

# Verb Syntax in Italian Child Grammar: Finite and Nonfinite Verbs

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Based on an analysis of natural production data, I show that Italian children, at a young age, distinguish between finite and infinitival verbs. The evidence comes from the distribution of these two classes of verbs and from the placement of clitic (atonic) pronouns. I argue that, from the earliest stages, Italian children have knowledge of the verbal agreement system, a claim supported by a quantitative analysis of the verbal agreement paradigm. These results – evaluated in the framework of the principles and parameters theory of grammar – are naturally interpreted as evidence that the initial structure of children's sentences includes functional categories, specifically the Inflectional Phrase.

## 1. INTRODUCTION

In this article, I address the following questions concerning the acquisition of verbal morphology:

- (1) Do Italian children distinguish between finite and nonfinite verbs?
- (2) Are functional categories present in early Italian grammar; and if so, to what extent?

Various authors have claimed that although French and German children do not master the agreement paradigm, they are aware of the distinction between finite and nonfinite (or infinitive) verbs quite early (from around the age of 1;10 to 2;0, see Deprez and Pierce (1993), Pierce (1989), Meisel (1990), Verrips and Weissenborn (in press), Weissenborn (1990), among others). The test generally used to support this claim is the distribution of negation in a verbal context. For example, in French the negative element

*pas* 'not' follows the finite verb but precedes the infinitive. A similar argument holds for Germanic languages as well, but not for Italian, where the counterpart of the French *pas*, namely negative adverbs such as *più* 'anymore' and *mica* 'not' appear invariably to the right of the verb, as shown by Belletti (1990). Although one might be tempted to conclude that the distinction between finite and infinitive verbs is not available to Italian children from the very beginning, I argue that there are other reliable facts that prove that this distinction is acquired in Italian as early as in the other languages (cf. Schaeffer (1990)). These facts, which to my knowledge have not been appealed to in other works on this issue, are the distribution of nonfinite verbs and the placement of clitic pronouns (see Rizzi, class lectures, 1991/92). Based on a quantitative analysis, I show that, with respect to these two phenomena, Italian children perform correctly, thus supporting the hypothesis that they are able to distinguish finite and infinitival verbs.

As for the structure of early clauses, two main hypotheses are currently debated. According to one, syntactic structures in early grammar are pure instantiations of lexical categories, and the initial shape of a sentence is a small clause (Lebeaux (1988), Platzack (1992), and Radford (1990)). This hypothesis seems to be supported mainly by languages with a morphologically poor verbal system, such as English and Swedish. The other view maintains that functional categories (some or all) are present very early in children's grammar (Hyams (in press), Poeppel and Wexler (1993), and Weissenborn (1990), among others). In this article, I contribute strong evidence in favor of the second hypothesis by providing a quantitative analysis of the use of verbal agreement morphology. This analysis enables me to prove that when Italian children use verbal agreement morphology, they use it correctly, suggesting that they basically are aware of the agreement system, especially the singular persons. This quantitative analysis supports Hyams's (1983; 1986) original claim that Italian children use agreement accurately. To my knowledge, no previous work on Italian acquisition has provided a quantitative analysis in the terms presented in this article. An exception is a recent study by Pizzuto and Caselli (1992). Their analysis does not presuppose the model of grammar I use and evaluates the data using criteria that are different from those employed in this article. On that basis, the authors reach different conclusions than those proposed here; namely that agreement is not an early acquisition in Italian, because Italian children only use singular affixes (for more details, the reader is referred to the original paper and to Hyams's (1992) reply to it). As I will show, this conclusion is problematic.

The Italian data are particularly important, because they can hardly be interpreted in the framework of the small clause hypothesis. In no way can early Italian verbs be viewed as a pure instantiation of the lexical category

V: They are always accompanied by agreement morphemes and the choice of these morphemes is not arbitrary. Assuming the principles and parameters theory of grammar (see Chomsky (1981)), I interpret these results as evidence that the functional category Inflection Phrase (IP) exists in the Italian child's grammar from the very beginning.

## 2. THE ACQUISITION DATA

The longitudinal data on which this investigation is based are from the transcripts of three monolingual Italian children (Martina (1;8 to 2;7), Diana (1;10 to 2;6), and Guglielmo (2;2 to 2;7)) from the CHILDES database (MacWhinney and Snow (1985); data contributed by Cipriani et al. 1989 #4698 from the Istituto Stella Maris of Calambrone, Pisa).

Among the utterances produced by the children, I included for analysis only decipherable multiword verb-containing utterances that are spontaneous (i.e., not repetitions of adult utterances) and that can be interpreted by an Italian native speaker. In addition, when the same utterance is repeatedly produced, I counted only the first occurrence. Thus, this analysis includes the following sentences: indicative declarative sentences, interrogative sentences, and infinitive sentences. Two types of infinitive sentences are considered; one containing an infinitive verb governed by a finite verb or by a preposition and another containing only the infinitive verb used as a main verb ('optional infinitives,' following Wexler (in press)). It does not include imperative sentences, sentences containing a bare past participle (i.e., a past participle lacking the auxiliary), and sentences containing the copula *be* (mostly occurring in the third person singular, especially at the very beginning). Sentences containing either a lexical or a null subject have been considered. The correctness of sentences containing a null subject has been established on a contextual basis. This analysis is based on a total of 534, 660, and 217 utterances for Martina, Diana, and Guglielmo, respectively.

In the text, words that are not present in the child's sentence are put between parentheses in the English translation. This is the case when the child omits some element (e.g., determiner or preposition) that is required in standard Italian, or when she or he uses a null subject (perfectly acceptable in the adult language). Except for null subjects, the relevant omitted word is indicated by "-" in the child utterance. Pieces of words that are not pronounced by the child are also put between parentheses (e.g., *(ch)iuudere* 'to close'). Sequences such as "e@p" and "a@p" stand for presyntactic devices (see Cipriani, Chilosi, Bottari, and Pfanner (1993) and references cited there). They probably stand for clitic pronouns or determiners. Throughout this article, I use square brackets to provide the correct form when the child's form is misspelled, and, in the examples, I translate the Italian infinitive with the English bare form (i.e., without the 'to').

## 3. DISTRIBUTION OF NONFINITE VERBS

As a first step, I consider the distribution of finite and nonfinite verbs in early Italian. As noted in the introduction, this analysis is crucial to assess whether or not Italian children make the distinction between these two types of verbal forms.

As in adult Italian, infinitives in the early speech of children are found after a governing verb and after prepositions. This fact indicates that from a young age children conform to their target language. I should point out that in child language the range of governing verbs typically includes modal, volitional, and aspectual verbs (see Cipriani et al. (1993)), a subset of those verbs that govern infinitives in the adult language. Some examples are given in (1).

- (1) a. *pe'* c(u)ocere.  
in order to cook-Inf  
'in order to cook.'  
(Martina, 1;8)
- b. *voglio* bere.  
want-1Sg drink-Inf  
'(I) want to drink.'  
(Martina, 1;10)
- c. *posso* entrare?  
may-1Sg come-Inf in  
'may (I) come in?'  
(Diana, 2;1)
- d. *per* lavale i piatti.  
in order to wash-Inf the dishes  
'in order to wash the dishes.'  
(Diana, 2;1)
- e. *che ci devi* fare?  
what with-that must-2Sg make-Inf?  
'what should (you) make with that?'  
(Guglielmo, 2;3)

It is worth noting that during early stages, children tend to omit prepositions. Thus, for example, in adult Italian aspectual verbs take an infinitive preceded by a preposition, specifically a 'to' (*Gianni va a nuotare*, literally 'Gianni goes to swim', *Gianni viene a vedere*, literally 'Gianni comes to see') in children's speech the preposition is occasionally missing, as illustrated by (2).

- (2) a. *vai* — comprare.  
go-2Sg — shop-Inf<sup>1</sup>  
'(you) go shopping.'  
(Martina, 2;3)
- b. *va a* lavorare?  
go-3Sg to work-Inf  
'does (he) go to work?'  
(Diana, 2;1)
- c. *mi vieni* — prendere?  
me come-2Sg — pick-Inf up  
'do (you) come (to) pick me up?'  
(Guglielmo, 2;3)

The omission of prepositions before infinitives should be regarded as the result of a general process active in the early speech of children. Prepositions are occasionally omitted in other contexts where they are required in the target language, specifically with nouns, as seen in (3). In addition, other functional categories (such as determiners) may also be defective, as noticed by Rizzi (1992).

- (3) a. *do* — la mamma.  
give-1Sg — the mommy  
'(I) give (it) (to) the mommy.'  
(Martina, 1;11)
- b. *andiamo* — Pisa.  
go-1Pl — Pisa  
'(we) go (to) Pisa.'  
(Guglielmo, 2;5)

The conclusion that children's use of infinitives conforms to the target language is further supported by the fact that in the contexts requiring infinitives, children do not use finite verbs. In other words, with the exception of a couple of errors, sequences of *modal-like* +  $V_{finite}$  or *preposition* +  $V_{finite}$  are not found in the speech of children. Notice that these errors should occur systematically if children did not distinguish between finite and nonfinite verbs. These facts clearly support the view that Italian children are sensitive to the difference between finite and nonfinite verbs and place them correctly according to the adult grammar.

Tables 1, 2, and 3 show the distribution of finite verbs and infinitives for Martina, Diana, and Guglielmo, respectively. These tables also include

<sup>1</sup>The aspectual verbs *andare* 'go' and *venire* 'come' take the preposition *a* 'to' followed by an infinitival verb.

TABLE 1  
Distribution of Finite Verbs and of Nonfinite Verbs (Martina)

Age	$V_f$	$V_f + I$	$P + I$	$I$	$V_f + V_f$
1;8 <sup>a</sup>	27		1	2	
1;9	6	1		2	
1;10	22	2		1	1
1;11 <sup>a</sup>	87		1	17	
2;1	22	1		1	
2;3 <sup>a</sup>	118	3	4	1	17
2;4	93	7	6		
2;5	47	4	4	1	
2;7	64	5	5		
Total	486	23	21	25	2

Note.  $V_f$  = finite verb;  $V_f + I$  = finite verb + infinitive;  $P + I$  = preposition + infinitive;  $I$  = optional infinitive;  $V_f + V_f$  = finite verb + finite verb, that is, errors.

<sup>a</sup>Two sections grouped together.

TABLE 2  
Distribution of Finite Verbs and of Nonfinite Verbs (Diana)

Age	$V_f$	$V_f + I$	$P + I$	$I$	$V_f + V_f$
1;10	31				
1;11	14				
2;0 <sup>a</sup>	70				
2;1	50	3	7	1	
2;5	133	15	1	1	
2;6 <sup>a</sup>	321	29	30		1
Total	619	47	38	2	1

Note.  $V_f$  = finite verb;  $V_f + I$  = finite verb + infinitive;  $P + I$  = preposition + infinitive;  $I$  = optional infinitive;  $V_f + V_f$  = finite verb + finite verb, that is, errors.

<sup>a</sup>Two sections grouped together.

TABLE 3  
Distribution of Finite Verbs and Nonfinite Verbs (Guglielmo)

Age	$V_f$	$V_f + I$	$P + I$	$I$	$V_f + V_f$
2;2	20			2	
2;3	18	6			
2;4	31	4	1		
2;5	27	3			1
2;7	112	18	3	2	
Total	208	31	4	4	1

Note.  $V_f$  = finite verb;  $V_f + I$  = finite verb + infinitive;  $P + I$  = preposition + infinitive;  $I$  = optional infinitive;  $V_f + V_f$  = finite verb + finite verb, that is, errors.

infinitives in nongoverned contexts or optional infinitives, to which I return later. They do not include past participles, imperatives, or the copula *be* (see section 2). As mentioned, few errors are found, and these are reported in the last column of each table ( $V_f + V_f$ ).

The first appearance of an infinitive in the context of a governing verb or a preposition is at 1;9 for Martina and at 2;1 for Diana.<sup>2</sup> The first verb that is documented in both a finite and nonfinite form shows up at 1;9 for Martina (*(ve)dere* 'to see' and *si vede* 'one sees'). Other forms (*fare* 'to make' and *fanno* '(they) make', *prendere* 'to take' and *prendo* '(I) take', *(s)chire* [*scrivere*] 'to write' and *schide* [*scrive*] '(he) writes') appear at 1;11. The variety of finite and nonfinite forms of the same verb increases considerably, as shown in (4), if one looks at the total range of verbs before 2;0.

- (4) **Variety of finite and nonfinite forms before 2;0 in Martina's speech**  
**Infinitives:** a(n)dare, aprire, (ch)iudere, c(u)ocere, fare, vavare [lavare], mangiare, prendere, (s)chi(ve)re, vedere to go, to open, to close, to cook, to make, to wash, to eat, to take, to write, to see  
**Finite verbs:** va, apri, apo, chiudo, c(u)oce, fa, fanno, lava, mangio, mangia, pendo, pende, scide, si vede (it) goes, (you) open, (I) open, (I) close, (it) cooks, (he) makes, (they) make, (he) washes, (I) eat, (he) eats, (I) take, (he) takes, (he) writes, (one) sees.

Similar observations hold for the other two children. At 2;1, Diana produces two verbs with a finite and an infinitive form (*mettere* 'to put' and *fare* 'to make,' *si mette* '(one) puts' and *fa* '(he) makes'). At 2;2, Guglielmo has the minimal pair *mangiare* 'to eat' and *mangia* '(he) eats'.

The exhaustive list of errors in the distribution of verbs for the three children examined is given in (5-7). These are cases of a finite verb followed by another finite verb, instead of an infinitival verb, as required by the adult language. Of valuable importance is the fact that there is no error with prepositions.

- (5) cosa fa?  
 what make-3Sg  
 'What does (it) make?'  
 (Adult)

<sup>2</sup>As pointed out by Cipriani et al. (1993), Diana's production is quite peculiar. This child produces long sequences of incomprehensible words and/or does not use verbs. This explains why Diana's production before 1;10 is not suitable for the present investigation, despite the fact that her MLU is very high from the earliest stages.

fa            ucia.  
 make-3Sg burn-3Sg  
 '(it) makes (it) burns.'  
 (Martina, 1;10)

(6) oi            cecco,            cecco.  
 want-1Sg look-1Sg for, look-1Sg for  
 '(I) want (I) look for, (I) look for.'  
 (Martina, 2;3)

(7) devo        apre        io.  
 must-1Sg open-3Sg I  
 'I must open.'  
 (Guglielmo, 2;5)

The errors are few, and at least two of them can be easily explained. Example (5) may result from the fact that the child first tries to answer with the verb used by the adult, *fa*, and then has to continue with the appropriate verb in the finite form. Notice that continuing the sentence with the infinitive (*bruciare* 'to burn') would result in a pragmatically inappropriate answer. It is not surprising that the child uses the appropriate *brucia* '(it) burns', which alone would be perfectly acceptable in adult speech. As for (6), there are reasons to think that it should not be considered an error. The child corrects herself: She repeats the sentence using only the verb *cecco*, showing that she is aware of the correct distribution of finite verbs. Finally, the error, reported in (8) does not concern finite verbs, given that it displays only a mistake in the choice of the nonfinite form (the child employs a gerund instead of an infinitive).

(8) Vuole        dormendo.  
 want-3Sg sleeping  
 '(he) wants to sleep.'  
 (Diana, 2;6)

For the sake of completeness, I should discuss a peculiar phenomenon of early grammars, which at first sight might seem at odds with my claim that Italian children are aware of the distinction between finite and infinitive verbs. This is the phenomenon of optional infinitives, discussed by Wexler (in press). Besides employing infinitives after a governing verb or a preposition (i.e., in those contexts where they are found in the adult language) Italian children produce a limited number of optional infinitives

(i.e., infinitives in nongoverned contexts, used as main verbs). Some examples of optional infinitives are given below.<sup>3</sup>

(9) a. lavare    i    piatti.  
       wash-Inf the dishes  
       (Diana, 2;1)  
 b. anda(r)e qui su.  
       go-Inf here up  
       (Diana, 2;5)

(10) a. bere.  
       drink-Inf  
       (Martina, 1;8)  
 b. (ve)dere ia bimba.  
       see-Inf the child  
       (Martina, 1;9)  
 c. quetto qui mangiare chellini.  
       this here eat-Inf piglets  
       (Martina, 1;11)  
 d. babbo vedere la moto.  
       daddy see-Inf the motorbike  
       (Martina, 1;11)  
 e. (gu)adare io.  
       look-Inf I  
       (Martina, 1;11)

The presence of optional infinitives in early language is not peculiar to Italian. As discussed by Wexler (in press), French, German, Swedish, and Dutch children go through a stage (between 1;10 and 2;6) during which they use infinitives as main verbs, a use that is not attested in the target language. This happens despite the fact that children during this period are able to distinguish between finite verbs and infinitives, as widely demonstrated in several works (see references cited in the introduction). Some representative examples of optional infinitives in French, German, and Swedish are given in (11).

(11) a. voir    l'    auto papa.  
       see-Inf the car daddy  
       (Nathalie, 2;2, Pierce (1989))

<sup>3</sup>I examined the context in which Italian optional infinitives have been used. Although some instances may result from children's failure to produce a governing modal, as in (9), other instances replace a genuine finite verb.

- b. zähne putzen.  
teeth brush-Inf  
(S, 1;10, Weissenborn (1990))
- c. inte mamma hjälpa Embla.  
not mommy help-Inf Embla  
(Embla, 1;11-2;1, Platzack (1992))

To give an idea of the proportion of this phenomenon, I summarize in Table 4 the percentages of optional infinitives and of finite verbs in Swedish, German, and French. This summary is based on data available in various papers. For Swedish, the percentages have been calculated on the basis of Tables 2 and 3 reported in Platzack (1992). For German, I have used data from Weissenborn's (1990) Table 2 (see also Meisel (1990), Tables 1, 2, and 3).<sup>4</sup> Finally, for French, I rely on Pierce (1989) who based her analysis on the CHILDES transcripts.<sup>5</sup> The cross-linguistic evidence suggests that the phenomenon of optional infinitives represents a genuine product of early grammar. Because it coexists with a use of infinitives conforming to the adult grammar, it can be hardly taken as evidence against the view that children distinguish finite and infinitive verbs. Therefore, its source should be found in other factors underlying the children linguistic capacity. Although a detailed analysis of this phenomenon is beyond the scope of this article, I would like to offer some general observations and propose some lines of research for further investigation.

Wexler (in press) offered an explanation of the production of optional infinitives in early language that is based on the idea that the child has not mastered yet the syntax of tense.<sup>6</sup> In other words, early finite verbs and infinitives are tenseless. An alternative has been suggested by Rizzi (1992), according to which the phenomenon of optional infinitives may be regarded as a manifestation of a more general phenomenon; that is, the fact that children around 2 to 3 years old feel free to omit some functional elements (prepositions, as in (3), determiners, etc.).

<sup>4</sup>Information about infinitives in subordinate contexts was not provided. However, in Weissenborn's (1990) article some examples are present.

<sup>5</sup>Pierce's (1989) percentages are probably inflated because the most common infinitives are homophonous with past participles (see also Crisma (1992)).

<sup>6</sup>Wexler (in press) suggested that children initially lack tense. More precisely, he proposes that the use of finite and nonfinite forms is allowed because the derivation of the two forms is equally costly. He assumes that for the child the output of raising V(erb) to I(nfl) is a finite form and the output of lowering I to V is a nonfinite form. Both operations involve a one step derivation (i.e., they are equally costly and therefore finite and nonfinite forms are optional). When tense comes in, finite V + I must raise at Logical Form in order to allow tense interpretation. At this point, the operations of raising and lowering are not equally costly, and consequently the optionality disappears.

TABLE 4  
Percentages of Finite and Infinitival Verbs Across Languages

Language	Author	MLU	Age	V <sub>f</sub>	I
Sw Freja	Platzack	1.19	1;8-1;10	88	12
Sw Freja		1.55	1;11-2;0	60	40
Sw Freja		1.63	2;1-2;3	75	25
Sw Embla		1.52	1;8-1;10	35	64
Sw Embla		1.98	1;11-2;1	66	34
Ge S	Weissenborn		1;10	39	61
			1;11	26	73
			2;1	46	53
			2;2	60	40
Fr Philippe	Pierce 1989	3.04-3.34	2;4	83	17
Fr Philippe			2;1-2;2	73	26
Fr Philippe			2;3-2;6	86	13

I would like to tentatively suggest a hypothesis that brings together Wexler's idea that the early tense system is somewhat deficient and Rizzi's view that optional infinitives should be analyzed in the more general context of the tendency to omit functional elements. The hypothesis that I propose is based on the semantic role of functional categories.

Determiners, a type of functional element, are involved in the interpretation of Noun Phrases (e.g., as generic or referential, see Vergnaud and Zubizarreta (1992), among others). Similarly, tense morphemes determine the tense interpretation of a sentence (Stowell (1993)). On the basis of these observations, I would like to interpret the free omission of determiners as a consequence of the fact that children have not (completely) mastered the referential properties of the determiner system, although they may know that the corresponding syntactic category exists. By analogy, one may conjecture that tense morphemes or tense operators are involved in the interpretation of sentences and that children at the age in question have not (completely) mastered the 'referential' properties of the tense system. This hypothesis predicts that children, at the age in question, should not be sensitive to the distinction between generic and nongeneric tense or to the one between generic and referential NPs. Possibly, they just have the nongeneric or referential interpretation, as Hyams (in press) suggested in a footnote. Whether or not this is correct remains to be determined. On this view, optional infinitives arise as a consequence of the fact that children may disregard the various referential properties of the tense system, thus giving support to Wexler's idea that, for children, finite and nonfinite sentences have the same tense value. At the same time, the phenomenon of optional infinitives is traced back to

some more primitive property underlying the role of functional elements in languages.<sup>7</sup>

In summary, the distributional analysis of Italian data strongly supports the claim that Italian children distinguish between finite and nonfinite verbs.<sup>8</sup> If this were not the case, finite verbs should be found more

<sup>7</sup>I should point out that the percentages of optional infinitives are lower in Italian than in the other languages, especially for Diana. Martina (data from Cipriani et al. (1993)) has 22% (2 instances) of optional infinitives at 1;9 (MLU 1.7) and 16% (17 instances) at 1;11 (MLU 2.1). In addition, the period during which optional infinitives are used in early Italian seems to be shorter than in other languages. After 1;11, Martina basically does not use optional infinitives anymore. The Italian data reported in Schaeffer (1990) and collected by Tironola seem to confirm the same observations. The low frequency of optional infinitives in early Italian may just be an accident or, more likely, may depend on the nature of the agreement system. Possibly it depends on the fact that a verb (either finite or infinitive) always raises to I, as shown in Belletti (1990) (see also section 6). However, I suspect that a more accurate view may be gained by taking into account another phenomenon of early grammar; namely the production of past participles lacking the auxiliary (see also Meisel (1990)). A preliminary count shows that at the age of 1;11 Martina produces 6% optional past participles and that at 1;10 Diana has 9% optional past participles (the percentages have been calculated on the total number of verbs). It goes without saying that at the same time, the two children produced past participles preceded by auxiliaries as well. Now if one puts together optional past participles and optional infinitives, it turns out that Martina at 1;11 has 21% of optional structures, a percentage more or less similar to that of non-Italian speaking children (see Table 4). As noted in footnote 5, the percentage of French optional infinitives may be inflated precisely because infinitives and past participles are homophones in the first conjugation.

<sup>8</sup>Piero Bottari has pointed out to me that the distributional facts are compatible with the hypothesis that children misanalyze infinitives and take them to be NPs initially. This is because, among the verbs found in children's production some take not only infinitives, but also NPs (e.g., *volere* 'to want'). Although this hypothesis cannot be discarded, especially in view of the fact that infinitives may have nominal properties in Italian (see Bottari (1991) and Zucchi (1989)), it faces some problems. First, children also use verbs that rarely take NPs (e.g., *dovere* 'must', *potere* 'can', and aspectual verbs).

- (i) *deo (c)ompare li saccicce.*  
must-1Sg buy-Inf the sausages  
'(I) must buy the sausages.'  
(Martina, 2;3)
- (ii) *posso entrare?*  
may-1Sg come-Inf in?  
'may (I) come in?'  
(Diana, 2;1)
- (iii) *che ci devi fare?*  
what with that shall-2Sg make-Inf  
'what should (you) make with that?'  
(Guglielmo, 2;3)

Secondly, as seen in the text, there are minimal pairs of finite and infinitive verbs. It is unclear why children should initially analyze each member of the pair as categorially different and only later realize that they are members of the same category.

frequently after a verb selecting an infinitive or after a preposition, contrary to facts. Based on this, I have argued that the use of infinitives as main verbs (or optional infinitives) does not represent evidence against my claim. Optional infinitives are found in other early languages for which it has also been established that children distinguish between finite and infinitive verbs. Elaborating on Wexler's and Rizzi's views, I have suggested that the phenomenon of optional infinitives is a manifestation of a more general phenomenon, namely children's occasional failure to produce functional categories. The cause of this optionality is the lack of mastery of the referential system associated with functional categories, such as tense and determiners.

#### 4. CLITIC PLACEMENT WITH FINITE AND NONFINITE VERBS

It is a well-known fact that, in Italian, clitics surface in different positions according to the nature of the verb. Clitics are placed to the left of finite verbs but to the right of infinitives, as displayed in the schema in (12) and exemplified in (13).

- (12) a.  $cl + V_{finite}$   
b.  $V_{nonfinite} + cl$   
c.\*  $cl + V_{nonfinite}$
- (13) a. *Gianni lo mangia.*  
*Gianni it eat-3Sg*  
'Gianni eats it.'
- b. *Maria ha promesso di mangiarlo.*  
*Maria has promised of eat-Inf-it*
- c.\* *Maria ha promesso di lo mangiare.*  
*Maria has promised of it eat-Inf*  
'Maria promised to eat it.'

In (13b,c), we have an infinitive governed by the preposition *di* 'of', and the only legitimate placement for the clitic is after the infinitive. In other contexts, precisely when the infinitive is governed by modal, causative, and aspectual verbs, there are two possible placements for the clitic. It can either appear after the infinitive as in (14b), or it can appear before the matrix (finite) verb, undergoing a process that has been referred to as clitic climbing, as in (14a).

- (14) a. Gianni la vuole scrivere.  
Gianni it wants write-Inf  
b. Gianni vuole scriverla.  
Gianni wants write-Inf-it  
'Gianni wants to write it.'

Therefore, clitic placement, in Italian, is a reliable cue to determine whether Italian children distinguish between finite and nonfinite verbs. If they do (as claimed in the previous section) one expects that children should place clitics correctly, that is, before a finite verb but after an infinitive one (see Rizzi class lectures, 1991/1992). To the extent that children use clitics, these expectations are fulfilled: Clitics appear in the correct position, and no misplacement is evident (see also Hyams (1986)). Antelmi (1992), based on her study of Camilla's production, acknowledges the same fact. Examples of the distribution of clitics are reported in (15).

- (15) a. *lo* nascondi su  
it hide-2Sg up  
'(you) hide it up.'  
(Martina, 1;8)  
b. *quetto, me l' apri?*  
this, to + me it open-2Sg  
'this, do (you) open it for me?'  
(Martina, 2;1)  
c. *la urilla. [bisogna pulirla]*  
need-3Sg clean-Inf-it  
'(we) need to clean it.'  
(Martina, 2;1)  
d. *l' ha fatta la pipi.*  
it has done the piddle  
'(he) has piddled.'  
(Diana, 1;10)  
e. *mi son fatta male.*  
to + me am made bad  
'(I) hurt myself.'  
(Diana, 2;5)  
f. *non poi fammi quetto!*  
Neg can-2Sg do-Inf-to + me that  
'(you) cannot do that to me!'  
(Diana, 2;5)  
g. *mi vieni - prendere?*  
me come-2Sg - pick-Inf up  
'do (you) come (to) pick me up?'  
(Guglielmo, 2;3)

- h. *devo caricarlo.*  
must-1Sg load-Inf-it  
'(I) must load it.'  
(Guglielmo, 2;7)  
i. *lo devi mettere qua sopra.*  
it must-2Sg put-Inf here up  
'(you) must put it up here.'  
(Guglielmo, 2;7)

It should be noted that the phenomenon of cliticization by itself does not provide very strong evidence for the claim that Italian children distinguish between finite and nonfinite verbs. This is because in early stages of language acquisition, the number of clitics used by children is low, both with infinitive as well as with finite verbs, whereas the number of omissions is high (see also Antelmi (1992) and Cipriani et al. (1993)). But if one puts these facts that require a separate explanation aside, the data confirm the claims made previously.

Tables 5, 6, and 7 summarize the number and the percentage of clitics with finite verbs in the three children's samples. In the first column ( $\emptyset + V_f$ ), the number of omissions in finite contexts are reported. These include cases where a clitic or the corresponding complement is obligatory, and not merely possible, in the adult language. Therefore, Martina's answer to her mother in (16b) is judged ungrammatical by Italian speakers, because the clitic *ci* is missing. The correct answer is reported in (16c).

TABLE 5  
Distribution of Omissions, of Clitics, of Cliticizable Complements and of  
Presyntactic Devices (Martina)

Age	$\emptyset + V_f$		<i>cl + V_f</i>		<i>V_f + C</i>		PDS	
	N	%	N	%	N	%	N	%
1;8*	3	27	8	73				
1;9			2	66	1	33		
1;10	5	38	4	31	3	23	1	7
1;11*	14	39	2	5	18	50	2	5
2;1	3	21	5	36	6	43		
2;3*	8	13	17	28	30	50	5	8
2;4	6	11	18	32	30	53	2	3
2;5	1	3	11	37	18	60		
2;7	2	4	25	57	16	36	1	2

Note.  $\emptyset + V_f$  = omitted clitic(s) + finite verb; *cl + V\_f* = clitic(s) + finite verb; *V\_f + C* = finite verb + cliticizable complement(s); PDS = presyntactic devices.

\*Two sections grouped together.



TABLE 6

Distribution of Omissions, of Clitics, of Cliticizable Complements and of Presyntactic Devices (Diana)

Age	$\emptyset + V_f$		$cl + V_f$		$V_f + C$		PSD	
	N	%	N	%	N	%	N	%
1;10	1	7	4	27	6	40	4	27
1;11	2	33	1	17	2	33	1	17
2;0 <sup>a</sup>	3	14	3	14	16	73		
2;1	4	15	13	50	9	35		
2;5	2	3	47	69	18	26	1	1
2;6 <sup>a</sup>	7	3	107	54	84	42	1	0

Note.  $\emptyset + V_f$  = omitted clitic(s) + finite verb;  $cl + V_f$  = clitic(s) + finite verb;  $V_f + C$  = finite verb + cliticizable complement(s); PSD = presyntactic devices.

<sup>a</sup>Two sections grouped together.

TABLE 7

Distribution of Omissions, of Clitics, of Cliticizable Complements and of Presyntactic Devices (Guglielmo)

Age	$\emptyset + V_f$		$cl + V_f$		$V_f + C$		PSD	
	N	%	N	%	N	%	N	%
2;2	2	20	7	70	1	10		
2;3	1	12	3	37	3	37	1	12
2;4	1	5	14	67	6	28		
2;5			10	77	3	23		
2;7	4	6	42	59	23	32	2	3

Note.  $\emptyset + V_f$  = omitted clitic(s) + finite verb;  $cl + V_f$  = clitic(s) + finite verb;  $V_f + C$  = finite verb + cliticizable complement(s); PDS = presyntactic devices.

## (16) a. Mother's question

qui vicino a Marco che ci metti?  
 here next to Marco what there put-2Sg  
 'here next to Marco, what do you put there?'

## b. Martina's answer

— metto — bimba.  
 — put-1Sg — child

c. *ci* metto la bimba.

there put-1Sg the child  
 '(I) put the child there.'

In the second column of these tables, we find the number of clitics followed by finite verbs ( $cl + V_f$ ) (simple verbs or auxiliaries followed by past participles in the so called *passato prossimo* (present perfect)). The third column contains the number of finite verbs followed by cliticizable com-

plements ( $V_f + C$ ). These include direct and indirect objects, as well as prepositional objects for which a corresponding clitic exists. For example in (17) the clitic *ci* 'there' corresponds to the prepositional complement *a Pisa*, which is put between parentheses.

- (17) Anch'io *ci* vado (a Pisa).  
 Too I there go-1Sg (to Pisa)  
 'I go there too (to Pisa).'

The fourth column reports the number of presyntactic devices followed by a finite verb (i.e., the number of undifferentiated phonetic segments that are likely to be the precursors of certain syntactic entities, clitic pronouns among others). They indicate the position where certain elements will have to be inserted later (see Cipriani, et al. (1993) and references cited there). For the purpose of this work, I disregard errors in the choice of the clitics (use of a masculine clitic instead of a feminine one or choice of the incorrect morphophonemic variant). Finally, clitics, for which a corresponding complement does not exist, are not counted in these tables. Among these are impersonal *si*, as in (47), inherent *si*, as in (18), the clitic *ci* in sentences as in (19), which is not used in standard Italian. Where the clitics are difficult to translate into English, I use the symbol "CL" in the glosses.

- (18) *si* chiama Gianni.  
 SI call 3-Sg Gianni  
 'His name is Gianni.'

- (19) *c'* ho un libro.  
 CL have-1Sg a book  
 '(I) have a book.'

The percentages of omissions and of presyntactic devices decrease with age, whereas the percentage of clitics increase. Although Martina uses clitics already at 1;8 (73%), it is unclear what the status of clitics is at this age, given the notable decrease in clitics at 1;11 (5%). Similarly, Diana's use of clitics seems to stabilize around 2;1. Guglielmo, for whom data before 2;2 were not available, seems to use clitics constantly and has less omissions than the other two children.

Clitics appear in the context of an infinitive only around 2;1. This is not surprising given that with finite verbs the use of clitics also gets more stable at roughly the same age, as already mentioned. Clitics in infinitive contexts seem to be rarer than in finite contexts. However, one may also note that the number of infinitive contexts is lower than the number of finite contexts. Table 8 summarizes the distribution of clitics and cliticizable complements in infinitive contexts. For Martina and Diana, I have grouped the data into two periods: before and after 2 years. For Guglielmo, all data

TABLE 8

Distribution of Cliticizable Complements and of Clitics in Infinitive Contexts

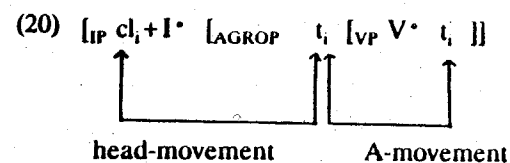
Age	Inf + Compl		Inf + cl		cl + V <sub>f</sub> + Inf	
	N	%	N	%	N	%
Martina						
1;8-2;0	10	100				
2;1-2;7	15	79	1			
Diana						
1;10-2;0	5	100				
2;1-2;6	19	59	2	6	11	34
Guglielmo						
2;2-2;7	7	32	5	23	10	45

Note. Inf + Compl = infinitive + cliticizable complement(s); Inf + cl = infinitive + clitic(s); cl + V<sub>f</sub> + Inf = clitic(s) + finite verb + infinitive.

are grouped together. In the first column of this table, the number of (governed and optional) infinitives plus cliticizable complements (Inf + Compl) are reported, in the second those of (governed and optional) infinitives followed by a clitic (Inf + cl) (see (14b)), and in the third we find instances of clitic climbing (cl + V<sub>f</sub> + Inf) (see (14a)).

As mentioned earlier, whenever clitics are used, they are placed correctly, in agreement with my claims, but their frequency of use is somewhat low and their use delayed. In addition, children feel free to omit clitics (see also Friedemann (1992)). Although these findings do not necessarily weaken my claims about the correct placement of clitics, they raise several questions. First, why are clitics delayed and then optionally omitted in early stages? Second, why do clitics in infinitive contexts seem slightly delayed with respect to clitics in finite contexts? Although it is beyond the scope of this article to provide a detailed answer to these questions, I nevertheless try to sketch the lines of a possible solution. Let me start with some assumptions about cliticization. Clitics are phonologically unstressed elements. According to Cardinaletti (1993), this phonological reduction reflects a syntactic reduction. She proposed that clitics realize functional projections; for example, Italian third person clitics, which are homophonous with determiners, realize the category D<sup>0</sup>. Other clitics realize other functional projections associated with a noun (e.g., the head of the number projection). Suppose that clitics are initially inserted as heads of a maximal projection in the position where we usually find the corresponding complement and that given their reduced status, they cannot stay in the base position, but have to undergo syntactic movement to a designated functional head (see Kayne (1991)). Clitic movement is a mixed and local movement: Initially the maximal projection undergoes A-movement to a specifier position, for concreteness to SpecAgrOP (Agreement with the

Object Phrase), and from there a head containing a clitic can undergo head-movement to the designated functional project, I<sup>0</sup>, as in (20).



These assumptions offer the key to understanding cliticization in child grammar. Following Antelmi (1992), I suggest that the delay in using clitics should be attributed to a difficulty in forming the A-chain (that constitutes the first step of clitic movement (see Borer & Wexler (1987; 1992))). Certainly, this kind of A-chain should be distinguished from the A-chain involved in passive sentences, because passives seem to be acquired later than cliticization. This is possible in Borer and Wexler's (1992) framework. They point out that the A-chain involved in passive sentences requires movement to a potential theta position. This is different from the case of cliticization, where the landing site of the A-movement is a nontheta position, SpecAgrOP, as seen in (20). It is reasonable, then, to conclude that over and above the A-chain, what causes problems for children is the nature of the position where the A-movement ends up: A-movement to a nontheta position (cliticization) matures earlier than A-movement to a theta position (passives).<sup>9</sup> This explanation predicts that once the first type of A-chain has matured, cliticization should be in place. But, then one may wonder why there is a period during which clitics are optional. Clitics should be used once the appropriate A-chain has matured, therefore their optional presence is unexpected. This situation can be explained by reconsidering the properties of cliticization. I stated earlier that clitics realize functional categories (i.e., the clitic in (20) associated with the functional head I<sup>0</sup> is a functional category, e.g., D<sup>0</sup>). Because children at early stages feel free to omit functional categories, such as determiners and

<sup>9</sup>A reviewer pointed out that if children do not initially have A-chains, one would expect to find clitics in the position where they are inserted (i.e., in the place of their corresponding complements), but this never happens. Children have knowledge of the phonological properties of words, especially the stressed versus unstressed distinction (Gleitman and Wanner (1982)). Thus, it is reasonable to think that (Italian) children are aware of the fact that clitics have a special phonological status (they are unstressed) and are categorially reduced. But, because these properties prevent clitics from staying in the position where the corresponding complement is found, it follows that children will never leave clitics in the base position, but will always move them. This account is supported by the distribution of Italian negation, which is also a clitic. It is not surprising that negation *non* never occurs in contexts where it is not allowed (e.g., before a noun or in answers).

prepositions, it is expected that clitics, which are also functional categories, may be optionally absent. As argued earlier, this optionality reflects children's incomplete mastery of the referential system associated with nouns and pronouns. Thus, the full acquisition of cliticization requires not only the maturation of the appropriate A-chain, but also the obligatoriness of functional categories because clitics are functional categories.<sup>10</sup>

The explanation just proposed, however, does not suffice to answer the second question about the delayed use of clitics: Why are clitics with infinitives (and more specifically, of clitics that have climbed to a position preceding the governing finite verb (as in (14a))) even more delayed than clitics with finite verbs? This additional delay is probably due to the iterative application of A-movement, as argued by Antelmi. With finite verbs, as in (20), A-movement is just a one-step movement, but with a complex structure such as that in (14a), A-movement must occur in two steps, as in (21). First, the clitic moves as an XP to the AgrOP associated with the infinitive verb, then it moves further, always as an XP to the AgrOP associated with the main finite verb, and from there it undergoes a final movement (as a Head) to I<sup>0</sup>.<sup>11,12</sup>

<sup>10</sup>Borer and Wexler (1992) argue that movement of VP-internal subjects to SpecIP is also an A-movement to a nontheta position. One may then expect that its acquisition patterns with that of cliticization and not with that of passives. To be more accurate, movement of the VP-internal subject should be already attested in the phase during which clitics are optionally present. This is because the optional presence of clitics indicates that the appropriate A-chain has matured, the optionality being due to independent reasons. Although the number of preverbal subjects is low (and that of null subjects very high), some occurrences are already found in the crucial phase, in accord with my prediction.

<sup>11</sup>Evidence that the clitic moves as an XP from an infinitival complement to the matrix clause is provided by the fact that a past participle main verb has to agree with the climbed clitic, as in (i).

- (i) Gianni li ha voluti scrivere t.  
Gianni them-Masc has want-Past-Part-Masc-Pl write-Inf  
'Gianni wanted to write them.'

Assuming that past participle agreement occurs in a Spec-Head configuration, the mandatory agreement in (i) is explained because at some point the XP headed by the clitic is in the SpecAgrOP position associated with the main verb *voluti* 'wanted', where it agrees with the past participle morphology present in the Agr<sup>0</sup>.

<sup>12</sup>As I pointed out in the beginning, in infinitive contexts the clitic can also surface after the infinitive verb (as in (14b)). In the corpora examined, this additional option seems to be used when the clitic climbing option is also used and not before. Because the placement of clitics after the infinitive involves probably just one-step A-movement, one may expect it to pattern with cliticization in finite contexts. But, this does not seem to be the case. I suspect that there may be independent reasons for this. The only context where the clitic is forced to appear after the infinitive verb is when the infinitive is not governed by a main verb. But the number of these contexts is rather low, as we have seen. Thus, it may be that there are too few occasions for the child to use the option in question. Alternatively, some additional factors may be responsible for the delay in the placement of clitics after the infinitive verb.

- (21) Gianni [<sub>IP</sub> la vuole [<sub>AgrOP</sub> t [<sub>VP</sub> [<sub>AgrOP</sub> t [<sub>VP</sub> scrivere t]]]]].  
Gianni it want-3Sg write-Inf

In closing, the delayed acquisition of cliticization and the optional use of clitics in early stages of acquisition have been traced back to the delayed maturation of A-chains and to the optionality of functional categories in early child grammar. The delay in the emergence of clitic climbing in infinitive contexts with respect to cliticization with simple finite verbs has been attributed to the difficulty associated with the complexity of the A-chain, as claimed by Antelmi. Returning to our main concern (i.e., the interactions between cliticization and the finite/nonfinite distinction), we can safely conclude that although for independent reasons the data concerning cliticization are not very robust by themselves, they are nevertheless compatible only with the hypothesis that Italian children are aware of the distinction between finite and nonfinite verbs. Otherwise, one would find systematic errors of clitic placement (i.e., sequences of *cl* +  $V_{inf}$  or  $V_{fin}$  - *cl*), but these are never found in the data base investigated.

## 5. THE AGREEMENT PARADIGM

So far, I have shown that Italian children make the distinction between finite and infinitive verbs. This result comports with the conclusions achieved in studies of other languages such as French and German (see Deprez and Pierce (1993), Pierce (1989), Poeppel and Wexler (1993), Meisel (1990), and Weissenborn (1990), among others). These studies have established that very young children are aware of the finite/nonfinite distinction, even if they do not necessarily have knowledge of the agreement paradigm. The Italian data prove that Italian children not only distinguish between finite and infinitive verbs, as shown earlier, but they also know the agreement system (see also Hyams (1983; 1986; in press)). More precisely, Italian children use the inflection for person very early, especially with the singular persons. With few exceptions, these inflections are correctly distributed among subjects (see Poeppel and Wexler (1993) for the same claim concerning German acquisition). Before presenting the analysis in more detail, it is worth noting that the Italian verbal paradigm distinguishes six person inflections. As is well known, pronominal subjects can be grammatically omitted. The verbal paradigm for a verb of the first conjugation, *parlare* 'to speak', is illustrated in Table 9.

For the analysis of the agreement system, I consider only finite verbs; infinitives used as main verbs (optional infinitives) are not considered. Notice, incidentally, that optional infinitives are few in Italian. Thus, even if they were included in this analysis, the results would not be significantly affected.

TABLE 9  
Present Tense of *parlare* ('to speak')

(io) parl-o	I speak
(tu) parl-i	you speak
(lei/lui) parl-a	she/he speaks
(noi) parl-iamo	we speak
(voi) parl-ate	you speak
(loro) parl-ano	they speak

Tables 10, 11, and 12 present the distribution of verb forms across persons. Some columns contain two subcolumns: Corr(ect) and Err(ors). Under the former, we find verbs inflected for person *x* used in the correct context (i.e., agreeing with their subject), whereas under the latter we find verbs inflected for the same person but used in incorrect contexts (i.e., whose subject is of person *y*). In the case of verbs with a null subject, the correctness of the agreement marker has been established by examining the context.

As one can easily see, children do not make systematic agreement errors. All singular person inflections emerge earlier than plural ones and are mostly used correctly. In Martina's speech, the first appearance of first, second, and third person singular inflection is at 1;8. As for Diana, the first appearance is at 1;10. Martina and Diana start to produce third person plural at 1;10 and at 2;0, respectively. The first person plural appears at 2;3 for Martina and at 2;1 for Diana. The second person plural was never attested in the period examined. From a comparative point of view, it is worth mentioning that these results confirm a developmental trend manifested by children acquiring other languages. The temporal sequence of emergence of the person inflections in Italian children coincides with the one exhibited by the bilingual German/French children studied by Meisel (1990) and by the German child studied by Poeppel and Wexler (1993),

TABLE 10  
Distribution of Person Inflections (Martina)

Age	1Sg	2Sg	3Sg		1Pl	3Pl
			Corr	Err		
1;8*	6	1	20			
1;9	3	2	1			
1;10	9	2	8	2		1
1;11*	25	7	51	2		2
2;1	7	3	11			1
2;3*	47	14	54	2	1	
2;4	27	9	42		5	10
2;5	12	3	26		1	5
2;7	21	10	29	2		2

Note. Corr = correct; Err = errors.

\*Two sections grouped together.

TABLE 11  
Distribution of Person Inflections (Diana)

Age	1Sg	2Sg	3Sg		1Pl	3Pl
			Corr	Err		
1;10	8	11	10	2		
1;11	2	4	6	2		
2;0*	21	7	37	1		4
2;1	5	7	36		1	1
2;5	48	22	57		5	1
2;6*	124	50	135	3	3	6

Note. Corr = correct; Err = errors.

\*Two sections grouped together.

TABLE 12  
Distribution of Person Inflections (Guglielmo)

Age	1Sg		2Sg		3Sg		1Pl	3Pl
	Corr	Err	Corr	Err	Corr	Err		
2;2					18		2	
2;3	5		3		7		1	2
2;4	14	1	3	1	9		1	2
2;5	6		1	1	14	1	2	2
2;7	47		12		43	2	7	1

Note. Corr = correct; Err = errors.

especially the delay in the use of plural inflections. This delay is not peculiar to verbal inflection, but a manifestation of the general phenomenon of late development of plurality reported in other studies (e.g., Valian (1990)). Therefore, the fact that children do not use plural inflection cannot be used as evidence that they lack knowledge of agreement, as pointed out in Hyams's (1992) reply to Pizzuto and Caselli (1992).

As noted earlier, there are very few errors. Some of these involve the third person plural inflection (see (24) through (26), (30), (32), (36), and (39)). Another type of error is with irregular verbs, which are in general more difficult to acquire (see (35)). Some errors involve use of a third person inflection with a first person subject (see (28) and (29)). This may be related to the fact that children refer to themselves by their own name (i.e., with a third person expression). Often, even adults refer to the child using the third person. For example, the sentences in (22) and (23) were produced by Martina's mother during a conversation with her child.

(22) La Martina ha battuto la testa.  
'Martina hit the head.'

(23) Cosa prende Martina?  
'What does Martina take?'

Over the whole period under consideration, the percentage of errors (i.e., verbs used in the incorrect context or with a subject requiring another inflection), is around 1% for Martina and Diana and 3% for Guglielmo. These results confirm the hypothesis that the use of verbal inflection is correct. In (24) through (42), the exhaustive list of errors produced by Martina is given, as well as some examples of errors made by the other two children (*M* stands for Martina, *A* for Adult, and *G* for Guglielmo).

Exhaustive list of errors in the use of verbal agreement.

Martina

- (24) A: cosa fanno i tati?  
 what do-3PL the children  
 'What are the children doing?'  
 M: mangia  
 eat-3Sg  
 '(they) eat.'  
 (1;10)
- (25) e@p mucchine mangia.  
 e@p cows eat-3Sg  
 (1;10)
- (26) A: i topolini cosa fanno?  
 the mouses what do-3PL  
 'as for the mouses, what are they doing?'  
 M: gioca.  
 play-3Sg  
 '(they) are playing.'  
 (1;11)
- (27) quetti lalli@f dommo.<sup>13</sup>  
 these children sleep-1Sg  
 'these children sleep.'  
 (1;11)
- (28) io poi gioca?  
 I then play-3Sg  
 'I then play?'  
 (2;3)

<sup>13</sup>The correct form is *dormono* 'they sleep'. The form *dommo* (adult: *dormo*) is first person singular. However, it could also be a shorthand of the correct adult form *dormono* with the ending *-no* deleted.

- (29) io non può andare lì.  
 I Neg can-3Sg go-Inf there  
 'I cannot go there.'  
 (2;3)
- (30) (le noci) non mi piace.<sup>14</sup>  
 (the walnuts) Neg to + me like-3Sg  
 '(I) don't like (the walnuts).'  
 (2;7)
- (31) me lo prende?  
 to + me it get-3Sg  
 'can (you) get it for me?'  
 (2;7)
- Diana
- (32) I bambini e@p gioca.  
 the children e@p play-3Sg  
 'the children are playing.'  
 (1;11)
- (33) — mette io  
 — put-3Sg I  
 'I put (it).'  
 (2;0)
- (34) no, senno io mangia  
 no, otherwise I eat-3Sg  
 'no, otherwise I eat.'  
 (2;6)
- (35) no, senno io va qui.  
 no, otherwise I go-3Sg here  
 'no, otherwise I go here.'  
 (2;6)
- (36) è caccato i giocattoli.  
 is fallen the toys  
 'The toys fell.'  
 (2;6)

<sup>14</sup>The context requires a third person plural verb (i.e., the form *piacciono*).

## Guglielmo

(37) A: cosa fanno questi bambini?  
 what do-3Pl these children  
 'what are these children doing?'

G: si bagno - piedi  
 SI get-1Sg wet - feet  
 '(they) get (their) feet wet'  
 (2;4)

(38) A: cosa fa questo?  
 what do-3Sg this  
 'what is this doing?'

G: cade.  
 fall-2Sg  
 '(it) falls.'  
 (2;4)

(39) cosa fa questi gattini?  
 what do-3Sg these kittens  
 'What are these kittens doing?'

(2;5)

(40) io l' apri.  
 I it open-2Sg  
 'I open it.'  
 (2;5)

(41) A: guarda là come ti conci!  
 look there how you get-2Sg soiled  
 'look there how you are getting soiled!'

G: mi concia.  
 CL get-3Sg soiled  
 '(I) am getting soiled.'  
 (2;7)

(42) non deve spezzarlo.<sup>15</sup>  
 Neg must-3Sg break-Inf-it  
 'you must not break it.'  
 (2;7)

<sup>15</sup>The child wants the father not to break anything. Thus, a second person, instead of a third person, should have been used.

As pointed out by a reviewer, many errors (four out of eight in Martina's production) involve lack of agreement for number (i.e., she uses a third person singular verb with a third person plural subject). The same kind of error has been found in the acquisition of German by Poeppel and Wexler (1993).

These data show that children know the agreement paradigm, although it may not be fully available to them. To the extent that person inflections are used, they are used accurately and the number of errors is very small. In light of this, the fact that plural inflections are less frequent or absent (this is true only of second person plural) can hardly be taken as evidence that children are not aware of the agreement paradigm or that the agreement morphology is randomly distributed among subjects. If this were the case, one would find more random errors. Whenever plural verbal inflections are used, they are used correctly most of the time, as with singular inflections, which are more widely attested in the corpora investigated. These considerations lead to the conclusion that Italian children know the grammatical notion of subject-verb agreement (see Meisel (1990)). Additional support for this claim comes from the fact that children do indeed use verbs with phonologically overt subjects which agree with the verbs (see Hyams (1986; in press) and Schaeffer (1990)). In Martina's speech, some agreeing subjects (preverbal and postverbal) are found from the age of 1;8, in Diana's production from the age of 1;10, and in Guglielmo's production from the age of 2;2 (data before this age were not available).<sup>16</sup>

<sup>16</sup>Antelmi (1992) found that agreement with a postverbal subject is delayed in Camilla's production and, for 2 to 3 months, systematic errors are found when the subject follows the verb, an order that in the adult dialect (Fiorentino) requires verb-subject agreement. However, no quantitative data are provided. In the corpus I examined, there does not seem to be a delay in the production of the correct agreement with a postverbal subject. The only child who sometimes failed to agree the verb with a postverbal subject is Diana. She produced eight verbal agreement errors; three with a preverbal subject, four with a postverbal subject, and one with a null subject (this was established by looking at the context). Although both Martina and Guglielmo used postverbal subjects, they did not produce any mistakes (the errors found were with either a preverbal or a null subject). During the whole period examined, Martina produced 53 postverbal and 98 preverbal subjects. Guglielmo used 22 preverbal and 9 postverbal subjects. Notice incidentally that in certain varieties of central Italian a third person plural postverbal subject does not necessarily have to agree with the verb. That is, in these varieties sentences like (i) are fine. However, when the postverbal subject is first or second person, agreement with the subject is obligatory, as shown by the contrast between (ii) and (iii). (Thanks to Anna Cardinaletti for providing me with the relevant examples from her dialect, spoken around Ancona.)

(i) Ieri ha telefonato degli studenti.  
 Yesterday has phoned some students.  
 'Some students phoned yesterday.'

- (43) a. io volo quello.  
I want-1Sg that  
(Martina, 1;8)
- b. l' apo io.  
it open-2Sg I  
'I open it.'  
(Diana, 1;10)
- c. la palla, vole a@p bimbo.  
the ball, want-3Sg a@p child  
'the ball, the child wants.'  
(Guglielmo, 2;2)

In addition, the diversity of forms found in the data base further supports the view that the children are aware of the notion of verbal inflection and that verbal forms are not forms learned by rote. At 1;8 (two sessions), Martina uses 5 different verbs inflected for first person singular and 13 for third person singular. At 1;9, the verb (*vedere* 'to see') is used with two different inflections (second and third singular inflections) and at 1;11, the verb *mettere* 'to put' is employed with the three singular person inflections and *fare* 'to make' with third singular and third plural person inflections. Some examples are given in (44) to (46).

- (44) a. pange.  
'(he) cries.'
- b. fa la nanna.  
make-3Sg the bye-bye  
'(he) takes a nap.'
- c. brucia.  
'(it) burns.'
- d. io volo quello.  
'I want that.'

(ii) \*Ieri ha telefonato noi.  
Yesterday has phoned we  
'We phoned yesterday.'

(iii) Ieri abbiamo telefonato noi.  
Yesterday have-1Pl phoned we  
'We phoned yesterday.'

One of Diana's errors was of the type in (i) and three were of the type in (ii). Given that her dialect of Italian (spoken around Pisa) is likely to have postverbal non-agreeing subjects, (pointed out to me by Piero Bottari), there remain just three real errors. Certainly, these facts, far from being conclusive, indicate that a more extensive investigation is in order.

- e. metto questo.  
'(I) put this.'
- f. cade — bimbo.  
fall-3Sg — child  
'(the) child is falling.'  
(Martina, 1;8)
- (45) a. si vede — bimba.  
SI see-3Sg — girl  
'one can see (the) girl.'
- b. vedi — cata?  
see-2Sg — paper  
'do (you) see (the) paper?'  
(Martina, 1;9)
- (46) a. e@p mmetto a@p sseggiolone.  
'(I) put (myself) (on the) high-chair.'
- b. — metti te?  
— put-2Sg you?  
'do (you) put (it)?'
- c. si i@p mette . . .  
SI i@p puts . . .  
'one puts.'
- d. fa pum@o.  
'(it) makes poom.'
- e. fanno nanna.  
'(they) take a nap.'  
(Martina, 1;11)

At 1;10, Diana uses five different verbs inflected for third person singular, three verbs inflected for first person singular, and two inflected for second person singular. At 1;11, the verb *mettere* 'to put' is used with the three singular person inflections and at 2;0, the verb *andare* is employed with third person singular and third person plural inflections.<sup>17</sup>

These observations, combined with the finding that agreement inflections are usually used correctly, support the claim that the grammatical notion of

<sup>17</sup>An examination of the input to which the child is exposed provides some insights into the creative use of language. I have analyzed one sample of conversation between Martina and her mother (Martina's age: 1;10). First, Martina uses verbs spontaneously, that is, not modeled on verbs present in the immediately preceding discourse, although the same verb, but not necessarily the same form, was used during the conversation. Second, Martina shows a clear comprehension of the different person morphemes. This can be seen in that she basically answers her mother's questions correctly.

subject-verb agreement and the ability to make a morphological analysis of verbal forms are in place at around the age of 1;11 to 2;1.

This hypothesis is also confirmed by the production of impersonal sentences. These are formed with the clitic *si* and a third person singular verb, but they may refer to a first person plural, at least in some cases. This form is very popular in the variety of Italian spoken in Tuscany (thanks to Donella Antelmi for this observation). One of the children, Diana, uses these constructions quite early (2;0). When this happens, the correct agreement (i.e., third person singular) is used, as expected. Given that these sentences may refer to the first person plural, one might expect to find agreement errors, if agreement was made on a semantic basis or if the notion was absent from the child's grammar. But this is not the case. The distribution of impersonal sentences as a function of age is reported in Table 13. Some examples are given in (47).

- (47) a. *si a@p stira.*  
 SI a@p iron-3Sg  
 'one irons.'  
 (Diana, 2;0)
- b. *si va al mare.*  
 SI go-3Sg to + the sea  
 'we are going to the sea.'  
 (Diana, 2;0)
- c. *si sciacqua i piatti.*  
 SI rinse-3Sg out the dishes  
 'we rinse the plates.'  
 (Diana, 2;1)
- d. *si prende questo.*  
 SI take-3Sg this  
 'we take this.'  
 (Diana, 2;5)
- e. *ndo@d si mette i piatti?*  
 where SI put-3Sg the dishes  
 'where does one put the dishes?'  
 (Diana, 2;6)

In summary, I have established that from an early age Italian children are aware of the agreement system. This claim has been supported by a quantitative analysis of the use of verbal inflections, by the study of impersonal sentences, and by a qualitative examination of the variety of verbal forms used. In the next section, I examine these conclusions and discuss their theoretical implications.

TABLE 13  
 Distribution of Impersonal Sentences (Diana)

Age	Impersonal Sentences
2;0*	18
2;1	10
2;5	8
2;6*	17

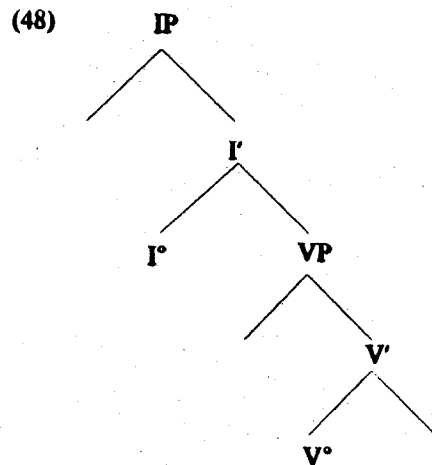
\*Two sections grouped together.

## 6. STRUCTURE OF EARLY ITALIAN SENTENCES

In the preceding section, I reached two conclusions: first, that children are able to make a morphological analysis of verbal forms into stem + affixes; and second, that agreement is a grammatical notion present in the early grammar. Current hypotheses hold that the association of verbs with their morphology takes place in the syntax (see Baker (1988), Belletti (1990), and Pollock (1989), among others). The result that children are able to morphologically analyze verbal forms, combined with the assumptions that the child's grammar is constrained by Universal Grammar (UG) (Borer and Wexler (1992), Klein (1982), and White (1982), among others), and that it differs minimally from the adult grammar, lead one to conclude that the child's grammar should contain at least those functional categories which are needed to accommodate verbal morphology, as suggested by Luigi Rizzi (class lectures, 1991/1992). Thus, we must assume that a functional category containing the verbal inflection is present in child grammar. This conclusion is further supported by the fact that agreement is a grammatical notion. This means that in child grammar, as in adult grammar, agreement is expressed in a structural configuration between a Specifier and a functional Head endowed with the relevant features (i.e., agreement features). We can interpret the findings from impersonal sentences in a similar way. Cinque (1988) claimed that the impersonal clitic *si* is in I<sup>0</sup>. It is coindexed with a non-overt subject, *pro*, located in SpecIP and, by transitivity, with the Agr(eement) features located in the head of IP. Because impersonal sentences are correctly used, the minimal hypothesis is that they are structured in the child grammar as in the adult grammar (i.e., they are IPs). Altogether, the findings thus far converge toward the hypothesis that the child's clausal structure includes not just a lexical projection (the VP) but also a functional projection (the IP), whose head contains agreement and possibly tense features and whose specifier hosts the (lexical or null) structural subject of the sentence, as in (48). I should point out that this represents a strong disconfirmation of the hypothesis



that early clauses are small clauses (i.e., pure instantiations of a lexical projection, VPs), because it shows that children are aware of inflectional distinctions and their rule-governed status. Unless one is disposed to assume that inflectional distinctions or impersonal sentences have a status in child grammar different from their status in the adult one (an assumption that raises a sharp D-learning problem), one cannot easily interpret the Italian data in the framework of the small clause hypothesis. But if one acknowledges that early Italian clause structure is not a small clause, it becomes troublesome to maintain that in some early languages a clause has the structure of a small clause, because the theoretical reason for positing a distinction between Italian- and non-Italian-speaking children would be hard to find.



Having established that the early Italian clause includes a functional projection, as in (48), let me consider the relation between the functional and the lexical projection. The verb root is generated in  $V^0$  and the inflectional morphemes in  $I^0$ . It has been shown that, for adult Italian, the verb and its morphology are combined through V-movement. If the child's grammar does not deviate in a substantial way from the adult grammar, as I am assuming, it is likely that V-movement is operative in early Italian, as well. In other words, I assume that head-movement of the verb from V to I (to pick up the inflectional morphemes) is in place early (as argued by Hyams (in press), Poeppel and Wexler (1993), and Weissenborn (1990), among others). I now show that the hypothesis that V-movement is in place early is empirically adequate.

Belletti (1990) and Pollock (1989) have shown that the occurrence of V-movement has an overt correlate in the relative ordering of negation (and adverbs) and the verb. On the assumption that negative adverbs such as *più*,

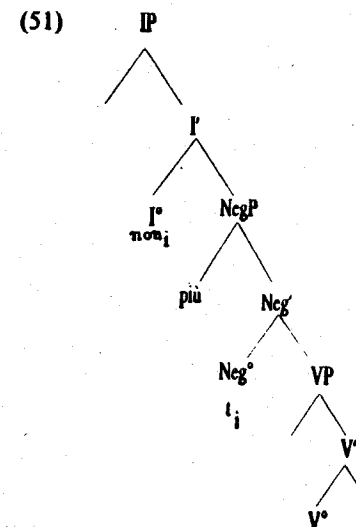
*mai*, and *mica* occupy a position in between VP and IP, the word order contrast in (49) and (50) is direct evidence that the verb has moved from V past the negative adverbs to I.

(49) Gianni non ama *più/mica* Maria.  
Gianni Neg likes anymore/not Maria

(50)\* Gianni non *più/mica* ama Maria.  
Gianni Neg anymore/not likes Maria

For concreteness, I assume: that negation, *non*, heads a maximal projection, NegP, located between IP and VP as shown in (51); that the specifier of NegP is optionally filled by negative adverbs such as *più*, *mai*, and *mica*; and that *non*, as a clitic, must move and cliticize onto  $I^0$ , thus appearing, at surface structure, left-adjacent to the verb, except when there are pronominal clitics. (In this case the order is *non clitics V* (see Belletti (1990), cf. Zanuttini (1991) for a different view on the location of negation).)

Suppose that Italian children know the position of negative elements from the earliest stages, possibly because their distribution is determined by UG, as implicitly assumed in works on V-movement. On this hypothesis, one expects that if V-movement is in place in early Italian, as I assume, the order *non Verb (più/mai/mica)* should be found in children's production. Before examining the data, a word of caution is in order. The postverbal negative adverbs are optional in Italian. Thus, it is very likely that most instances of negated sentences will be just *non Verb*, as in adult Italian. This fact, however, cannot by itself be interpreted as evidence that V-movement is not available in the early grammar. The sole, unequivocal evidence for failure of V-movement is the order *non più/mai/mica Verb*.



Note that, unlike other authors, I am not using the distribution of negative adverbs to prove that functional categories are in place. This has already been established on the basis of other structural properties of the Italian grammar. Even if one does not find a sentence with a postverbal negative adverb, my claim about clausal structure would not be weakened, because the distribution of negative adverbs simply tells us something about the occurrence or non-occurrence of V-movement in early Italian grammar.

With this in mind, let us examine children's data. As expected, children, like adults, produce the word order *non V*. Although less frequently, they also produce sentences containing negative postverbal adverbs (namely *non V più*), sometimes omitting the preverbal negation *non*, as in (52a). During the whole period examined, I found that the percentage of the negative sentences with a postverbal negative adverb are 15%, 5%, and 10% for Martina, Diana, and Guglielmo, respectively. Although these percentages are not very high, they become particularly significant when combined with the observation that the order *più/mai/mica Verb*, which would arise from the non-occurrence of V-movement, is never found. These results are compatible only with the hypothesis that V-movement is in place in early grammar. If this were not the case, the order *più/mai/mica Verb* should occasionally appear.<sup>18</sup> Some examples of negative sentences are given in (52).

- (52) a. — (v)ioio più.  
 — want-1Sg anymore  
 '(I) do (not) want anymore.'  
 (Martina, 1;11)

<sup>18</sup>The hypothesis that V-movement is in place is also compatible with the assumption that the negative adverbs *più/mai/mica* are located in a position lower than SpecNegP. For example, they could be adjoined to VP (see Belletti (1990) for a discussion of this possibility). If this is the case, V-movement still produce the order *V negative adverbs* and not the reverse order. Alternatively, one could argue that negative adverbs are not to the left of VP (either in SpecNegP or adjoined to VP), but to the right. A potential location is right-adjunction to VP. This assumption, however, does not appear very plausible. First, if right-adjunction were an option in the adult language, one would expect sentences such as (i) to be grammatical, contrary to facts. Thus, it seems more reasonable to say that in the adult language, negative adverbs occupy a position to the left of VP.

- (i) \*Gianni non legge i giornali più/mai/mica.  
 Gianni Neg reads the newspapers anymore/not/never.

One might still claim that right-adjunction of negative adverbs is only an option in child grammar. Besides the fact that sentences such as (i) are not attested in the speech of children either, the right-adjunction hypothesis raises a learnability problem. If the child assumes that negative adverbs are right-adjoined, how could she or he switch to a grammar where negative adverbs are attached to the left of the VP? In face of these problems, it appears that the hypothesis assumed in the text is more adequate.

- b. ora no piange più.  
 now Neg cry-3Sg anymore  
 'now (she) does not cry anymore.'  
 (Martina, 2;3)
- c. non ci enta più.  
 Neg there enter-3Sg anymore  
 '(it) cannot enter there anymore.'  
 (Diana, 2;5)
- d. non me lo ricordo più.  
 Neg me it remember-1Sg anymore  
 '(I) don't remember it anymore.'  
 (Guglielmo, 2;7)

In summary, the study of the agreement system in Italian children's production has led me to the hypothesis that the functional category IP is present in the early Italian grammar, thus supporting the view that early clauses are not small clauses, but full clauses, like adult ones. In addition, I argued that the mechanism of movement of the Verb to Inflection is in place from the earliest stages. This claim was motivated on the basis of the theoretical assumption that child and adult grammars do not substantially differ and has been empirically supported by the placement of negative adverbs.

A last problem remains to be considered. To this point, I have shown that Italian children distinguish between finite and infinitive verbs and that the structure of a finite clause involves an IP. But what about the structure of an infinitive clause? The answer to this question is extremely difficult. Infinitives do not show overt agreement, thus we cannot easily conclude that infinitive clauses are IPs. Some indirect cues concerning the structure of infinitive clauses come from studies of V-movement. Belletti argued that in adult Italian infinitives, as well as finite verbs, are raised to I (or to AgrSP, Agreement with the Subject Phrase). Therefore, the order *Neg verb più* is invariably found, regardless of the nature of the verb. If the child assumes that V-movement applies, not only to finite verbs (as I have argued), but also to infinitives, the order *Neg Infinitive più* would also be found. This would represent indirect evidence that children's infinitive clauses are IPs, just like finite clauses. Alternatively, if the child assumes that V-movement does not apply to infinitives, the order *Neg più Infinitive* would be present. On this basis, the child could conclude that infinitive clauses are IPs, but that V-movement does not apply to the infinitive verb. Unfortunately, the data at my disposal can neither confirm nor reject either of these hypotheses, because there are no infinitives with negation in the corpora investigated. This may result from several factors. First of all, the limited number of optional infinitives, the single context in which this order

is likely to be found. Second, negation in embedded infinitive complements of the type found in children's language is hardly present even in adult language. As a matter of fact, an adult would rather use (53a) than (53b).

- (53) a. Gianni non vuole (più/mica) fare ciò.  
Gianni Neg wants (anymore/not) do that  
'Gianni does not want to do that.'  
b. Gianni vuole non fare (più/mica) ciò.  
Gianni wants Neg do (anymore/not) that.  
'Gianni wants not to do that.'

In the absence of the relevant data, I think that it is safe to assume that children's infinitive clauses are IPs and that the infinitive verb raises from V to I, as in adult grammar. In contrast to the other hypothesis, according to which infinitives do not initially move, this proposal has the advantage of avoiding a D-learning problem: If the child supposes that infinitives initially do not undergo V-movement, how could she or he recover from this incorrect conjecture?

At this point, one may wonder how the Italian child determines whether an infinitive moves to I? My proposal is that the trigger is the agreement morphology associated with finite verbs. In order to explain how this could happen, I need to spell out some assumptions about the nature of V-movement in Italian. Guasti (1993) has unified the occurrence of V-movement and the licensing of null subjects in Italian under a single parameter (the *Infl Parameter*): Does the language have a uniform pronominal  $I^{-1}$  (or an  $I^{-1}$  with the nominal features [+N] (see Rizzi (1982), among others))? Following Roberts (1992), a pronominal or [+N] $I^{-1}$  is a negative category projected by  $I^0$  that hosts the agreement morphemes. Roberts, elaborating on Selkirk (1982), proposed that whenever a head projects a negative-bar level head, such as our  $I^{-1}$ , the mechanism of inflectional affixation must be V-movement. This is because a negative-bar level head contains affixes (i.e., pieces of words that cannot stand alone). In order to become well-formed, these have to be attached to verbal roots, and this must be accomplished by movement of the verbal root to  $I^{-1}$ . In Italian,  $I^{-1}$  triggers V-movement both in finite and in infinitive clauses. As argued by Belletti (1990), this follows from the fact that  $I^{-1}$  is uniformly represented in both sets of clauses. In addition, the Italian  $I^{-1}$  not only triggers V-movement, but being pronominal or [+N], it also licenses null subjects. Therefore, once the child has discovered that  $I^0$  projects an  $I^{-1}$ , and that this I is pronominal, she or he will be able to set the *Infl Parameter* to a positive value. Because the child does not have any reason for assuming that the  $I^0$  associated with infinitive verbs is qualitatively different from that associated with finite verbs, she or he will generalize the properties of the

finite I to that of the nonfinite I and assume that I is uniformly represented in the Italian grammar (i.e., it triggers V-movement not only in finite contexts, but in infinitive contexts as well). In other words, I am suggesting that once the *Infl Parameter* has been set on the basis of evidence from finite verbs, it is automatically applied to infinitive verbs.<sup>19,20</sup> Thus child and adult infinitive clauses are structurally and derivationally alike: That is, they are IPs with the verbal root raising from V to I.

## 7. CONCLUSION

In this article, I have argued that Italian children distinguish between finite verbs and infinitives quite early. Unlike works on other early languages, this claim has been empirically supported by the distribution of infinitives and by the placement of clitics. I have also shown that the agreement system is in place quite early and that whenever children use agreement morphology, they use it almost perfectly correctly. The same conclusion holds for impersonal sentences. These observations, evaluated in the framework of the principles and parameters theory of grammar (Chomsky (1981)) have led me to propose that the structure of an early Italian sentence includes, in addition to a lexical projection, a functional projection (IP). I have proposed that the verbal root found in the VP is raised to  $I^0$  to amalgamate with the inflectional morphemes. In other words, the mechanism of inflectional affixation in early Italian is V-movement, as in the target grammar.

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<sup>19</sup>If my proposal is correct, one would expect to find null subjects in infinitive contexts as well, given that an infinitive  $I^{-1}$  is pronominal and that this property is responsible for the licensing of null subjects. As shown in Guasti (1989, 1993), this expectation is realized. In these works, I provide comparative evidence in favor of the claim that null subjects are licensed in Italian (and Spanish) infinitive complements after perception verbs, but not in French, a non-null subject language.

<sup>20</sup>Although the empirical evidence that V-movement applies to infinitive is missing, we have evidence that V-movement with finite verbs occurs and that null subjects of the same type found in adult Italian are used by children, as argued by Rizzi (1992). Thus, at least two consequences of the positive setting of the *Infl parameter* have an empirical correlate.

these events, and especially to Bonnie Schwartz, Nina Hyams, Piero Bottari, and Donella Antelmi.

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