     not give-2SG-SUBJUNCTIVE a blow
     'don't hit' (2;2)

Similar observations were made in Gathercole, Sebastián, and Soto's (2002) comments to Grinstead (2000b). Gathercole et al. (2002) also challenged Grinstead's claims regarding the total absence of subjunctive morphology in negative commands in early Spanish. Thus, while negative commands were infrequent in the Spanish data examined, these constructions were not completely absent.

Moreover, the literature on first language acquisition also supports the existence of CP in children's early grammar. For example, there is evidence for the availability of CP in the domain of wh-questions that can be found in studies on early inversion in the acquisition of yes-no and wh-questions (cf. Stromswold, 1990). Also**,** Hyams (1992a) provided several arguments showing that early grammar possesses a CP projection based on the syntactic development of her data. In addition, Poeppel and Wexler (1993) suggested that the CP system was available in Andreas' early grammar (2;1). Similarly, Crain and Lillo-Martin reviewed the first language acquisition literature and presented empirical evidence from different languages (i.e., English, French, and Japanese), and

concluded that "children's utterances display proper wh-movement from the very beginning. This would seem to be striking evidence of early, accurate parameter setting" (1999, p. 210).

Further, based on the findings herein, this study does not support the maturational hypothesis since no small clauses (without TP or CP) were found in the Spanish acquisition data. Contrary to the views of the proponents of the maturational hypothesis who suggest that children lack functional categories before the age of 2;6 (Radford, 1990) and that principles of UG mature over time (Borer & Wexler, 1987), the data from the current study showed that the complete inventory of functional categories is available in Spanish as early as 1;7 (AgrP, TP, NegP) and 1;9 (CP). Along the same lines, other researchers noted that it is not the case that the notion of functional structure may mature at a certain point or that certain functional categories mature earlier than others, but rather, "the concept of functional structure is available throughout, but that it is exploited as a last resort" (Hoekstra, (1994, p. 133). The findings of the current study coincide with Hoekstra's suggestion regarding the availability of functional categories throughout first language acquisition, but the observation of whether functional structure is exploited as a last resort is called into question, since the current study showed that various functional categories were identified in the data simultaneously, although some were used more frequently than others.

Since the complete inventory of functional categories (AgrP, TP, NegP, CP) was found in the data of all three children, the weak continuity hypothesis, which favors gradual acquisition of syntactic knowledge over time, was also not supported by the data for this study. Additional observations regarding the presence of the complete functional structure in early grammar, which refute the assumptions underlying the maturational hypothesis, are made by Crain and Lillo-Martin (1999), Guasti (2002), Hyams (1992a), and Lust (1999).

Finally, regarding limitations of the current study, it should be noted that the findings are based on the data produced by three particular Spanish-speaking children and collected by their parents, not by the researcher. Moreover, since audio recordings and videotaped data were not available to the researcher, the data analyzed were based solely on the written transcriptions of the data available in MacWhinney CD CHILDES (1997). Despite the lower frequencies observed in Juan's data, his results parallel those observed in both Koki's and María's corpora regarding the early existence of functional structure. The lower frequencies found in Juan's data suggest that the gender variable may be an important factor to examine in future research. Specifically, since two of the children in the current study were females (Koki and María) and one was male (Juan), it may be possible that the longer files which came from Koki and María were the result of gender differences. In addition, using a more rigorous criterion of productivity than the one used in this study, future research should examine the acquisition of aspect and its interaction with tense from early stages of syntactic development.

Conclusion

Consistent with the predictions of the SCH (Lust, 1999), it was observed that the children in the current study identified functional categories from the beginning of syntactic development, as early as 1;7 (AgrP, TP, NegP) and 1;9 (CP). The empirical data presented in this study lends support to the SCH in that "UG characterizes the biologically programmed 'initial state' and is continuous across language development" (Lust, 1999, p. 144). To further our understanding of functional structure in early grammar, other studies need to examine the syntactic development of functional categories in other languages and with a larger number of subjects, and collecting acquisition data at earlier stages of language development, since it may be possible that children lack functional categories at earlier stages not examined in the current study.

Notes

1 The agreement paradigm in Table 1 is representative of Peninsular and Latin American Spanish, but excludes the inflectional forms found in Argentine Spanish. The mother of one of the children in the current study is Argentinean, but the child's (Koki) speech is representative of Mexican Spanish. According to the information provided along with the transcription conventions, Koki lived in Mexico during the time of the data collection and frequently interacted with Mexican speakers.

2 Regarding movement of wh-elements, Goodall (1991) observed that wh-elements in Spanish may not move to [Spec, CP], but rather, to [Spec, IP]. While this observation may be feasible, in the present study the theoretical observations in Fernández Lagunilla and Anula Rebollo (1995) who consider [Spec, CP] as the landing site of wh-elements in Spanish are followed.

3 The issue of the emergence of subjects in pre- and post-verbal position in early grammar and it is possible correlation to overt and covert subjects is beyond the scope of the present study. In this respect, see Grinstead (2000a) for an in-depth account of this issue in Spanish and Labelle and Valois (1996) in French child language.

4 It should be noted that the use of the formal imperative in (21b) is most likely the result of Koki's mother's input, since she often addressed Koki using the formal form of address *usted* 'you-formal' and corresponding formal verbal inflections. At least in the Mexican context, it is common for some mothers to address their children using the formal address 'usted' accompanied by formal verb markings.

5 As rightly pointed out by one reviewer, the statement 'children do not like to talk about plural things in early age' may be problematic. As noted, the literature in psycholinguistics and language development suggests that other factors may be taken into account: phonotactic probabilities, frequency densities, and issues of meaning related to motor planning processes.

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